



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Overview



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In this eight-week module, students learn about new or improved technologies that have been developed to meet societal needs and how those inventions have changed people's lives. They conduct authentic research to build their own knowledge and teach others through writing. In Unit 1, students read the graphic novel *Investigating the Scientific Method with Max Axiom, Super Scientist* by Donald B. Lemke as well as several informational articles about inventions that have been developed to meet people's needs. Students learn about and analyze structures and visual elements authors use to convey complex ideas. Then, they will write a short opinion paragraph about which of the inventions they learned about has been most important to people and why. In Unit 2, students will read *The Boy Who Invented TV: The Story of Philo Farnsworth* by Kathleen Krull, focusing on how the television was invented to meet societal needs.

Students will write an informative essay to explain why Philo Farnsworth wanted to invent television and how TV changed people's lives. In Unit 3, students are given the choice to conduct research about one of two inventions that were developed to meet societal needs, Garrett A. Morgan's traffic light or the Wright brothers' airplane. Students will closely read and collect information about one of these inventions in order to develop a narrative in the form of a graphic novelette that explains why the invention they researched was developed and how it changed people's lives. This task addresses **NYSP12 ELA CCLS R.1.5.9, W.5.2, W.5.3, W.5.4, W.5.5, W.5.6, W.5.7, W.5.8, L.5.3, and L.5.4.**

Guiding Questions and Big Ideas

- **How do new or improved technologies meet societal needs?**
- **How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?**
- *New or improved technologies are developed to meet societal demands.*
- *Text structure and visual elements support our understanding of complex ideas.*



Performance Task

Graphic-Style Novelette

After researching informational texts (on Garrett A. Morgan's invention of the traffic light or the Wright brothers' invention of the airplane), students will write a short informational narrative in the graphic novel style in which they describe how the invention was developed to meet societal needs and the ways the new technology changed people's lives. During the first half of this unit, students will continue to develop skills in both reading and writing necessary for success with this performance task: (1) They will closely read a variety of informational texts to gather evidence on one of two technologies that were developed to meet societal needs; and (2) they will analyze how the invention changed people's lives. In their graphic novelette, students will incorporate factual information from their research as well as visual and narrative elements of a graphic novel. This task centers on NYSP12 ELA CCLS R.I.5.9, W.5.2, W.5.3, W.5.4, W.5.5, W.5.6, W.5.7, W.5.8, L.5.3, and L.5.4. Students will present their graphic novelettes to triad group members.



Content Connections

This module is designed to address English language arts standards as students read literature and informational text about inventions that have been developed to meet societal needs. However, the module intentionally incorporates scientific practices and themes to support potential interdisciplinary connections to this compelling content.

These intentional connections are described below.

NYS Science Standard 1: Analysis, Inquiry, and Design: Engineering Design

Key Idea 1:

Engineering design is an iterative process involving modeling and optimization (finding the best solution within given constraints); this process is used to develop technological solutions to problems within given constraints.

T1.1 Identify needs and opportunities for technical solutions from an investigation of situations of general or social interest.

T1.1a Identify a scientific or human need that is subject to a technological solution that applies scientific principles.

T1.2 Locate and utilize a range of printed, electronic, and human information resources to obtain ideas.

T1.2a Use all available information systems for a preliminary search that addresses the need.

Next Generation Science Standards: 3–5 Engineering Design

ETS1.B: Developing Possible Solutions

- Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (3-5-ETS1-2)
- At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. (3-5-ETS1-2)
- Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved. (3-5-ETS1-3)



CCS Standards: Reading—Literature	Long-Term Learning Targets
<ul style="list-style-type: none">• RL.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	<ul style="list-style-type: none">• I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences.
<ul style="list-style-type: none">• RL.5.7 Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).	<ul style="list-style-type: none">• I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text.
<ul style="list-style-type: none">• RL.5.11 Recognize, interpret, and make connections in narratives, poetry, and drama, to other texts, ideas, cultural perspectives, eras, personal events, and situations.<ul style="list-style-type: none">a. Self-select text to develop personal preferences regarding favorite authors.b. Use established criteria to categorize, select, and assess texts to make informed judgments about the quality of the pieces.	<ul style="list-style-type: none">• I can recognize, interpret, and make connections in narratives, poetry, and drama, to other texts, ideas, cultural perspectives, eras, personal events, and situations. (RL.5.11)<ul style="list-style-type: none">a. I can self-select texts to develop personal preferences regarding favorite authors.b. I can use established criteria to categorize, select, and assess texts to make informed judgments about the quality of the pieces.



CCS Standards: Reading—Informational Texts	Long-Term Learning Targets
<ul style="list-style-type: none">• RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	<ul style="list-style-type: none">• I can quote accurately from a text when explaining what the text says explicitly.
<ul style="list-style-type: none">• RI.5.2 Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.	<ul style="list-style-type: none">• I can determine two or more main ideas from a text and explain how they are supported by key details.• I can summarize the text.
<ul style="list-style-type: none">• RI.5.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.	<ul style="list-style-type: none">• I can explain the relationship between two or more individuals, events, ideas, or concepts in a scientific text based on specific information in the text.
<ul style="list-style-type: none">• RI.5.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.	<ul style="list-style-type: none">• I can determine the meaning of general academic and domain-specific words and phrases.
<ul style="list-style-type: none">• RI.5.5 Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.	<ul style="list-style-type: none">• I can compare and contrast the structure of information in two or more texts.
<ul style="list-style-type: none">• RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.	<ul style="list-style-type: none">• I can draw on information from multiple print sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
<ul style="list-style-type: none">• RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.	<ul style="list-style-type: none">• I can integrate information from several texts on the same topic in order to write about the subject knowledgeably.



CCS Standards: Foundational Skills	Long-Term Learning Targets
<ul style="list-style-type: none">• RF.5.3 Know and apply grade-level phonics and word analysis skills in decoding words.<ul style="list-style-type: none">a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.	<ul style="list-style-type: none">• I can apply my understanding of phonics and word analysis to read unfamiliar words.
<ul style="list-style-type: none">• RF.5.4 Read with sufficient accuracy and fluency to support comprehension.<ul style="list-style-type: none">a. Read grade-level text with purpose and understanding.b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	<ul style="list-style-type: none">• I can better comprehend texts by reading with sufficient accuracy and fluency.



CCS Standards: Writing	Long-Term Learning Targets
<ul style="list-style-type: none">• W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information.<ul style="list-style-type: none">a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.b. Provide logically ordered reasons that are supported by facts and details.	<ul style="list-style-type: none">• I can write opinion pieces, supporting a point of view with reasons and information.<ul style="list-style-type: none">a. I can introduce a topic clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support my purpose.b. I can provide logically ordered reasons that are supported by facts and details.
<ul style="list-style-type: none">• W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.<ul style="list-style-type: none">a. Introduce a topic clearly, provide a general observation and focus, and group related information logically, include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., <i>in contrast</i>, <i>especially</i>).d. Use precise language and domain-specific vocabulary to inform about or explain the topic.e. Provide a concluding statement or section related to the information or explanation presented.	<ul style="list-style-type: none">• I can write informative/explanatory texts to examine a topic and convey ideas and information clearly.



CCS Standards: Writing	Long-Term Learning Targets
<ul style="list-style-type: none"> W.5.3 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. <ol style="list-style-type: none"> Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. Use concrete words and phrases and sensory details to convey experiences and events precisely. Provide a conclusion that follows from the narrated experiences or events. 	<ul style="list-style-type: none"> I can write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
<ul style="list-style-type: none"> W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) 	<ul style="list-style-type: none"> I can produce clear and coherent writing in which the development and organization are appropriate to the purpose and audience.
<ul style="list-style-type: none"> W.5.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. 	<ul style="list-style-type: none"> With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
<ul style="list-style-type: none"> W.5.6 With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting. 	<ul style="list-style-type: none"> I can use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others.
<ul style="list-style-type: none"> W.5.7 Conduct short research projects that use several sources to build knowledge through the investigation of different aspects of a topic. 	<ul style="list-style-type: none"> I can conduct short research projects that use several sources to build knowledge through the investigation of different aspects of a topic.



CCS Standards: Writing	Long-Term Learning Targets
<ul style="list-style-type: none">• W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.	<ul style="list-style-type: none">• I can recall relevant information from experiences or gather relevant information from print and digital sources.• I can summarize or paraphrase information in notes and finished work.• I can provide a list of sources.
CCS Standards: Speaking and Listening	Long-Term Learning Targets
<ul style="list-style-type: none">• SL.5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.<ul style="list-style-type: none">a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.b. Follow agreed-upon rules for discussions and carry out assigned roles.c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.e. Seek to understand and communicate with individuals from different perspectives and cultural backgrounds.f. Use their experience and their knowledge of language and logic, as well as culture, to think analytically, address problems creatively, and advocate persuasively.	<ul style="list-style-type: none">• I can engage effectively in a range of collaborative discussions with diverse partners about fifth-grade topics and texts.



CCS Standards: Language	Long-Term Learning Targets
<ul style="list-style-type: none">• L.5.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening.<ul style="list-style-type: none">a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.b. Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems.	<ul style="list-style-type: none">• I can use knowledge of language and its conventions when writing.
<ul style="list-style-type: none">• L.5.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.<ul style="list-style-type: none">a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., <i>photograph</i>, <i>photosynthesis</i>).c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.	<ul style="list-style-type: none">• I can determine the meaning of unfamiliar words and phrases, using a variety of strategies.



Texts

1. Donald B. Lemke, *Investigating the Scientific Method with Max Axiom, Super Scientist* (North Mankato, Minnesota: Capstone Press, 2008), ISBN: 978-1-4296-1760-4.
2. Kathleen Krull, *The Boy Who Invented TV: The Story of Philo Farnsworth* (New York: Random House, Inc., 2009), ISBN: 978-0-375-84561-1.
3. “The Electric Motor” (written by Expeditionary Learning for instructional purposes).
4. “Ingenious Inventions by Women: The Windshield Wiper and Paper Bag Machine” (written by Expeditionary Learning for instructional purposes).
5. “Dr. James Naismith, Inventor of Basketball,” <http://www.kansasheritage.org/people/naismith.html> (excerpts).
6. “First College Basketball Game,” http://www.americaslibrary.gov/jb/progress/jb_progress_basketball_1.html, http://www.americaslibrary.gov/jb/progress/jb_progress_basketball_2.html, http://www.americaslibrary.gov/jb/progress/jb_progress_basketball_3.html.
7. “Big Thinkers: Was Steve Jobs this Generation’s Thomas Edison?” in *Junior Scholastic*. 11/21/2011, Vol. 114 Issue 6, p5-5. 1p.
8. “Steve Jobs,” in *Time for Kids* <http://www.timeforkids.com/news/steve-jobs/21806> (excerpts).
9. “Television Takes the World by Storm” (video excerpts), <http://www.history.com/shows/modern-marvels/videos/television-takes-the-world-by-storm#television-takes-the-world-by-storm>.
10. “The TV Guy,” <http://www.ilovehistory.utah.gov/people/difference/farnsworth.html>.
11. Claudia Reinhardt and Bill Ganzel, “TV Turns On,” http://www.livinghistoryfarm.org/farminginthe40s/life_27.html.
12. Robert Hudson, “How Television Changed the World,” <http://www.infotechlive.com/how-television-changed-the-world.html>.
13. Paula Morrow, “Garrett Morgan: Inventor Hero,” in *Ask Magazine*, <http://www.askmagkids.com/>.
14. “Transportation, from the Soap Box Derby to the Jeep: First Automatic Traffic Signal,” from The Ohio Academy of Sciences, Heartland Science www.heartlandscience.org.



Texts (continued)

15. "The Twofold Genius of Garrett Morgan," from Social Studies for Kids, <http://www.socialstudiesforkids.com/articles/ushistory/garrettmorgan.htm>.
16. "Garrett Augustus Morgan," <http://www.enchantedlearning.com/inventors/page/m/morgan.shtml> (excerpts).
17. "Airplane." The New Book of Knowledge, Grolier Online, 2013. Web. Sept. 16, 2013 (excerpts).
18. Shashank Nakate, "Invention of the Airplane," <http://www.buzzle.com/articles/invention-of-the-airplane.html> (excerpts).
19. "Wright Brothers: Inventors of the airplane," Ducksters, Technological Solutions, Inc. (TSI), http://www.ducksters.com/biography/wright_brothers.php
20. "How Did We Learn to Fly Like Birds?" <http://www.grc.nasa.gov/WWW/k-12/UEET/StudentSite/historyofflight.html> (excerpts).



Note: As each unit is written, often assessments are revised. Use this document as a general guideline. But be sure to refer to each specific unit overview document for the most correct and complete write-ups of each assessment.

Week	Instructional Focus	Long-Term Targets	Assessments
Unit 1: Building Background Knowledge: <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> and Considering How Technologies Are Developed to Meet Societal Needs			
Weeks 1–2	<ul style="list-style-type: none"> Revisiting norms that support group work. Introduction to fluency criteria and independent reading options and routines. Analyzing how visual elements in a graphic novel support readers' understanding of complex ideas. Using quotes and paraphrased information from the text to support explanations and draw inferences. Using a variety of strategies to determine the meaning of unfamiliar terms. 	<ul style="list-style-type: none"> I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences. (RL.5.1) I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7) I can recognize, interpret, and make connections in narratives, poetry, and drama to other texts, ideas, cultural perspectives, eras, personal events, and situations. (RL.5.11) <ul style="list-style-type: none"> I can self-select texts to develop personal preferences regarding favorite authors. I can use established criteria to categorize, select, and assess texts to make informed judgments about the quality of the pieces. I can apply my understanding of phonics and word analysis to read unfamiliar words. (RF.5.5) I can better comprehend texts by reading with sufficient accuracy and fluency. (RF.5.6) I can paraphrase information in notes and finished work. (W.5.8) 	<ul style="list-style-type: none"> Mid-Unit 1: Text Dependent Questions, <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i>, pages 24–27 (RL.5.7, W.5.9, and L.5.4)



Week	Instructional Focus	Long-Term Targets (continued)	Assessments
Weeks 1-2, continued		<ul style="list-style-type: none"> I can draw evidence from literary texts to support analysis, reflection, and research. (W.5.9) I can determine the meaning of unfamiliar words and phrases, using a variety of strategies. (L.5.4) <ul style="list-style-type: none"> I can use context as a clue to the meaning of a word or phrase. I can use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. I can engage effectively in a range of collaborative discussions with diverse partners about fifth-grade topics and texts. (SL.5.1) 	
	<ul style="list-style-type: none"> Building background knowledge about inventions that were developed to meet societal needs. Continue using quotes and paraphrased details from the text to support explanations and draw inferences. Using context clues and other strategies to determine the meaning of unfamiliar terms. 	<ul style="list-style-type: none"> I can quote accurately from a text when explaining what the text says explicitly. (RI.5.1) I can explain the relationship between two or more individuals, events, ideas, or concepts in a scientific text based on specific information in the text. (RI.5.3) 	<ul style="list-style-type: none"> End of Unit 1: Using Quotes to Explain Relationships and Support an Opinion (RI.5.1, RI.5.3, RI.5.4, RI.5.5, and W.5.1 a and b)



Week	Instructional Focus (continued)	Long-Term Targets (continued)	Assessments
Weeks 1-2, continued	<ul style="list-style-type: none"> • Recognizing and explaining relationships between people and ideas. • Comparing and contrasting how authors structure text to support readers' understanding of complex ideas. • Writing to share an opinion about which invention has been most important to people. 	<ul style="list-style-type: none"> • I can determine the meaning of general academic and domain-specific words and phrases. (RI.5.4) • I can compare and contrast the structure of information in two or more texts. (RI.5.5) • I can write opinion pieces, supporting a point of view with reasons and information. (W.5.1) <ul style="list-style-type: none"> a. I can introduce a topic clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support my purpose. b. I can provide logically ordered reasons that are supported by facts and details. • I can engage effectively in a range of collaborative discussions with diverse partners about fifth-grade topics and texts. (SL.5.1) • I can determine the meaning of unfamiliar words and phrases, using a variety of strategies. (L.5.4) <ul style="list-style-type: none"> a. I can use context as a clue to the meaning of a word or phrase. b. I can use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. • I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. 	



Week	Instructional Focus	Long-Term Targets	Assessments
Unit 2: Case Study: <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i>			
Weeks 3–5	<ul style="list-style-type: none"> • Introduction to the central text <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i>. • Understanding how television was developed to meet societal needs and the ways that television changed people's lives. • Continue using norms that support group work. • Choose a new independent reading book and continue practicing fluent reading skills. • Continue using a variety of strategies to determine the meaning of unfamiliar terms. • Continue using quotes and paraphrased details from the text to support explanations and draw inferences. • Determining two or more main ideas in a text. • Summarizing the ideas presented in a text. 	<ul style="list-style-type: none"> • I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) • I can determine two or more main ideas from a text and explain how they are supported by key details (RI.5.2) • I can summarize the text. (RI.5.2) • I can determine the meaning of general academic and domain-specific words. (RI.5.4) • I can determine the meaning of unfamiliar words and phrases, using a variety of strategies. (L.5.4) <ol style="list-style-type: none"> a. I can use context as a clue to the meaning of a word or phrase. b. I can use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. c. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. • I can engage effectively in a range of collaborative discussions with diverse partners on fifth-grade topics and texts. (SL.5.1) 	<ul style="list-style-type: none"> • Mid-Unit 2: Text-Dependent Short-Answer Quiz: "The TV Guy" (RI.5.1, RI.5.2, RI.5.4, and L.5.4 b and c)



Week	Instructional Focus	Long-Term Targets	Assessments
Weeks 3-5, continued	<ul style="list-style-type: none"> Read the final pages of <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> to determine why he wanted to invent television. Continue using norms that support group work. Continue using quotes to support explanations and draw inferences. Continue using a variety of strategies to determine the meaning of unfamiliar terms. Continue recognizing and explaining relationships between people and ideas. Read informational articles and view a video to collect information that explains how television changed people's lives. Using evidence from texts to support analysis and write an informative essay about why television was invented and how it changed people's lives. 	<ul style="list-style-type: none"> I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can explain the relationship between two or more individuals, events, ideas, or concepts in a scientific text based on specific information in the text. (RI.5.3) I can apply my understanding of phonics and word analysis to read unfamiliar words. (RF.5.5) I can better comprehend texts by reading with sufficient accuracy and fluency. (RF.5.6) I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2) I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9) I can engage effectively in a range of collaborative discussions with diverse partners on fifth-grade topics and texts. (SL.5.1) 	<ul style="list-style-type: none"> End of Unit 2: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Parts I and II (RI.5.3, W.5.2, W.5.4, W.5.9 b, and L.5.4 a and b)



Week	Instructional Focus	Long-Term Targets	Assessments
Unit 3: Researching Inventions That Changed People's Lives and Teaching through Graphic Novels			
Weeks 6–8	<ul style="list-style-type: none"> Working in expert groups to learn about either Garrett Morgan's invention of the traffic signal or the Wright brothers' invention of the airplane. Continue to build understanding about how inventions are developed to meet societal needs. Continue using norms that support group work. Choose a new independent reading book and continue practicing fluent reading skills. Continue using a variety of strategies to determine the meaning of unfamiliar terms. Continue using quotes and paraphrased details from the text to support explanations and draw inferences. Taking notes from informational articles to use in the creation of a graphic novelette for the final performance task. Locating answers to a question quickly by drawing on information from multiple sources. 	<ul style="list-style-type: none"> I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of general academic and domain-specific words. (RI.5.4) I can draw on information from multiple print sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (RI.5.7) I can paraphrase information in notes and finished work. (W.5.8) I can engage effectively in a range of collaborative discussions with diverse partners about fifth-grade topics and texts. (SL.5.1) 	<ul style="list-style-type: none"> Mid-Unit 3: On-Demand Note Taking and Text-Dependent Questions: "Garrett Augustus Morgan" or "How Did We Learn to Fly?" (RI.5.1, RI.5.4, RI.5.7, W.5.7 and W.5.8)



Week	Instructional Focus	Long-Term Targets	Assessments
Weeks 6-8, continued	<ul style="list-style-type: none"> Evaluating and summarizing notes to create a storyboard draft of a graphic novelette that explains: what people needed or wanted; background information about an invention; background information about the inventor(s); the process used to develop a solution that met people's needs; and the impact of the invention on society. Adding illustrations and other graphic novel elements to storyboards that support readers' understanding of the information presented. Continue using norms that support group work. 	<ul style="list-style-type: none"> I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of general academic and domain-specific words. (RI.5.4) I can integrate information from several texts on the same topic in order to write about the subject knowledgeably. (RI.5.9) I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can introduce a topic clearly, provide a general observation and focus, and group related information logically; I can include illustrations to aid comprehension. I can develop the topic with facts, definitions, details, quotations, or other related information. I can link ideas within and across categories of information using words, phrases, and clauses. I can use precise language and domain-specific vocabulary to explain a topic. I can provide a concluding section related to the information presented. 	<ul style="list-style-type: none"> End of Unit 3: Text-Dependent Questions and Storyboard Draft: "You Can Do a Graphic Novel" excerpt (RI.5.1, RI.5.4, RI.5.9, W.5.2, W.5.3 a and b, W.5.4, and W.5.8)



Week	Instructional Focus	Long-Term Targets	Assessments
Weeks 6-8, continued		<ul style="list-style-type: none"> I can produce clear and coherent writing in which the development and organization are appropriate to the purpose and audience. (W.5.4) I can summarize information in notes and finished work. (W.5.8) I can engage effectively in a range of collaborative discussions with diverse partners about fifth-grade topics and texts. (SL.5.1) 	
	<ul style="list-style-type: none"> Creating informational-narrative graphic novelettes using revised and edited storyboards about either Garrett Morgan's invention of the traffic signal or the Wright brothers' invention of the airplane. Using technology and other sources to integrate visual elements found in a graphic novel that support readers' understanding of complex ideas. Continue using norms that support group work. Use peer critique to revise and strengthen written work. Continue practicing fluent reading skills. Presentation of graphic novelettes in triads for the final performance task. 	<ul style="list-style-type: none"> I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of general academic and domain-specific words. (RI.5.4) I can integrate information from several texts on the same topic in order to write about the subject knowledgeably. (RI.5.9) I can apply my understanding of phonics and word analysis to read unfamiliar words. (RF.5.5) I can better comprehend texts by reading with sufficient accuracy and fluency. (RF.5.6) 	<ul style="list-style-type: none"> Final Performance Task: Graphic-Style Novelette (RI.5.9, W.5.2, W.5.3, W.5.4, W.5.5, W.5.6, W.5.7, W.5.8, L.5.3 and L.5.4)



Week	Instructional Focus	Long-Term Targets (continued)	Assessments
Weeks 6-8, continued		<ul style="list-style-type: none"> I can write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (W.5.3) <ul style="list-style-type: none"> I can orient the reader by establishing a situation and introducing characters; organize an event sequence that unfolds naturally. I can use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events. I can use a variety of transitional words, phrases, and clauses to manage the sequence of events. I can use concrete words and phrases and sensory details to convey experiences and events precisely. I can provide a conclusion that follows from the narrated experiences or events. I can produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (W.5.4) With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5) I can use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others. (W.5.6) 	



Week	Instructional Focus	Long-Term Targets (continued)	Assessments
Weeks 6-8, continued		<ul style="list-style-type: none">• I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7)• I can recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. (W.5.8)• I can engage effectively in a range of collaborative discussions with diverse partners about fifth-grade topics and texts. (SL.5.1)• I can use knowledge of language and its conventions when writing. (L.5.3)<ul style="list-style-type: none">a. I can expand, combine, and reduce sentences for meaning, reader/listener interest, and style.b. I can compare and contrast the varieties of English used in stories, dramas, or poems.	



Preparation and Materials

Released along with this module is a stand-alone document titled **Foundational Reading and Language Standards Resources Package for Grades 3–5**. This resource package is designed to give teachers resources and guidance for addressing the CCSS foundational reading and language ELA standards. The package cites example lessons within the modules in which these standards are addressed. It also includes resources for literacy instruction that occurs alongside the modules.

The package includes the following resources:

- Sample Guided Reading and Accountable Independent Reading (GRAIR) Schedule
- Show the Rule Strategy: resources and guidance for contextualized grammar and conventions instruction
- Word Study Recommendations: specific suggestions and criteria for approaches to word work
- Additional Work with Complex Text: guidance on providing additional and more heavily scaffolded support as students work with the complex texts in the modules
- Fluency Packet: resources and guidance for fluency instruction
- Independent Reading Grades 3–5: resources and guidance for launching independent reading with students

These resources will be referenced throughout Module 2B, when opportunities exist for connecting and differentiating instruction in the lessons. Before launching this module, review the Foundational Reading and Language Standards Resources Package for Grades 3–5 and determine how your current GRAIR time aligns with these resources.

For grade 5, review the Fluency Packet, aligned with RF.5 and RF.6, in advance of Unit 1, as this unit provides opportunities for fluency work with students. Consider introducing criteria described on the Fluency Self-Assessment as a “kick-off” before Unit 1, Lesson 1.

- Review the recommended text list for each unit and collect a variety of books for students to read independently.
- Coordinate with technology and art instructors to provide support for students as they create graphic novelettes in Unit 3.



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Grade 5: Module 2B: Assessment Overview



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Note: As each unit is written, often assessments are revised. Use this document as a general guideline. But be sure to refer to each specific unit overview document for the most correct and complete write-ups of each assessment.

Final Performance Task	<p>Graphic-Style Novelette</p> <p>After researching informational texts (on Garrett A. Morgan’s invention of the traffic light or the Wright brothers’ invention of the airplane), students will write a short informational narrative in the graphic novel style in which they describe how the invention was developed to meet societal needs and the ways the new technology changed people’s lives. During the first half of this unit, students will continue to develop skills in both reading and writing necessary for success with this performance task: (1) They will closely read a variety of informational texts to gather evidence on one of two technologies that were developed to meet societal needs; and (2) they will analyze how the invention changed people’s lives. In their graphic novelette, students will incorporate factual information from their research as well as visual and narrative elements of a graphic novel. This task centers on NYSP12 ELA Standards R.I.5.9, W.5.2, W.5.3, W.5.4, W.5.5, W.5.6, W.5.7, W.5.8, L.5.3, and L.5.4. Students will present their graphic novelettes to triad group members.</p>
Mid-Unit 1 Assessment	<p>Text Dependent Questions: <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>, pages 24–27</p> <p>This assessment centers on NYSP12 ELA CCLS RL.5.7, W.5.9, and L.5.4. For this assessment, students read unfamiliar pages from <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> to answer multiple-choice and short response text-dependent questions in order to demonstrate their ability to determine the meaning of unfamiliar words and phrases from context, analyze how visual elements support readers’ understanding, and use details and key terms from the text to support their explanations.</p>
End of Unit 1 Assessment	<p>Using Quotes to Explain Relationships and Support an Opinion</p> <p>This assessment centers on NYSP12 ELA CCLS RI.5.1, RI.5.3, RI.5.4, RI.5.5, and W.5.1a and b. Students read two new informational articles: “Big Thinkers: Was Steve Jobs this Generation’s Thomas Edison?” and “Steve Jobs.” They first determine the meaning of unfamiliar words from context. Then, students compare and contrast the structure of the two articles and explain how the information presented in each article supports their understanding of how Steve Jobs developed technologies to meet people’s needs. Students synthesize their thinking by writing an opinion paragraph about which of the inventions they have read they feel is most important to people. The task requires students to draw upon new information from the articles, plus information and key terms from other informational texts they read during the second half of the unit.</p>



Mid-Unit 2 Assessment	<p>Text-Dependent Questions: “The TV Guy”</p> <p>This assessment centers on NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.4, and L.5.4. For this assessment, students will read an article about Philo Farnsworth called “The TV Guy,” then complete multiple-choice and short-answer text-dependent questions. This short “quiz” requires students to use quotes from the text to support an inference and to summarize the main idea of the text using key details. Students are also asked to use a variety of strategies to discover the meanings of unknown words.</p>
End of Unit 2 Assessment	<p>On-Demand Informational Writing: Philo Farnsworth’s Invention of the Television and How It Changed People’s Lives</p> <p>This assessment centers on NYSP12 ELA CCLS RL.5.3, W.5.2, and L.5.4 and has two parts. In Part 1, students will read an article called “How Television Changed the World” and answer a series of short-response and multiple-choice text-dependent questions to explain the relationship between people and ideas, determine the meaning of unfamiliar terms using a variety of strategies, and organize parts of an introductory paragraph related to the essay they will write for Part II of the assessment. During Part 2, students will synthesize the information (in the form of notes) that they have gathered during previous lessons, and will write an informational essay about the invention of the television and how it changed people’s lives. Students’ essays will be written using a “Painted Essay” structure that includes: a well-organized introductory paragraph, two proof paragraphs, and a conclusion.</p>



Mid-Unit 3 Assessment	<p>On-Demand Note Taking and Text-Dependent Questions: “Garrett Augustus Morgan” or “How Did We Learn to Fly?”</p> <p>This assessment centers on NYSP12 ELA CCLS RI.5.1, RI.5.4, RI.5.7, W.5.7 and W.5.8. Students will read and take notes on an unfamiliar text related to the invention they have studied in the first half of the unit (either Garrett A. Morgan’s traffic light or the Wright brothers’ airplane). They will take notes specifically about why the invention was needed, the inventor(s), the process for developing the invention, and how the invention changed people’s lives. Then, students will respond to multiple-choice and short-answer questions to demonstrate their understanding of how to use details from the text to explain and make inferences, determine the meaning of new terms from context, and use several resources to answer a question quickly.</p>
End of Unit 3 Assessment	<p>Text-Dependent Questions about “You Can Do a Graphic Novel” excerpt and Storyboard Draft</p> <p>This assessment centers on NYSP12 ELA CCLS RI.5.1, RI.5.4, RI.5.9, W.5.2, W.5.3 a and b, W.5.4, and W.5.8. Students will read excerpts from the guide “You Can Do a Graphic Novel” and then answer multiple-choice and short constructed response questions about the text. Then, students will create storyboards as a draft for their performance task: a graphic novelette. Students will complete four storyboard templates with information from their notes about the invention and inventor they studied in the first part of the unit (Garrett A. Morgan’s traffic light or the Wright brothers’ airplane) to establish a plan for the graphic novelette they will write for the final performance task. Students’ storyboards will include details about the need for the invention, the history of the inventor(s), the process the inventor(s) used to develop a solution that met people’s needs, and how the invention changed people’s lives. This storyboard serves as a critical scaffold toward students’ performance task.</p>



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Grade 5: Module 2B: Performance Task



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Note: As each unit is written, often the performance task is refined. Use this document as a general guideline. But be sure to refer to check back on EngageNY.org periodically to see if this document has been updated.

Summary of Task

After researching informational texts (on Garrett A. Morgan's invention of the traffic light or the Wright brothers' invention of the airplane), students will write a short informational narrative in the graphic novel style in which they describe how the invention was developed to meet societal needs and the ways the new technology changed people's lives. During the first half of this unit, students will continue to develop skills in both reading and writing necessary for success with this performance task: (1) They will closely read a variety of informational texts to gather evidence on one of two technologies that were developed to meet societal needs; and (2) they will analyze how the invention changed people's lives. In their graphic novelette, students will incorporate factual information from their research as well as visual and narrative elements of a graphic novel. **This task centers on NYSP12 ELA CCLS R.1.5.9, W.5.2, W.5.3, W.5.4, W.5.5, W.5.6, W.5.7, W.5.8, L.5.3, and L.5.4.** Students will present their graphic novelettes to triad group members.

Format

A graphic style novelette includes the standard components of this genre (e.g., splash page, frames/panels, gutters, ambient sounds, thought/speech bubbles, font size, color and style, images, photos, diagrams, and information boxes).

Students will need:

- Three sheets of 11" x 17" legal-sized white paper to create an 11-page novelette (table of contents -no page number assigned; pages 1–2—Section 1/Splash page; pages 3–4—Section 2; pages 5–6—Section 3; pages 7–8—Section 4; page 9—Glossary; page 10—Citations)
- One sheet of 13" x 19" white construction paper or thin cardboard to create a book cover for novelettes
- Brass brads or other type of binding materials (staples, needle and yarn/thick thread, etc.) for students to fasten novelette pages and cover
- Access to the Internet to locate and print images and type text and/or add colors and other visual elements to graphic novelettes (if technology is not available, have a variety of magazines, newspapers, and art supplies such as colored pencils, markers, scissors, glue, etc.)

Final novelettes will be presented to triad group members.



Standards Assessed through This Task

- RI.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- RI.5.4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *fifth-grade topic or subject area*.
- RI.5.9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
- W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- W.5.3 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
- W.5.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
- W.5.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- W.5.7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
- W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
- L.5.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
 - b. Compare and contrast the varieties of English used in stories, dramas, or poems.
- L.5.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies.

Student-Friendly Writing Invitation/Task Description

You have been researching one of two different inventions that changed people's lives. You also have learned about the style and structure of a graphic novel, and how graphic novelists use visual elements to help readers understand important ideas in their stories. Now you will have a chance to share what you have learned by writing a graphic novelette about either Garrett Morgan's invention of the traffic light or the Wright brother's invention of the airplane. Refer to the storyboard templates you created, revised, and edited as well as the research you've gathered, to tell the story of what needs or wants inspired the development of the invention, the inventor(s) background, the inventor(s) process for developing a solution that would meet people's needs, and how the invention changed people's lives. Incorporate factual information from your research, key terms from the text, and visual and narrative elements found in graphic novels to convey ideas clearly to your audience.



Key Criteria for Success (Aligned with NYSP12 ELA CCLS)

Below are key criteria students need to address when completing this task. Specific lessons during the module build in opportunities for students to understand the criteria, offer additional criteria, and work with their teacher to construct a rubric on which their work will be critiqued and formally assessed.

Your graphic novelette will include:

- graphic novel format
 - splash page
 - frames/panels
 - gutters
 - ambient sounds
 - thought/speech bubbles
 - varying font sizes, colors and styles
 - images
 - diagrams
 - information boxes
- four sections (two pages each)
- page numbers
- an informative caption on each page
- at least two frames/panels on each page
- one illustration per page that aligns with story and text
- information about why the invention was developed
- background information about the inventor(s)
- a description of the inventor's/inventors' process for developing the invention
- clear explanation of how the invention changed people's lives
- a sequence of events that unfold naturally
- accurate information from research



Key Criteria for Success (Aligned with NYSP12 ELA CCLS) (continued)

- grade-level-appropriate conventions (spelling, grammar, punctuation)
- a glossary of at least five key terms
- a citations page
- a table of contents
- a cover for the novelette that includes: author's name, title of novelette, a summary of the novelette on the back of the cover, and at least one picture related to the invention and/or inventor

Options for Students

- Provide texts at a variety of readability levels for students to gather information for their graphic novelette.
- For students who struggle with determining importance, highlight key information in texts.
- For students who struggle with language, provide audio recordings of texts.
- For English Language Learners, if possible, provide research texts in the student's home language.
- For students who struggle with writing, allow them to dictate their story (or notes) to an aide or other adult who can act as a scribe.
- For students who struggle with reading aloud, allow them time to practice reading their novelettes several times before they read it aloud to triad members.
- Allow all students to write more than four sections if they wish.

Options for Teachers

- Students may present their graphic novelettes to their own class, to other classes in the school, or to parents or other adults.
- Student graphic novelettes could be assembled into a book with copies donated to the classroom, school, and/or public library to enhance student motivation with the potential authentic audiences.



Resources and Links

- N/A

Central Text and Informational Texts

- Donald B. Lemke, *Investigating the Scientific Method with Max Axiom, Super Scientist* (North Mankato, MI: Capstone Press, 2008), ISBN: 978-1-4296-1760-4.
- Kathleen Krull, *The Boy Who Invented TV: The Story of Philo Farnsworth* (New York: Random House, Inc., 2009), ISBN: 978-0-375-84561-1.

Note: Additional informational texts listed in each separate unit overview document.



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Grade 5: Module 2B: Unit 1: Overview



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Unit 1: Building Background Knowledge: *Investigating the Scientific Method with Max Axiom* and Considering How Technologies are developed to Meet Societal Needs

In this unit, students begin to build background knowledge about the process of scientific inquiry and how new or improved technologies are developed to meet the needs of society. Students begin the unit by reading the graphic novel *Investigating the Scientific Method with Max Axiom Super Scientist*. As they read, they focus on identifying the steps Max Axiom, the main character, takes to solve a societal problem, as well as analyzing how the visual elements found in a graphic novel support their understanding of complex ideas. After reading the graphic novel, students continue to build their knowledge through informational

texts about real inventions developed to meet people's needs, such as the electric motor, windshield wipers, the paper bag machine, and the game of basketball. Students will focus on learning about the ways authors structure informational texts to relay the story of each invention and support readers' understanding of complex ideas, as well as how to form and share an opinion based on research and evidence.

Guiding Questions And Big Ideas

- **How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?**
- **How do new or improved technologies meet societal needs?**
- *Text structure and visual elements can support our understanding of complex ideas.*
- *New or improved technologies are developed to meet societal demands.*



Mid-Unit 1 Assessment	<p>Text Dependent Questions: <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>, pages 24–27</p> <p>This assessment centers on NYSP12 ELA CCLS RL.5.7, W.5.9, and L.5.4. For this assessment, students read unfamiliar pages from <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> to answer multiple-choice and short response text-dependent questions in order to demonstrate their ability to determine the meaning of unfamiliar words and phrases from context, analyze how visual elements support readers' understanding, and use details and key terms from the text to support their explanations.</p>
End of Unit 1 Assessment	<p>Using Quotes to Explain Relationships and Support an Opinion</p> <p>This assessment centers on NYSP12 ELA CCLS RI.5.1, RI.5.3, RI.5.4, RI.5.5, and W.5.1a and b. Students read two new informational articles: “Big Thinkers: Was Steve Jobs this Generation’s Thomas Edison?” and “Steve Jobs.” They first determine the meaning of unfamiliar words from context. Then, students compare and contrast the structure of the two articles and explain how the information presented in each article supports their understanding of how Steve Jobs developed technologies to meet people’s needs. Students synthesize their thinking by writing an opinion paragraph about which of the inventions they have read they feel is most important to people. The task requires students to draw upon new information from the articles, plus information and key terms from other informational texts they read during the second half of the unit.</p>



Content Connections

This module is designed to address English Language Arts standards as students read literature and informational text about the scientific method and how technologies are developed to meet societal needs. However, the module intentionally incorporates Scientific Practices and Themes to support potential interdisciplinary connections to this compelling content. These intentional connections are described below.

NYS Science Standard 1: Analysis, Inquiry, and Design: Engineering Design

Key Idea 1:

Engineering design is an iterative process involving modeling and optimization (finding the best solution within given constraints); this process is used to develop technological solutions to problems within given constraints.

- T1.1: Identify needs and opportunities for technical solutions from an investigation of situations of general or social interest.
 - T1.1a: Identify a scientific or human need that is subject to a technological solution which applies scientific principles.
- T1.2: Locate and utilize a range of printed, electronic, and human information resources to obtain ideas.
 - T1.2a: Use all available information systems for a preliminary search that addresses the need.

Next Generation Science Standards: 3–5 Engineering Design

ETS1.B: Developing Possible Solutions

- Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (3-5-ETS1-2)
- At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. (3-5-ETS1-2)
- Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved. (3-5-ETS1-3)



Texts
1. Donald B. Lemke, <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> (Mankato, Minnesota: Capstone Press, 2008), ISBN: 978-1-4296-1760-4.
2. "The Electric Motor" (written by Expeditionary Learning for instructional purposes).
3. "Ingenious Inventions by Women: The Windshield Wiper and Paper Bag Machine" (written by Expeditionary Learning for instructional purposes).
4. "Dr. James Naismith, Inventor of Basketball," as found at www.kansasheritage.org/people/naismith.html (excerpts).
5. "First College Basketball Game," as found at www.americaslibrary.gov/jb/progress/jb_progress_basketball_1.html , www.americaslibrary.gov/jb/progress/jb_progress_basketball_2.html , and www.americaslibrary.gov/jb/progress/jb_progress_basketball_3.html .
6. "Big Thinkers: Was Steve Jobs this Generation's Thomas Edison?" in <i>Junior Scholastic</i> , November 21, 2011, as found at <i>The Free Library</i> at http://www.thefreelibrary.com/Big+thinkers%3A+was+Steve+Jobs+this+generation's+Thomas+Edison%3F-a0274791330 .
7. "Steve Jobs," as found at www.timeforkids.com/news/steve-jobs/21806 (excerpts).



This unit is approximately 2 weeks or 10 sessions of instruction.

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 1	Building Background Knowledge: <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>	<ul style="list-style-type: none"> I can engage effectively in a range of collaborative discussions with diverse partners about fifth-grade topics and texts. (SL.5.1) I can analyze how visual and multimedia elements contribute to the meaning, tone or beauty of a text. (RL.5.7) I can recognize, interpret, and make connections in narratives, poetry, and drama to other texts, ideas, cultural perspectives, eras, personal events, and situations. (RL.5.11) <ol style="list-style-type: none"> I can self-select texts to develop personal preferences regarding favorite authors. I can use established criteria to categorize, select texts, and assess to make informed judgments about the quality of the pieces. 	<ul style="list-style-type: none"> I can use group norms to locate and discuss the visual elements in the graphic novel <i>Max Axiom</i>. I can analyze the visual elements and splash page in <i>Max Axiom</i> to make predictions about the story. I can use established criteria to select a text for independent reading. 	<ul style="list-style-type: none"> Written prediction (in journal) Independent text selection Independent Reading Choice Board Response 	<ul style="list-style-type: none"> Triad Talk Norms Criteria for Selecting Texts Infer the Topic protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson2	Paraphrasing Quotes and Analyzing Visual Elements: Investigating the Scientific Method with <i>Max Axiom Super Scientist</i>	<ul style="list-style-type: none"> I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences. (RL.5.1) I can paraphrase information in notes and finished work. (W.5.8) I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7) I can determine the meaning of unknown and multiple –meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4) <ol style="list-style-type: none"> I can use context as a clue to the meaning of a word or phrase. I can use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. 	<ul style="list-style-type: none"> I can explain the first steps Max Axiom takes to solve a problem by paraphrasing quotes from <i>Max Axiom</i>. I can analyze how visual elements in <i>Max Axiom</i> contribute to my understanding of the steps Max Axiom takes to solve a problem. I can determine the meaning of unknown words and phrases using a variety of strategies. 	<ul style="list-style-type: none"> Gist statement (in journal) <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page 1 Vocabulary defined (in journal) Independent Reading Choice Board response 	<ul style="list-style-type: none"> Group Norms Close Readers Do These Things



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 3	Paraphrasing Quotes and Analyzing Visual Elements, Part 2: <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>	<ul style="list-style-type: none"> I can paraphrase information in notes and finished work. (W.5.8) I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7) I can determine the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4) <ol style="list-style-type: none"> I can use context as a clue to the meaning of a word or phrase. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. 	<ul style="list-style-type: none"> I can explain the next steps Max Axiom takes to solve a problem by paraphrasing quotes from <i>Max Axiom</i>. I can analyze how visual elements in <i>Max Axiom</i> contribute to my understanding of the steps Max Axiom takes to solve a problem. I can use context clues and reference materials to determine the meaning of key words and phrases. 	<ul style="list-style-type: none"> Entry task (from Lesson 2 homework) Gist (in journal) <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page 2. Vocabulary defined (in journal) Independent Reading Choice Board response 	<ul style="list-style-type: none"> Close Readers Do These Things Quote/Paraphrase Vocabulary Strategies



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 4	Paraphrasing Quotes and Analyzing Visual Elements, Part 3: <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>	<ul style="list-style-type: none"> I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences. (RL.5.1) I can paraphrase information in notes and finished work. (W.5.8) I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7) I can determine the meaning of unknown and multiple –meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4) <ol style="list-style-type: none"> I can use context as a clue to the meaning of a word or phrase. I can use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. 	<ul style="list-style-type: none"> I can explain the next steps Max Axiom takes to solve a problem by paraphrasing quotes from <i>Max Axiom</i>. I can analyze how visual elements in <i>Max Axiom</i> contribute to my understanding of the steps Max Axiom takes to solve a problem. I can determine the meaning of unknown words and phrases using a variety of strategies. 	<ul style="list-style-type: none"> Gist (in journal) <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page 3. Response to reflection questions (in journal) Vocabulary defined (in journal) Independent Reading Choice Board response 	<ul style="list-style-type: none"> Group Norms Vocabulary Strategies



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 5	Paraphrasing Quotes and Analyzing Visual Elements, Part 4: <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>	<ul style="list-style-type: none"> I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences. (RL.5.1) I can paraphrase information in notes and finished work. (W.5.8) I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7) I can draw evidence from literary texts to support analysis, reflection, and research. (W.5.9) 	<ul style="list-style-type: none"> I can explain the next steps Max Axiom takes to solve a problem by paraphrasing quotes from <i>Max Axiom</i>. I can analyze how visual elements in <i>Max Axiom</i> contribute to my understanding of the steps Max Axiom takes to solve a problem. I can draw evidence from the text and visual elements in <i>Max Axiom</i> to support my analysis of how Max Axiom used a process to solve a problem. 	<ul style="list-style-type: none"> Graphic Novel Template A, B, or C (from homework) Gist (in journal) <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page. 4 Response to reflection questions (in journal) Open Response task card Independent Reading Choice Board response 	<ul style="list-style-type: none"> Vocabulary Strategies Think-Aloud protocol
Lesson 6	Mid-Unit Assessment: Analyzing Visual Elements in a Graphic Novel	<ul style="list-style-type: none"> I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7) I can draw evidence from literary texts to support analysis, reflection, and research. (W.5.9) I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4) 	<ul style="list-style-type: none"> I can explain how visual elements add meaning to the description of the scientific problem Max Axiom will encounter next. I can determine the meaning of unfamiliar words and phrases using a variety of strategies. I can reflect on my learning about how visual elements add meaning to the text and use a variety of strategies to determine the meaning of unfamiliar words and phrases. 	<ul style="list-style-type: none"> Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel Tracking My Progress: Mid-Unit 1 recording form 	<ul style="list-style-type: none"> Close Readers Do These Things Vocabulary Strategies



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 7	Using Quotes to Explain Relationships: The Invention of the Electric Motor	<ul style="list-style-type: none"> I can quote accurately from a text when explaining what the text says explicitly. (RI.5.1) I can determine the meaning of general academic and domain-specific words and phrases. (RI.5.4) I can explain the relationship between two or more individuals, events, ideas, or concepts in a scientific text based on specific information in the text. (RI.5.3) 	<ul style="list-style-type: none"> I can explain how the electric motor meets societal needs using quotes from the text. I can determine the meaning of unfamiliar words and phrases from context. I can identify the relationships between electricity and the electric motor based on information from the text. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) Gist statement (in journal) Cause and Effect note-catcher: "The Electric Motor" Vocabulary (in glossary) Answers to text-dependent questions: "The Electric Motor" 	<ul style="list-style-type: none"> Close Readers Do These Things Vocabulary Strategies
Lesson 8	Using Quotes and Opinion Writing: Ingenious Inventions by Women	<ul style="list-style-type: none"> I can quote accurately from a text when explaining what the text says explicitly. (RI.5.1) I can determine the meaning of general academic and domain-specific words and phrases. (RI.5.4) I can write opinion pieces supporting a point of view with reasons and information. (W.5.1) <ol style="list-style-type: none"> I can introduce a topic clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support my purpose. I can provide logically ordered reasons that are supported by facts and details. 	<ul style="list-style-type: none"> I can explain how the windshield wiper and paper bag machine met societal needs using quotes from the text. I can determine the meaning of unfamiliar words and phrases from context. With peers, I can write an opinion paragraph about which invention meets a greater societal need. 	<ul style="list-style-type: none"> Graphic Novel Template A, B or C (from homework) Gist statement (in journal) Compare and Contrast note-catcher Vocabulary (in journal) Group opinion paragraph (on chart paper) Independent Reading Choice Board response 	<ul style="list-style-type: none"> Close Readers Do These Things Group Norms Vocabulary Strategies Opinion Paragraph



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 9	Using Quotes and Comparing and Contrasting Structure: The Invention of Basketball	<ul style="list-style-type: none"> I can quote accurately from a text when explaining what the text says explicitly. (RI.5.1) I can compare and contrast the structure of information in two or more texts. (RI.5.5) 	<ul style="list-style-type: none"> I can explain how the game of basketball was developed to meet societal needs using quotes from the text. I can compare and contrast the structure of two articles that explain the invention of basketball. I can explain how comparing and contrasting the structure of what I read supports my understanding of the ideas presented in informational texts. 	<ul style="list-style-type: none"> Entry task (Lesson 8 homework) Problem and Solution note-catcher: "Dr. James Naismath, Inventor of Basketball: Sequential note-catcher: "First College Basketball Game" Venn Diagram Synthesis questions (responses in journal) Independent Reading Choice Board response 	<ul style="list-style-type: none"> Close Readers Do These Things Group Norm Vocabulary Strategies Back-to-Back, Face-to-Face protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 10	End of Unit Assessment: Using Quotes to Explain Relationships and Support an Opinion	<ul style="list-style-type: none"> I can determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. (RI.5.4) I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1) I can explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. (RI.5.3) I can compare and contrast the overall structure (e.g. chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts. (RI.5.5) I can write opinion pieces on topics or texts, supporting a point of view with reasons and information. (W.5.1) <ul style="list-style-type: none"> Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. Provide logically ordered reasons that are supported by facts and details. 	<ul style="list-style-type: none"> I can determine the meaning of unfamiliar words and phrases using a variety of strategies. I can analyze the way text is structured to support readers' understanding of complex ideas. I can write an opinion paragraph to explain which invention has been most important to people. I can reflect on my learning about how new or improved technologies are developed to meet societal needs. 	<ul style="list-style-type: none"> End of Unit 1 Assessment: Using Quotes to Explain Relationships and Support an Opinion Tracking My Progress: End of Unit 1 Recording Form Independent Reading Choice Board response 	<ul style="list-style-type: none"> Criteria for Selecting Texts Close Readers Do These Things Vocabulary Strategies Four Corners protocol



Optional: Experts, Fieldwork, And Service

Experts:

- Consider inviting local inventors and scientists to discuss their process with students and/or lead them in an experiment that demonstrates their application of methods related to scientific inquiry.

Fieldwork:

- Arrange for students to visit a laboratory conducting authentic research related to a local problem or need, or arrange a trip to a local science museum.

Service:

- Locate and pique students' interest in a local problem or need that would allow them to engage in a process of scientific inquiry that would lead to a possible solution.

Optional: Extensions

- Consider organizing an Invention Convention, an opportunity for students to work independently or in groups to identify a societal/local need or problem, develop a solution using a process of scientific inquiry, and then present their invention and findings to an audience of their peers and/or members of the school and local community.

Preparation and Materials

1. See the Module Overview document for details regarding a stand-alone document, **Foundational Reading and Language Standards: Resources, Guidelines, and Recommendations**. Unit 1 introduces some of these resources, most specifically the Fluency Packet, aligned with RF.5.5 and RF.5.6.
2. See the Recommended Texts list for this unit to gather a variety of texts for students to choose from for independent reading (Lesson 1).



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1:

Recommended Texts



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The list below includes texts with a range of Lexile® text measures about the scientific method scientist that invented things that changed people's lives. This provides appropriate independent reading for each student to help build content knowledge about the topic.

It is imperative that students read a high volume of texts at their reading level in order to continue to build the academic vocabulary and fluency demanded by the CCLS

Common Core Band Level Text Difficulty Ranges:

(As provided in the NYSED Passage Selection Guidelines for Assessing CCSS ELA)

- Grade 2–3: 420–820L
- Grade 4–5: 740–1010L
- Grade 6–8: 925–1185L

Where possible, texts in languages other than English are also provided. Texts are categorized into three Lexile levels that correspond to Common Core Bands: below grade band, within band, and above band. Note, however, that Lexile® measures are just one indicator of text complexity, and teachers must use their professional judgment and consider qualitative factors as well. For more information, see Appendix 1 of the Common Core State Standards.

Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures below band level (under 740L)			
<i>Inventions: Great Ideas and Where they Came From</i>	Sarah Houghton (author)	Informational	540
<i>Steve Jobs, Steve Wozniak and the Personal Computer</i>	Donald Lemke (author)	Informational	600
<i>Johann Gutenberg and the Printing Press</i>	Kay Melchisedech (author) Tod Smith (illustrator)	Informational GN	620
<i>Marie Curie and Radioactivity</i>	Connie Miller (author) Scott Larson and Mark Heike (illustrator)	Informational GN	640



Title	Author And Illustrator	Text Type	Lexile Measure
<i>Alexander Graham Bell and the Telephone</i>	Jennifer Fandel (author) Keith Tucker (illustrator)	Informational GN	660
<i>How to Think Like a Scientist: Answering Questions by the Scientific Method</i>	Stephen Kramer (author)	Informational	680
<i>Marvelous Mattie: How Margaret E. Knight Became and Inventor</i>	Emily Arnold McCully (author)	Biography	720
<i>In the Bag! Margaret Knight Wraps it Up</i>	Monica Kulling (author)	Biography	725*
<i>The Man who Invented Basketball: James Naismith and His Amazing Game</i>	Edwin Wyckogg (author)	Biography	725*
Lexile text measures within band level (740L-1010L)			
<i>Jonas Salk and the Polio Vaccine</i>	Katherine Krone (author)	Informational GN	760
<i>The Scientific Method in the Read World</i>	L.E. Carmichael (author)	Informational	770
<i>Machines and Inventions</i>	Ian Graham (author)	Informational	860
<i>Now & Ben: The Modern Inventions of Benjamin Franklin</i>	Gene Baretta (author)	Informational	910
<i>Neo Leo: The Ageless Ideas of Leonardo daVinci</i>	Gene Baretta (author)	Informational	930
<i>A Wizard from the Start: The Incredible Boyhood & Amazing Inventions of Thomas Edison</i>	Don Brown (author)	Informational	940

*Lexile based on a conversion from Accelerated Reading level;



Title	Author And Illustrator	Text Type	Lexile Measure
<i>Build a Better Mousetrap: Make Classic Inventions, Discover Your Problem Solving Genius and Take the Inventor's Challenge</i>	Ruth Kassinger (author)	Informational	950*
<i>Bone detective : The Story of Forensic Anthropologist Diane France</i>	Lorraine Hopping (author)	Biography	950
<i>Natures Machines: The Story of Biomechanist Mimi Koehl</i>	Deborah Parks (author)	Biography	950*
<i>The Top Ten Inventions that Changed the World</i>	Chris Oxlade (author)	Informational	960*
<i>What's the Big Idea? : Inventions that Changed Life on Earth Forever</i>	Helaine Becker (author)	Informational	970*
Lexile text measures above band level (over 1010L)			
<i>Mistakes that Worked</i>	Charlotte Jones (author) John O'Brien (illustrator)	Informational	1040
<i>Robo World: The Story of Robot Designer Cynthia Breazel</i>	Jordan Brown (Author)	Biography	1040
<i>Gene Hunter: The Story of Neuropsychologist Nancy Wexler</i>	Adele Glimm (author)	Biography	1040*
<i>Michael Farady, Father of Electronics</i>	Charles Ludwig (author)	Informational	No LXL
<i>Incredible Inventions</i>	Lee Bennett Hopkins (compiled) Julia Sarcone-Roach (illustrator)	Poetry	NP

*Lexile based on a conversion from Accelerated Reading level.

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EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 1

Building Background Knowledge: *Investigating the Scientific Method with Max Axiom Super Scientist*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can engage effectively in a range of collaborative discussions with diverse partners about fifth-grade topics and texts. (SL.5.1)

I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)

I can recognize, interpret, and make connections in narratives, poetry, and drama to other texts, ideas, cultural perspectives, eras, personal events, and situations. (RL.5.11)

- a. I can self-select texts to develop personal preferences regarding favorite authors.
- b. I can use established criteria to categorize, select texts, and assess to make informed judgments about the quality of the pieces.

Supporting Learning Targets

- I can use group norms to locate and discuss the visual elements in the graphic novel *Max Axiom*.
- I can analyze the visual elements and splash page in *Max Axiom* to make predictions about the story.
- I can use established criteria to select a text for independent reading.

Ongoing Assessment

- Written prediction (in journal)
- Independent text selection
- Independent Reading Choice Board response



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Engaging the Reader: Infer the Topic Protocol (10 minutes) 2. Work Time <ol style="list-style-type: none"> A. Establishing Groups and Discussing Visual Elements of a Graphic Novel (25 minutes) B. Analyzing Visual Elements in <i>Max Axiom</i>: Making Predictions Based on the Splash Page (13 minutes) C. Introducing Text Selection Criteria and Independent Reading Options (7 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Reviewing Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Read your independent reading book for at least 30 minutes. Respond to one question on the Independent Reading Choice Board. Your response will be your entry task for Lesson 2. 	<ul style="list-style-type: none"> • The purpose of this first lesson is to build student engagement with the module topic: inventions that meet societal demands. The lesson also introduces students to specific visual elements found in the graphic novel <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>, which students will read during the first half of this unit. • During the Opening, students are introduced to Infer the Topic protocol. The purpose of this activity is to allow them to collaborate with a variety of peers to make inferences and uncover meaning in one of the big ideas of this module, “New or improved technologies are developed to meet societal demands.” Help build excitement during this activity. • In advance: <ul style="list-style-type: none"> – Review Triad Talk norms (from Module 1, Unit 2, Lesson 2), which students do in groups of four in Work Time A. – Review and familiarize yourself with student directions for Infer the Topic protocol (different from the teacher directions) located in Appendix (see supporting materials). – Prepare artifacts for Infer the Topic protocol (see list of artifacts in supporting materials). – Please bear in mind that Youtube, social media video sites, and other website links may incorporate inappropriate content via comment banks and ads. While some lessons include these links as the most efficient means to view content in preparation for the lesson, be sure to preview links, and/or use a filter service, such as www.safeshare.tv, for actually viewing these links in the classroom. – Predetermine groups of four. Ideally, these are heterogeneous groups, where students work with different classmates than in Module 1. Post groups on chart paper to save time during the lesson. – Display the Triad Talk Norms anchor chart (from Module 1, Unit 2, Lesson 2), or create a new chart. – Familiarize yourself with <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> and the visual elements that are found in a graphic novel (see Visual Elements of a Graphic Novel reference page in supporting materials). – Prepare a selection of independent reading book choices (see Recommended Texts list for this module). – Create Criteria for Selecting Texts anchor chart.



Lesson Vocabulary	Materials
technologies, societal needs, structure, visual elements, engage, support, complex, norms, locate, discuss, genre, graphic novel, analyze, splash page, predictions, established criteria, select, close-up image, scenes, sequentially, random, passage (of time), locations	<ul style="list-style-type: none">• Infer the Topic Protocol student directions (one to display)• Document camera• Infer the Topic note-catcher (one per student)• Artifacts (one per pair of students)• List of artifacts (for teacher reference)• Triad Talk Norms anchor chart (from Module 1, Unit 2, Lesson 2)• Journals (one per student)• <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> (book; one per student)• Visual Elements of a Graphic Novel reference page (one per student)• Tape, glue, or staples (one per student)• Criteria for Selecting Texts anchor chart (new; teacher-created)• Independent Reading Choice Board (one per student)



Opening	Meeting Students' Needs
<p>A. Engaging the Reader: Infer the Topic Protocol (10 minutes)</p> <ul style="list-style-type: none">• Gather students whole group. Say something like: “Today we are beginning a new module, and your job is to do some investigating so you can make an inference about what we will be studying. You are going to look at a variety of artifacts including pictures, headlines, quotes, and articles as you participate in Infer the Topic protocol with your peers.”• Display Infer the Topic Protocol student directions using the document camera. Read directions aloud and clarify as needed.• Distribute Infer the Topic note-catchers to each student. Have students pair up and distribute one of the artifacts that you previously prepared using the list of artifacts (for teacher reference) to each pair, then ask them to begin. Circulate to support.• After several minutes, pause and focus whole group on step 5 of the protocol. Cold call individuals to share out their inferences about the topic of the unit. Encourage students to explain specifically how evidence from their artifacts supports their inferences. Listen for ideas such as:<ul style="list-style-type: none">– “I think we will be learning about inventors or inventions because some of our artifacts showed pictures of inventions.”– “I think we are learning about why inventions are important for the world because my artifact showed pictures of important inventions and my partner’s artifact says ‘Inventions that changed the world.’”– “I think the topic of this module is how inventions make life better because my artifact shows inventions that make it easier to cook and clean,” or similar suggestions.• After a handful of students share, say something like: “You identified a lot of important clues in those artifacts. Your investigatory skills have helped you infer that in this module we are studying inventions that have been developed to meet people’s needs. Let’s discuss the guiding questions that will help us focus as we learn more about this topic.”<ul style="list-style-type: none">* “How do new or improved technologies meet societal needs?”* “How do authors structure text and use visual elements to engage and support readers’ understanding of complex ideas?”• Focus students on the first guiding question. Circle the terms technologies and societal needs. Ask students to think and then turn and talk about the meaning of these terms.• After 1 minute, invite a few students to share their ideas. Listen for:<ul style="list-style-type: none">– “Technologies are new tools or inventions.”– “Societal needs are things that people or communities need,” or similar suggestions.	<ul style="list-style-type: none">• Display guiding questions to support all students, but especially visual learners.• Model the process of viewing an image and thinking of a hint.• Model the process of viewing an image and thinking of a story.• To support ELL students, consider modifying the prompt so students can give a clue by showing an action.



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Say something like: “We will continue to come back to the first guiding question throughout this module, but today we are going to focus primarily on the second question. Let’s take a closer look at that one now.” Ask for a volunteer to read the second guiding question aloud.• Circle the terms <i>structure</i>, <i>visual elements</i>, <i>engage</i>, <i>support</i>, and <i>complex</i>. Ask students to take a minute to consider these terms. Then, direct them to turn and talk about the meaning of each term.• After 1 or 2 minutes, invite several students to share their definitions with the class. Listen for:<ul style="list-style-type: none">– “Structure is the way something is built or put together in text.”– “Chapters, paragraphs, tables of contents, and indexes are part of the structure of a story.”– “Visual elements are what I can see in the book, such as pictures, colors, and text.”– “Engage means to get someone involved in or interested in.”– “Support means to help.”– “Complex means complicated or challenging; having many parts,” or similar suggestions. If students are unable to define key terms from the second guiding question, define for them.• After reviewing key vocabulary, ask students to consider how they could restate the second guiding question in their own words. Invite a few students to share their thinking whole group.• Remind students to keep this guiding question in mind as they begin exploring their new text, a graphic novel called <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> by Donald B. Lemke. Explain that their analysis of this text will support their understanding of how structure and visual elements in a graphic novel help readers build knowledge and understanding about more complex ideas.	



Work Time	Meeting Students' Needs
<p>A. Establishing Groups and Discussing Visual Elements of a Graphic Novel (25 minutes)</p> <ul style="list-style-type: none"> • Say something like: “Throughout this unit, you will have an opportunity to collaborate with members of a small group as you read and analyze the text <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>. Before we get started, let’s review the norms you used in Module 1 as you worked in triads.” Introduce the learning target: <ul style="list-style-type: none"> * “I can use group norms to locate and discuss the visual elements in the graphic novel <i>Max Axiom</i>.” • Circle the term <i>norms</i> and ask students to consider the meaning of this word. Invite students to share their definition with the class. Listen for: “Norms are expectations we have of everyone,” “ways we expect everyone to act,” or similar suggestions. • Display the Triad Talk Norms anchor chart (from Module 1). Ask students to Think-Pair-Share the norms that were most helpful for them as they worked in teams of three. • After 1–2 minutes, cold call several students to share out their thinking. Listen for ideas such as: <ul style="list-style-type: none"> – “I think the norm, ‘each person must contribute to the discussion, but take turns talking’ helped my group because we all got to share and listen to others’ ideas.” – “Asking questions like, ‘Would you like to add to my idea?’ or ‘Can you tell us what you’re thinking?’ helped my group because we were able to better understand our group members’ ideas.” – “For my group the norm, ‘each person should show the others specific details from the text, pointing to specific page numbers, paragraphs, and lines’ was helpful because we could see where our group members’ thinking came from,” or similar suggestions. • Tell students that the norms for a group of four are no different and they will continue to follow these norms as they work with their new group members. Draw a line through the words “Triad Talk” and above them write the word “Group” so the chart is now labeled “Group Norms.” Leave displayed for student reference throughout this module. • Place students in their predetermined groups of four and tell them they will remain in these groups throughout the unit. • Then, distribute one journal and the book <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> to each student. Give students a moment to examine the text, then ask: <ul style="list-style-type: none"> * “What do you notice about this new text?” 	<ul style="list-style-type: none"> • Display the learning target for student reference. • Consider creating an anchor chart that includes a pictorial example of each visual element. • Many of the descriptions of visual elements contain high leverage vocabulary terms. Consider discussing and defining additional vocabulary or keeping a word wall associated with this module. Some terms that may be valuable to discuss further include: dialogue, type, equipment, displays, and documents.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Listen for students to make comments about the structure, images, and graphics found in the text such as:<ul style="list-style-type: none">– “It looks like a comic book because it has boxes with characters and action.”– “I notice there is a table of contents.”– “There are four sections, each with a different title.”– “There is a glossary in the back.”– “I notice there are speech bubbles.”• Say something like: “This is an exciting new <i>genre</i> called a <i>graphic novel</i>. Graphic novels are stories presented in a style that is similar to a comic book. While graphic novels are considered literature, this particular graphic novel contains real information that is meant to help us understand the scientific method.”• Ask students to discuss similarities and differences between how <i>Max Axiom</i> and <i>Esperanza Rising</i> are structured.• After 2–3 minutes, cold call students from each group to share out a similarity or difference they noticed. Listen for:<ul style="list-style-type: none">– “<i>Esperanza Rising</i> has chapters, and <i>Max Axiom</i> is similar because it has sections.”– “<i>Max Axiom</i> has a table of contents.”– “<i>Esperanza Rising</i> is mostly text, no pictures, whereas <i>Max Axiom</i> has a lot of images.”• Tell students that while graphic novels are similar to other novels in many ways, one distinct difference is how they use visual elements to communicate a significant part of the story. Throughout the first part of this unit, they are learning about how visual elements support their understanding of the information presented in the text. Refer back to the learning target,<ul style="list-style-type: none">* “I can use group norms to locate and discuss the visual elements in the graphic novel <i>Max Axiom</i>.”• Underline the terms <i>locate</i> and <i>discuss</i>. Invite a few students to restate the target in their own words.• Distribute the Visual Elements of a Graphic Novel reference page and ask students to tape, glue, or staple it onto the first blank page in their journals. Tell students the reference page can help them understand the specific types of visual elements found in a graphic novel because it names and defines each one. Explain that many terms may be new to them, and their definitions may also contain new vocabulary. Reassure students that they will get to continue building their understanding about each element as they analyze <i>Max Axiom</i> more closely in future lessons.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to follow along silently as you read the description for the first visual element, the <i>splash page</i>, aloud.• Then, draw students' attention to the phrase <i>close-up image</i>. Ask them to quickly think about and discuss what they believe a close-up image is. Invite a few students to share out their definitions whole group. Listen for:<ul style="list-style-type: none">– “A picture that zooms in on one part of an object or person to make it look really big,” or similar ideas.• Direct students to work with their group members to find the splash page. Remind them that they can use their reference sheets for support.• Give students 1 minute to discuss. Then, ask them to hold up and point to the splash page.• Call on a few students to explain how they identified the splash page. Listen for:<ul style="list-style-type: none">– “Pages 4 and 5 are the first two pages and they grab your attention.”– “I noticed the eye on page 4 is a close-up image,” and similar ideas.• Focus students' attention on the definition of frames/panels. Ask students to follow along silently as you read the definition aloud.• Have students locate and circle the terms <i>scenes</i>, <i>sequentially</i>, and <i>random</i> in the definition.• Direct students to think about then discuss in groups the meaning of each term they circled.• Invite several students to share out their thinking whole group. Listen for:<ul style="list-style-type: none">– “Scenes are where the action takes place.”– “Sequentially means in time order, like first, next, and last.”– “Random means they jump around instead of being in sequential order,” or similar suggestions.• Say something like: “Let’s take a moment to consider the frames or panels on the splash page. The format of a graphic novel is different from the format of other types of novels. As we just read, the frames or panels in a graphic novel contain each of the scenes. Notice that some frames are larger than others, and that the panels on page 4 are organized differently than those on page 5. The author of a graphic novel often uses frame size and location to draw your attention to important ideas. As I read aloud, pay attention to the order the author intends for this book to be read. This will help you read the rest of this graphic novel independently, as well as other graphic novels you choose to read in the future.”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Read pages 4 and 5 of <i>Max Axiom</i> aloud as students read along silently, starting with the Section 1 heading “A World of Questions.” Read top to bottom and left to right. Then come back to the “Definition of ‘Levee’” and “Steps of the Scientific Method” insets last. Make sure to point out to students the order in which you read each frame.• Give students a minute to think about then discuss in groups:<ul style="list-style-type: none">– “What did you notice about the order in which the frames were read?”• Cold call a few students to share what they discussed. If students do not name the sequencing strategies you highlighted while reading aloud, bring them to their attention. Note the first frame on page 5, which takes up the first vertical half of the page. Say something like: “Authors intend for us to read larger frames from top to bottom before moving right.”• Refocus students’ attention on their reference sheets. Ask them to read aloud with you the definition of “gutters.” Ask students to consider the meaning of the terms <i>passage</i> and <i>location</i> in this description.• Invite a few students to share possible definitions for the word <i>passage</i> as it is used here. Listen for:<ul style="list-style-type: none">– “Passage means something that moves past, or when time goes by.”– “Location is a place,” or similar suggestions.• Have students locate and discuss the gutters on the splash page. Remind them to consult their reference sheets.• After 1 minute, ask students to hold up and point to the gutters they found. Invite a few students to explain how they identified the gutters. Listen for:<ul style="list-style-type: none">– “This part is the white space between the frames.”– “This gutter moves the action from the laboratory to the motorcycle,” or similar examples.• Refocus students’ attention on their reference sheets and ask them to read aloud with you the definition of “ambient sounds.”• Give students a moment to point to an example of an ambient sound on the splash page (“BEEP!” on page 4).• Ask students to read the definition for “thought bubbles/speech bubbles” aloud with you. Clarify as needed.• Direct students to locate and discuss examples of thought bubbles and speech bubbles from the splash page.• After 1 minute, call on a few students to explain how their group identified the difference between thought bubbles and speech bubbles. Listen for: “We saw that when the mayor was talking, there was a text bubble coming from her mouth”; “We noticed on page 5 that when Max is thinking, the bubbles aren’t connected to his mouth,” or similar suggestions.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Have students read the description for “font size, color, style” aloud with you. Define terms from the description as needed. Ask students to discuss with group members what they notice about the font size, color, and style of words on the splash page.• After 1 minute, call on a few students to share what their groups noticed about the font. Listen for:<ul style="list-style-type: none">– “We noticed that the font looks more like handwriting than the font in most novels.”– “We noticed that text in the speech bubbles is black, but in the information boxes it’s white and yellow,” and similar ideas.• Ask students to read aloud with you the description of “images/photos.” Provide clarification as needed.• Have students locate and discuss one image from the splash page they feel relays important details about the story. Remind students to focus only on the details they can learn from the images, not the text.• After 1 minute, invite a few students to share which image they chose and why. Listen for students to highlight details from the images, such as the worried reflection of the mayor’s face in Max’s sunglasses, the sense of action in the last frame, the zoomed-in tablet showing steps of the scientific method, or the concerned look in the close-up image of the mayor’s eye.• Ask students to read the description of “colors” aloud with you. Clarify as needed. Direct students to make observations about and discuss the colors used in <i>Max Axiom</i>.• After 1 minute, cold call a few students to share their observations. Listen for:<ul style="list-style-type: none">– “We noticed that the colors are very bold.”– “We noticed that the primary colors red, yellow, and blue are used a lot,” or other ideas.• Direct students to read the description of “diagrams/information boxes” with you, then locate and discuss a diagram or information box from the splash page with group members.• After 1 minute, call on a few students to explain how they located the diagram or information box. Listen for students to identify the changes in color and frame around the information box that provides a definition for “levee.”• Then say something like: “As we read this graphic novel more closely, consider how visual elements contribute to the meaning of the text both individually and together. During the next part of Work Time, your group will have the opportunity to analyze visual elements and closely read the splash page in order to make predictions about the story <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>.”	



Work Time (continued)	Meeting Students' Needs
<p>B. Analyzing Visual Elements in Max Axiom: Making Predictions Based on the Splash Page (13 minutes)</p> <ul style="list-style-type: none"> • Introduce the learning target: <ul style="list-style-type: none"> * “I can analyze the visual elements and splash page in <i>Max Axiom</i> to make predictions about the story.” • Ask students: <ul style="list-style-type: none"> * “What words in this learning target stand out to you as being powerful?” • Listen for students to name the terms <i>analyze</i> and <i>predictions</i>, as well as “visual elements” and “splash page,” which were previously discussed. If students don’t name these terms, bring them to their attention. Underline all four terms. • Ask students to discuss their thoughts about the meaning of the terms “analyze” and “predictions” with group members. • After 1 minute, invite several students to share their thinking aloud. Listen for: <ul style="list-style-type: none"> – “Analyze means to examine closely, study deeply, evaluate, consider, explore.” – “Predictions are guesses, or what you think will happen based on evidence,” or similar suggestions. • Invite a few students to restate the learning target in their own words. • Then, refocus students’ attention on pages 4 and 5 of <i>Max Axiom</i>, the splash page. Have students reread these pages in groups, either aloud together or by alternating frames. • Allow students 5 or 6 minutes to reread and discuss in groups: <ul style="list-style-type: none"> * “Based on the splash page, what do you predict this story will be about?” * “How do visual elements found on the splash page support your prediction?” • After students complete their analysis and discussion, invite members from each group to share out their predictions. Ask students to explain how the text and visual elements found on the splash page supports their prediction. Listen for: <ul style="list-style-type: none"> – “I think the story will be about Max Axiom solving a problem because the panels on the splash page show a woman who is calling Max Axiom for help.” – “I think the story will be about Max Axiom using the scientific method to solve a problem about a levee because in the biggest frame there is an information box about the term levee and Max is saying that scientists use the scientific method to solve problems,” or similar suggestions. • Ask students to turn to a new page in their journals to record a prediction about the story. 	<ul style="list-style-type: none"> • Display the learning target for student reference. • As students begin using visual elements on the splash page to make predictions, consider giving them 1 minute to silently review the questions and analyze the pages followed by 3 to 4 minutes of group discussion. • To support learners, display all discussion questions for student reference.



Work Time (continued)	Meeting Students' Needs
<p>C. Introducing Text Selection Criteria and Independent Reading Options (7 minutes)</p> <ul style="list-style-type: none">• Tell students that today they will be choosing an independent reading book for homework throughout this unit.• Read the final learning target aloud:<ul style="list-style-type: none">* “I can use established criteria to select a text for independent reading.”• Remind students that to become better readers and writers, it is important to read a variety of books with just the right level of challenge. Explain that the more students read, the more they will be able to learn about the fascinating world they live in.• Display the Criteria for Selecting Texts anchor chart. Read each of the criteria aloud and provide clarification as needed. Then, ask students to consider the criteria as they choose a book to read independently.• Give students 5 minutes to choose a book. If any students are unable to choose a book in the time allotted, find other times during the day for them to review the Independent Reading Choice Board and select a text.	<ul style="list-style-type: none">• Consider modeling how to use each of the criteria to select an independent reading book.
Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Have students read the learning targets aloud. Ask students to turn and talk:<ul style="list-style-type: none">– “Share your prediction about Max Axiom and explain which visual elements helped you make your prediction.”– “Explain which group norms helped you in your work today.”• After 2 minutes, refocus whole class. Cold call a few students to share which visual elements helped them make a prediction or which norms helped them in their work today.• Ask students to use the Fist to Five protocol to demonstrate their mastery of each of the learning targets. Note students who show a three, two, one, or fist, as they may need more support analyzing visual elements or making a text selection independently based on criteria.	<ul style="list-style-type: none">• Consider posting the discussion prompts for student reference.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read your independent reading book for at least 30 minutes. Respond to one question on the Independent Reading Choice Board. Your response will be used in your entry task for Lesson 2.	<ul style="list-style-type: none">• Allow struggling writers to dictate their responses to someone at home.



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Grade 5: Module 2B: Unit 1: Lesson 1

Supporting Materials



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Infer the Topic Protocol Student Directions

Purpose: This protocol helps build anticipation and pique your curiosity about the topic we are about to begin studying in-depth.

1. Your team will receive one “artifact:” a photograph, a book cover, a sketch, a diagram, a quote, a newspaper headline, or an article.
2. With your partner, take a moment to study your artifact. If it’s an article, don’t read the whole thing. Look at the headline(s), headings, and/or captions.

(Note: It’s okay if you and your partner do not agree and have different ideas captured on your note-catchers.)

3. Use your Infer the Topic note-catcher to capture your thoughts (1–2 minutes).
 - What is this artifact?
 - What does it remind you of?
 - What questions do you have about it?
 - What can you infer the new topic of study will be?
4. When your teacher prompts you, quickly find another team. Take turns showing your artifacts and sharing what you recorded on your note-catchers. Discuss the questions below and capture your thoughts in the next section of your note-catcher (2–3 minutes).
 - What is the other team’s artifact?
 - What does it remind you of?
 - What questions do you have about it?
 - Now what do you infer the upcoming topic of study will be?
5. Join in the whole group discussion. Your teacher will ask for a few volunteers to share their artifacts and their prediction about the upcoming unit of study. Your teacher will reveal the topic by the end of this discussion (3 minutes).



Infer the Topic Note-catcher

Name:

Date:

Infer the Topic Note-catcher

I think my artifact is ...	My artifact reminds me of ...
Questions I have ...	I think we're going to be studying ...

I think the other team's artifact is ...	Their artifact reminds me of ...
Questions I have ...	I think we're going to be studying ...

After the class discussion, I know we will be studying ...

List of Artifacts (for Teacher Reference)

Historical *New York Times* Newspaper Article with Images: “Inventors, 1910”

<http://sundaymagazine.org/2010/12/inventors-who-take-no-profits-from-their-work/>

INVENTORS WHO TAKE NO PROFITS FROM THEIR WORK: Give the Results of their Skill and Study Without Charge for the Good of Mankind, Declining Royalties. The Sunday Magazine, December 4, 1910. Public Domain

Magazine Cover: *Science and Invention*

http://upload.wikimedia.org/wikipedia/commons/thumb/a/a0/Science_and_Invention_Nov_1928_Cover_2.jpg/220px-Science_and_Invention_Nov_1928_Cover_2.jpg

"Science & Invention", November 1928. Volume 16 Number 7.

Historical Photo: Inventor George Washington Carver

<http://www.loc.gov/pictures/item/2001703725/>

Johnston, Frances Benjamin. "Laboratory at Tuskegee Institute, Ala." 1902. Photograph. Library of Congress, [reproduction number, LC-USZ62-2248]

Book Cover: Inventor, Philo T. Farnsworth

<http://i43.tower.com/images/mm111395440/philo-t-farnsworth-visionary-inventor-television-tim-oshei-hardcover-cover-art.jpg>

Used with permission.

Image: “Inventor, Benjamin Franklin”

<https://www.patentplaques.com/blog/wp-content/uploads/2013/01/faranklin-inventions.png>

Benjamin Franklin

Historical Sketch: “Patent Diagram”

<http://www.msad40.org/~library-hazelton/images/greenwood.gif>

United States Patent Office. Public Domain

Rocket Scientist with Turbopumps

<http://commonhealth.wbur.org/files/2011/03/scientists-at-work-300x225.jpg>

National Aeronautics and Space Administration. Public Domain

Poster: “Jim al Khalili, quote”

<http://izquotes.com/quotes-pictures/quote-all-scientists-must-communicate-their-work-for-what-is-the-point-of-learning-new-things-about-how-jim-al-khalili-206173.jpg>

Jim Khalil

Historical Magazine Covers: *Science and Invention*

http://dyn3.heritagestatic.com/lf?set=path[6%2F9%2F4%2F3%2F6943591]%2Csize[450x2000]
&call=url[file%3Aproduct.chain]

Science and Invention Magazine. Public Domain



List of Artifacts (for Teacher Reference)

Quote: Thomas Edison (One)

“I never perfected an invention that I did not think about in terms of the service it might give others.”

<http://www.thomasedison.com/quotes.html>

Quote: Thomas Edison (Two)

“I find out what the world needs, then I proceed to invent.”

<http://www.thomasedison.com/quotes.html>

Quote: Thomas Jefferson

“Considering the exclusive right to invention as given not of natural right, but for the benefit of society.”

http://press-pubs.uchicago.edu/founders/documents/a1_8_8s12.html

Moon Box for Apollo

http://commons.wikimedia.org/wiki/File:Y12_moon_box_for_apollo_11.jpg

United States National Nuclear Safety Administration. Public Domain

Ida Bengston Scientist

http://commons.wikimedia.org/wiki/File:Ida_Bengston.jpg

National Institutes of Health. Public Domain

Ruth McGuire Scientist

[http://commons.wikimedia.org/wiki/File:Ruth_Colvin_Starrett_McGuire_\(1893-1950\)_-_Smithsonian_Institution_Archives.jpg](http://commons.wikimedia.org/wiki/File:Ruth_Colvin_Starrett_McGuire_(1893-1950)_-_Smithsonian_Institution_Archives.jpg)

Acc. 90-105 - Science Service, Records, 1920s-1970s, Smithsonian Institution Archives



Visual Elements of a Graphic Novel Reference Page

Visual Element	Description
Splash page	First two pages; gets the reader's attention; uses large and close-up images
Frames/panels	The boxes that contain scenes and/or information; some are larger than others; can be arranged sequentially or in a more random order
Gutters	The space between the frames/panels; moves from one scene to another to show changing actions, the passage of time, or to make changes in locations
Ambient sounds	Words that show sounds
Thought bubbles/speech bubbles	What the characters think/what the characters say
Font size, color, style	Text, captions, information, or dialogue in the story that uses different styles of type and/or different colors
Images/photos	Drawings/pictures of characters, settings, actions, important details and information
Colors	Blue, green, red, black, white, brown, etc.; bright, dull, dark, light
Diagrams/information boxes	Drawings of technical equipment, displays, documents, graphs, definitions, and other ideas or objects



Criteria for Selecting Texts Anchor Chart

- The book interests me.
- I can make connections between this book and other texts read, topics explored, or experiences I have had.
- I know many, but not all of the words in the book.
- The book contains some text or images I don't understand, but I am able to get a sense of what the book is mostly about.



Independent Reading Choice Board

Name: _____

Date: _____

Title of Independent Reading Book/Author's Name:

After reading independently (silently and/or aloud) for at least 30 minutes, write a response to any ONE question from the board *except* the center square. Complete the center square once you have answered each of the other eight questions.

VISUAL ELEMENTS What visual elements (pictures, text) do you notice in this book? How do the visual elements support your understanding of the text?	CONNECTIONS What connections were you able to make between your independent reading book and other texts, topics explored, or experiences you have had?	STRUCTURE How is this book structured? How does the structure support your understanding of the text?
GENRE What genre is this book? Do you enjoy this genre? Explain.	<i>*Complete this square last.</i> What qualities will you look for in the next book you read? (e.g., same author, similar visual features, same or different genre, etc.)	RECOMMENDATION Would you recommend this book and/or this author to someone else? Explain.
WORDS Which <i>words</i> repeat? List them. Why do you think the author chose to repeat these words; why are they important?	READABILITY Is your independent reading book too hard, just right, or too easy? Explain.	INTEREST Do you find this book interesting? Explain.



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Grade 5: Module 2B: Unit 1: Lesson 2

Paraphrasing Quotes and Analyzing Visual Elements: *Investigating the Scientific Method with Max Axiom Super Scientist*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences. (RL.5.1)

I can paraphrase information in notes and finished work. (W.5.8)

I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)

I can determine the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4)

- a. I can use context as a clue to the meaning of a word or phrase.
- b. I can use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word.

Supporting Learning Targets

- I can explain the first steps Max Axiom takes to solve a problem by paraphrasing quotes from *Max Axiom*.
- I can analyze how visual elements in *Max Axiom* contribute to my understanding of the steps Max Axiom takes to solve a problem.
- I can determine the meaning of unknown words and phrases using a variety of strategies.

Ongoing Assessment

- Gist statement (in journal)
- *Max Axiom*: Details and Visual Elements graphic organizer, page 1
- Vocabulary defined (in journal)
- Independent Reading Choice Board response



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Reviewing Homework and Engaging the Reader (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining the Gist: <i>Max Axiom</i> Section 1: “A World of Questions” (10 minutes) B. Second Read: Explaining Steps Max Axiom Takes to Solve a Problem and Analyzing Visual Elements (20 minutes) C. Vocabulary to Deepen Understanding (20 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Reviewing Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Complete the task card B. Finish class work. C. Independent reading. 	<ul style="list-style-type: none"> • This lesson is the first of four lessons that follow a similar format. Students identify details and paraphrase information from the text to explain how a scientist uses a process of inquiry to solve a problem. Throughout this graphic novel study, emphasize to students that while Max Axiom engages in a relatively linear process for solving a problem, termed “the scientific method,” real-world scientists tend to use a more iterative, less sequential process to arrive at their solutions. The concept of scientific inquiry can and should be reinforced during science instruction. • In this unit, paraphrasing is an introduction to one element of Standard W.5.8, which is not formally assessed in Unit 1. Students’ work with paraphrasing serves as a scaffold toward the quoting, paraphrasing, and summarizing work they will do in Units 2 and 3. • In the first half of this unit, students analyze how visual elements contribute to the meaning of a text, which lays the foundation for their final performance task: writing their own graphic novelette about an invention that was developed to meet people’s needs (see Performance Task description for details). • Students also build on the vocabulary strategies they learned in Module 1 to determine the meaning of key terms from the text using context clues, morphology (affixes and root words), and reference materials. Students begin a glossary in the back of their journals that they will continue to build on throughout this module. By starting the glossary from the last page, students can continue to build their glossary from back to front without running out of space. • In advance: <ul style="list-style-type: none"> – Review the Stretch-o-Meter protocol (Work Time A). Briefly describe this protocol to any students who might be physically restricted. Preview the three options from the “Meeting Students’ Needs” column and ask them to consider which option they would prefer. – Decide if you will use the Close Readers Do These Things anchor chart from Module 1, or if you will create a new anchor chart with the same title to begin this module (see Work Time A). – Create Quote/Paraphrase” anchor chart and “Vocabulary Strategies anchor chart. – Review the context clues and affixes/root words discussion in Work Time C; prepare to listen for and support students’ use of these strategies in determining the meaning of unfamiliar words. – Consider displaying key vocabulary from the text to save time during Work Time C. – Review the Learning Lineup protocol described in the Closing.



Lesson Vocabulary	Materials
explain, steps, paraphrased quotes, analyze, visual elements, contribute, determine, variety, strategies, gutters, construct, defense, (4), scientific method (5), affect (6), effects, fields (7), overwhelming (8), repeating (9)	<ul style="list-style-type: none">• <i>Investigating the Scientific Method with Max Axiom</i> (book; one per student)• Journals (students' own, begun in Lesson 1)• Document camera• Group Norms anchor chart (from Lesson 1)• Close Readers Do These Things anchor chart (from Module 1, Unit 1, Lesson 1; or create a new one based on guidance in Work Time A)• <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page 1 (one per student)• Quote/Paraphrase anchor chart (new; teacher-created)• Visual Elements of a Graphic Novel reference page (from Lesson 1, taped into journals)• <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page 1 (answers, for teacher reference)• Vocabulary Strategies anchor chart (new; co-created with students during Work Time C)• Index cards (one per student)



Opening	Meeting Students' Needs
<p>A. Reviewing Homework and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• As an entry task for today's lesson, ask students to take out the Independent Reading Choice Board response from Lesson 1 homework. Review these responses to determine students' ability to use close reading strategies as they read independently. Say something like: "Let's review the guiding questions revealed in the last lesson. Guiding questions help guide our inquiry throughout a module and help us discover the big ideas. Remember, the goal of learning isn't only to memorize facts, but also to develop a deep understanding of critical concepts. Big ideas are the understandings that will stick with you long after you have taken your assessments and finished fifth grade."• Refer students to the guiding questions as you or volunteers read them aloud:<ul style="list-style-type: none">* "How do new or improved technologies meet societal needs?"* "How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?"• Ask students to think about and briefly discuss with a nearby partner what they notice about the guiding questions. After 1 minute, invite students to share their thinking whole class. Listen for:<ul style="list-style-type: none">– "I notice we will be learning about visual elements, text structure, inventors, improved technologies, and complex ideas."– "I notice we will be thinking about how new technologies are developed to meet people's needs," or similar ideas.• Acknowledge the things students notice and then help them see how the work they do today will relate. Say something like: "The performance task for this module will be to write your own graphic novel about how an invention was developed to meet the needs of society. Today our focus is on the second guiding question as we study the visual elements the author uses in <i>Max Axiom</i> to support our understanding of the first steps Max takes to solve a problem. Paying attention to visual elements now will help build a greater conceptual understanding of the techniques graphic novelists use to convey important ideas, so you will have a foundation of expertise to draw from when it's time to write your own."	<ul style="list-style-type: none">• To support visual learners, consider displaying the guiding questions on a chart to revisit during the module.



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: <i>Max Axiom</i> Section 1: “A World of Questions” (10 minutes)</p> <ul style="list-style-type: none">• Ask students to locate their <i>Investigating the Scientific Method with Max Axiom</i> book and their journals then sit with their small group members from Lesson 1.• Display and briefly review the Group Norms anchor chart with students. Remind students to refer to these norms as they work with group members to master today's learning targets.• Display the Close Readers Do These Things anchor chart and ask students to remember the close reading they did in Module 1 around the Universal Declaration of Human Rights and <i>Esperanza Rising</i>. Tell them to discuss with their groups then share out whole class important things that close readers do.• After 1 minute, cold call a few students to share out. Listen for:<ul style="list-style-type: none">– Read the text slowly at least twice.– Get the gist of what a text is about.– Circle words you aren't sure of and try to figure them out.– Reread, annotate, and underline key vocabulary.– Use the text to answer questions.– Gather evidence (quotes) from the text.– Talk with each other about what you think it means.– Read again to summarize or answer specific questions.• Explain that today's first read is for gist. Pose the question:<ul style="list-style-type: none">* “What do you remember from Module 1 about determining the gist?”• Listen for students to suggest that a gist is a really broad statement about what the text or section of text is generally about and there can be more than one correct answer.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Ask students to open their books to page 4 and silently read Section 1. Remind them to consider the gist as they read. • After giving students 4-5 minutes to read independently, ask them to turn to their group members and discuss: <ul style="list-style-type: none"> * “What is the gist of Section 1: “A World of Questions?”” • Give students 1 minute to discuss the gist in groups. Then, cold call a student from each group to share out. Listen for something like: <ul style="list-style-type: none"> * “A scientist named Max has a problem to solve for the mayor and he’s going to show us how he solves it using a process called the scientific method.” • Ask students to record the gist of <i>Max Axiom</i> Section 1: “A World of Questions” on a blank page of their journal. • Refer students to the prediction they recorded in their journal during Lesson 1. Ask students to consider: <ul style="list-style-type: none"> * “Does your prediction match your gist?” • Then, tell students they are about to participate in a Stretch-O-Meter protocol to indicate how closely their prediction and gist statement match. <ul style="list-style-type: none"> – Model the protocol for students by stretching as tall as you can get, fingers almost touching the sky, and explain this would mean an almost exact match of prediction and gist. – Model sitting on the floor, and explain this would mean their prediction was really far off from the actual gist. – Model a few variations between sitting and completely stretched to show how students could indicate how close they believe their prediction to be to the actual gist. • Invite students to indicate with a stretch how much their gist matched their prediction from the previous lesson. • Ask students who were stretched tall to share any strategies they had for predicting. Honor all strategies that lead to logical predictions and listen for students to note the title of the section as a means of predicting. Remind students of the titles of chapters in <i>Esperanza Rising</i>. Often, the titles in <i>Esperanza Rising</i> provided clues as to what the chapter might be about. Encourage students to attend to the titles of sections in <i>Max Axiom</i> to help them predict what they will read about. 	<ul style="list-style-type: none"> • As you read pages 4 and 5 aloud, display them under a document camera and point to each part to support visual learners and students who are hearing impaired. • For students who struggle to determine the gist of longer passages, encourage them to find the gist of facing pages and to keep track of this as they continue reading. This will make it more manageable to determine the gist of the entire section. • Students confined to a wheelchair or otherwise physically restricted from participating in this protocol can stretch just their arms, use just their pointer finger, or you or an aide can be a proxy. Make sure to represent the students’ beliefs about the closeness of the gist to their prediction, not your own assessment.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Explaining Steps Max Axiom Takes to Solve a Problem and Analyzing Visual Elements (20 minutes)</p> <ul style="list-style-type: none"> Say: “Let’s review the first two learning targets to help focus our attention as we read even more closely.” Read the first target aloud or invite a volunteer to do so: <ul style="list-style-type: none"> “I can explain the first steps Max Axiom takes to solve a problem using paraphrased quotes from <i>Max Axiom</i>.” Invite students to share the meaning of the word <i>explain</i>. Listen for responses such as: <ul style="list-style-type: none"> “Explain means to describe with details or to teach others.” Direct students’ attention to the word <i>steps</i> and ask them to determine the meaning of that word based on how it’s used in the context of this target. Invite a volunteer to share out. Listen for students to make the distinction that this word is not the same as “steps leading up to another floor in a house or building.” Rather, in this particular context, the word “steps” means “stages or phases in a process, like steps to follow to complete a recipe.” Circle <i>paraphrased quotes</i>. Invite students to share ideas about what it means to paraphrase quotes from the text. Listen for them to suggest that paraphrasing means restating what the text says in your own words. If students are not familiar with what it means to paraphrase quotes, define for them. Read the second target aloud, or invite a volunteer to do so: <ul style="list-style-type: none"> “I can analyze how visual elements in <i>Max Axiom</i> contribute to my understanding of the steps Max Axiom takes to solve a problem.” Ask students to consider the meaning of the words <i>analyze</i>, <i>visual elements</i>, and <i>contribute</i>. Invite volunteers to share their thinking. Listen for: <ul style="list-style-type: none"> “Analyze means to study carefully.” “Visual elements are things the author does with text or pictures to draw our attention to specific information.” “Contribute means to add to or support.” Help students synthesize their understanding of this new vocabulary by inviting volunteers to read each learning target aloud, replacing key words with synonyms generated from the discussion. Distribute the Max Axiom: Details and Visual Elements graphic organizer, page 1. Orient students to the format of the graphic organizer by pointing out the two largest boxes: “Asking a Question” and “Gathering Information.” Tell students they will paraphrase quotes from the text to explain how to ask scientific questions and gather information on the two bulleted lines provided in each box. 	<ul style="list-style-type: none"> To support visual learners and ELL students, display a drawing, picture from the Internet, or familiar synonym above or below key words in learning targets.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> Say something like: "Let's clarify what it means to paraphrase quotes by practicing." Display the Quote/Paraphrase anchor chart. Ask students to discuss the difference between a quote and a paraphrased detail. Listen for: <ul style="list-style-type: none"> "Quotes are exactly what's said in the text, so you need to place quotation marks around the phrase or sentence when you add it to your notes to show they are someone else's words." "When you paraphrase, you put the idea into your own words; if it's in my own words, I don't need to use quotation marks around the sentence or phrase," or similar ideas. Ask students to think about when it would be important to quote directly from the text and when it would be better to paraphrase. Listen for: "You would paraphrase when you just need to express an idea that is similar to what you read," or "If you want to prove something, or support your ideas with exact information from a text you would quote exactly." Reveal the first two quotes from <i>Max Axiom</i>. Ask students to talk in their groups about how to paraphrase these two quotes. After about 2 minutes, invite a member from each group to share out whole class. Record strong student examples of paraphrased versions of the two quotes. Ask students to discuss with group members: <ul style="list-style-type: none"> * "How do you know you have paraphrased a quote well?" Listen for: "Good paraphrasing restates the quote in a way that sounds natural and expresses the same idea." Refocus students' attention on their <i>Max Axiom: Detail and Visual Elements</i> graphic organizer. Remind them to use paraphrasing skills as they complete the "details" section of each box. Focus students' attention on the second half of each box highlighting the visual elements. Tell students they will analyze the ways these visual elements support their understanding of the first two steps of the scientific method and record their thinking. Remind students to refer to the Visual Elements of a Graphic Novel reference page they taped into their journals in Lesson 1 to find the descriptions of "information box" and "gutters." Point out the two boxes on the graphic organizer for recording "Key Terms (academic)" and "Key Terms (scientific)." Tell students they will examine key words more closely and fill in those boxes during Work Time C. Ask students to work with their groups for 10 minutes to read Section 1 of <i>Max Axiom</i> a second time and complete the assigned portion of the <i>Max Axiom: Details and Visual Elements</i> graphic organizer. Circulate to provide support. Refocus whole group. Ask students to share out the paraphrased quotes from the text that explain how to ask scientific questions and gather information. See Max Axiom: Details and Visual Elements graphic organizer, page 1, (answers, for teacher reference). 	<ul style="list-style-type: none"> To support visual learners, consider allowing students from each group to display the example of the visual element (information box or gutters) under the document camera.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> Refer students to the descriptions of “information box” and “gutters” on the Visual Elements of a Graphic Novel reference page. Cold call students from different groups to share new examples of each visual element they located. Examples of information boxes could include: <ul style="list-style-type: none"> – “Definition: levee” (page 5) – “Steps of the Scientific Method” (page 5) – “Yes-or-No vs. Open-Ended Question” (page 7) – “The Internet: NET acronym” (page 9) Examples of gutters could include: <ul style="list-style-type: none"> – Between each of the six frames on page 3. – Between the top frame and the rest of the page on page 6. – Between each of the three frames on page 7. Invite a student from each group to share their responses to the following questions from the graphic organizer: <ul style="list-style-type: none"> * “How does an information box support your understanding of the first step of the scientific method?” * “How do gutters support your understanding of the second step of the scientific method?” See <i>Max Axiom: Details and Visual Elements Graphic Organizer</i>, page 1 (answers, for teacher reference). Ask students to take 2 minutes to reflect in their groups, supporting their answers with details and visual elements: <ul style="list-style-type: none"> * “After reading this section of <i>Max Axiom</i>, what do you think might help a scientist generate a scientific question?” Invite a few students to share their thinking whole group. Listen for comments such as: <ul style="list-style-type: none"> – “It might help if they try to create a thoughtful question that doesn’t have a yes-or-no answer, because on page 7 Max says that yes-or-no questions ‘don’t require much research’ and the information box says open-ended questions are better.” – “A scientific question needs to be one that you can answer with research and experiments because in the text Max goes to the library to research his question.” Ask students to record their response to the reflection question on the next blank page in their journals. 	<ul style="list-style-type: none"> For students who struggle with the physical act of writing, allow them to type their responses on a computer or word processor, or dictate their analysis paragraph to an aide or a peer acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<p>C. Vocabulary to Deepen Understanding (20 minutes)</p> <ul style="list-style-type: none"> • Introduce the third learning target: <ul style="list-style-type: none"> – “I can determine the meaning of unknown words and phrases using a variety of strategies.” • Focus students on the words <i>determine</i>, <i>variety</i>, and <i>strategies</i> and ask them to offer a synonym or definition based on how they are used in this target. Listen for: “Determine means to find out,” “Variety means a mixture of different items,” and “Strategies are plans or techniques used to accomplish a goal,” or similar responses. • Ask students to be metacognitive about the strategies they use to determine the meaning of those words from the target. Listen for: <ul style="list-style-type: none"> – “When thinking about the word ‘determine,’ I tried the phrase ‘find out’ and that still made sense in the sentence.” – “When I read the word ‘variety,’ I looked at the words before and after and realized that it means something like different.” • Display the Vocabulary Strategies anchor chart, then invite students to draw on what they remember from Module 1 about vocabulary strategies they used to determine the meaning of new words. Invite several students to share their thinking aloud. Listen for things such as: <ul style="list-style-type: none"> – “Read words and phrases before and after the word for hints.” – “Think about parts of the word that I already know (prefix, suffix, root).” – “Think about what kind of word it is (noun, verb, adjective, etc.).” – “Substitute another word that would make sense,” and similar responses. • Add student responses to the Vocabulary Strategies anchor chart and keep this chart displayed for student reference throughout the module. Remind students that the purpose of defining new and key words in text is to help deepen understanding of the text. • Remind students that informational texts often have a glossary, or a place that lists words and definitions. Explain to students that they will be creating their own glossaries to keep track of words that will help them become better readers. • Explain that they will build this glossary backwards in their journals in order to maximize pages for other things in the front of their journal. Ask students to turn to the very last page in their journals. Tell them this is where they will begin a glossary of new words that they will add to throughout the module. 	<ul style="list-style-type: none"> • To support visual learners and ELL students, display a drawing, image from the internet, or a familiar synonym above or below key words in the learning target. • Consider using a think-aloud strategy, either whole class or with a small group, to model using vocabulary strategies for the first several terms. • Consider modeling, either whole class or with a small group, how to complete the four-column chart with the first two terms. • For student reference, display a working definition of “academic vocabulary,” or “words found in a variety of genres and subjects unrelated to science”; and “scientific vocabulary,” or “words unique to science concepts.”



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Tell students they are encouraged to use these words in their own speaking and writing, and that this glossary can serve as a reference material when they need to check the spelling or meaning of a word.• Model as you instruct students to set up a four-column chart on their first glossary page:<ul style="list-style-type: none">– Column 1: Word– Column 2: Synonym– Column 3: Definition– Column 4: Picture• Say something like: “Let’s explore the first vocabulary term, <i>construct</i>, together.”• Display the following terms:<ul style="list-style-type: none">– construct– construction– structure– destruction– infrastructure– obstruct• Ask students what they notice about these terms. Listen for:<ul style="list-style-type: none">– “The words sound kind of similar.”– “They all have ‘-struct’ in them.”– “All of the words have the same root,” or similar suggestions.• Confirm or explain that these terms share the same Latin root, “stru-” or “struct-” meaning “build.”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Say something like: “The root of a word is its base. If you know the meaning of the root, it is much easier to determine the meaning of the whole term. Root words often have affixes, or letters attached to the beginning or ending of a root word to change or add to the meaning. A prefix is attached at the beginning of a word; a suffix is attached at the end. Now I want you to look closely at our first term, ‘construct.’ This word is made up of two parts: the root, ‘-struct’ and a prefix, ‘con-.’” As you are discussing the term, draw students’ attention to the root and the prefix by underlining one and circling the other. Explain that the prefix “con-” means “with” or “together” and invite a few students to use this knowledge to determine the meaning of “construct.” Listen for: <ul style="list-style-type: none"> – “Construct means to build together or put together,” or a similar suggestion. • Direct students to work in their groups to locate the word “construct” on page 4 of <i>Max Axiom</i> and use context clues to determine if their definition makes sense. • After 1 or 2 minutes, invite several students to share their thinking whole class. Listen for: <ul style="list-style-type: none"> – “I notice in panel 2 it says the problem is that the river is going to flood and it seems like constructing a levee will keep the water out. I think it makes sense that they would build something to keep the water out.” – “I noticed that it says they are going to ‘construct an earthen levee’ and in panel 5 it says, ‘the levee needs to be built.’ That made me think that our definition for construct as ‘to build or put together’ is correct,” or similar suggestions. • Ask students to quickly add the term “construct” to their four-column charts. • Say something like: “Now you have a chance to review this section of the book a little more deeply to focus on determining the meaning of unknown words. Independently read pages 4–9 again. This time as you read, use your strategies to determine the meaning of the following words and record your thinking in your glossary.” • Display the following key terms where all students can see them: <i>defense, scientific method, affect, effects, fields, overwhelming, and repeating</i> • Ask students to work with group members to complete a four-column chart for each word and use a variety of strategies to determine the meaning. • Allow students 5 to 6 minutes to read and discuss in groups the meaning of each term. • Circulate to provide support. Consider building on student knowledge of roots and affixes by sharing some or all of the following: <ul style="list-style-type: none"> – One meaning of the prefix “de-” is “completely.” – “Fend” is the root of the word “defense,” which means “to ward off or protect.” 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– The meaning of “over-” as a prefix is “excessive or too much.”– The root “-whelm” means “to submerge completely.”– The meaning of “re-” is “back or again.”– “Petere,” which means “to demand or seek,” is the root of the word “repeating,” so repeating is “seeking or demanding again.”• After 5 or 6 minutes, invite a few students to share out the meaning of each word. Listen for:<ul style="list-style-type: none">– “I think defense is like guard because the text said ‘study which material is the best defense’ and guard would work in that sentence, too.”– “I think the scientific method is a process used to solve problems because on page 5, Max Axiom says, ‘Come on. I’ll take you through the scientific way to find answers,’” or similar responses.• Pause after one or two students have shared a definition for “scientific method” and direct their attention to the frame/panel in the upper right-hand corner of page 5, “Steps of the Scientific Method.” Then read aloud the uppermost speech bubble in the frame/panel below, “The order or number of these steps can always change, but scientists often rely on these basic methods to organize information.”• Ask students to think about then discuss in groups:<ul style="list-style-type: none">– “What do you think Max means by saying the order or number of these steps can always change?”• After 1 or 2 minutes, invite a few students to share their thinking aloud with the class. Listen for ideas such as:<ul style="list-style-type: none">– “I think he means that sometimes you might have to repeat a step or use steps in a different order than how they are listed on the tablet. For example, if you ask a question and then gather information, you might find that you have more questions you need to ask then you’ll need to gather more information,” or similar ideas.• Take a moment to emphasize to students that while Max Axiom’s tablet lists the steps of the scientific method in a specific order, what he is trying to tell us here is that the scientific way to find answers is not something that needs to be done in a specific order with a specific number of steps.• Continue to cold call students to share out definitions for the remaining key terms. Listen for:<ul style="list-style-type: none">– “I think affect means to impact or make a difference because it is used as a verb in that sentence and to impact and make a difference are verbs meaning similar things in the sentence ‘Does the number of boats impact the amount of pollution of the river?’”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “I think effects means impacts or influence because it is used as a noun in that sentence and impacts and influence are nouns with similar meanings.”– “I think fields means subject because Max said, ‘scientists work in many fields’ and I don’t think it’s fields like soccer or football fields. It’s like things you can study.”– “I think overwhelming means impossible to handle or too much because the text said something like the amount of information can be overwhelming. Too much to handle or impossible would work in that sentence, too.” <ul style="list-style-type: none">• Ask students:<ul style="list-style-type: none">* “Were you able to figure out the meaning of any of these words by using context clues? If so, what other words and/or sentences helped you determine what the word meant?”* “Were you able to figure out the meaning of any of these words by thinking about the parts you know, like roots and affixes? If so, which roots or affixes do you know that helped you determine what the word meant?”• Direct students’ attention to the key word boxes on their <i>Max Axiom: Details and Visual Elements</i> graphic organizer. Note that there is an academic key word box and a scientific key word box.• Explain to students that in this module they will focus on two different types of words: scientific (words about science) and academic (words they will see in a variety of texts, which have varied meanings depending on the context).• Suggest to students that they mark academic words with a capital “A” next to the word in their four-column chart and scientific words with a capital “S.”• Give students 2 minutes to discuss with their group to determine whether each word is academic or scientific.• Then, refocus whole group. Invite a volunteer to share whether his or her group believes the word construct is academic or scientific. Encourage the group speaker to explain the reasoning for his or her group’s decision. Continue by calling on a member of another group to share their thinking about the word defense. Repeat until all groups have shared at least once and all words have been addressed.• After hearing students’ thoughts, reveal the actual sorting of academic and scientific words by saying: “Construct, defense, affect, effects, fields, overwhelming, and repeating are academic key words because you will encounter them in a variety of texts, not just when you’re reading about science.” Tell students to quickly record each of these terms in the “Key Words (academic)” box on their graphic organizers. As time allows, encourage students to think about, discuss, and share out other times they might see the words “affects,” “effects,” “fields” and “overwhelming.”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Tell students to add the term “scientific method” to the “Key Words (scientific)” box on their graphic organizers. Explain that this is an example of scientific vocabulary because the only time this term is likely to be featured is in a scientific context.• Say: “The reason we work with vocabulary so intentionally as readers is because understanding words helps us deepen our understanding of what we read. Now that you have a clear understanding of key vocabulary from this section, you are invited to go back to your graphic organizer and revise the details you paraphrased from the text to explain how to ask scientific questions or gather information, as well as your thinking about how information boxes and gutters support your understanding of the first two steps in the scientific method.”• After 1 or 2 minutes, invite students to share out some revisions made to their graphic organizer to reflect their deeper understanding of key terms.• Celebrate students’ ability to paraphrase quotes from a text when describing the first steps of the scientific method and their ability to analyze how visual elements contribute to the meaning of what they read.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Tell students that they will use Learning Lineup protocol to review the learning targets.• Designate one end of the room where students will stand if they feel they are experts (completely understand and can apply understanding); and an opposite end of the room where students will stand if they feel they are beginners (still not quite understanding the target). Explain that they will stand somewhere in the middle of expert and beginner if they feel they are practitioners (getting the idea about the learning target).• Read through each target and pause to ask students to line up to indicate their mastery of the target. Invite one or two students to share out the reason for their self-assessment after each target.• Distribute one index card to each student. Have them create a task card by recording the following prompt on their index card:<ul style="list-style-type: none">* “Describe one close reading strategy you used while reading independently. Explain how you used the strategy to support your understanding of the text.”	<ul style="list-style-type: none">• For struggling writers, write the task on an index card in advance.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete your task card and bring to class as an entry task for the next lesson.• If you didn't finish in class, complete a four-column chart for each of the eight vocabulary words from this lesson in your journal glossary.• Read your independent reading book for at least 30 minutes and write a response to a second question from your Independent Reading Choice Board (from Lesson 1).	<ul style="list-style-type: none">• Allow struggling writers to dictate their response to the task and choice board to someone at home to scribe for them, or to record their responses into a recording device.• Consider providing a recording of the text for struggling readers.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 2

Supporting Materials



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Max Axiom: Details and Visual Elements Graphic Organizer, Page 1

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

SECTION 1: "A WORLD OF QUESTIONS"

Step 1: Ask Questions

Details that explain *how* to ask scientific questions:

Visual Element Focus: "Information Box"
How does an information box support your understanding of the first step Max Axiom takes to solve a problem?

Key Terms (scientific)

Step 2: Gather Information

Details that explain *how* to gather information:

Visual Element Focus: "Gutters"
How do gutters support your understanding of the next step Max Axiom takes to solve a problem?

Key Terms (academic)



Quote/Paraphrase Anchor Chart
(For Teacher Reference)

Quote	Paraphrase
Sample 1 “Come on. I’ll take you through the scientific way to solve a problem.”	Sample 1 <u>Example:</u> I’ll show you how to solve a problem the scientific way. <u>Bad Example:</u> Come on. To solve a problem, I’ll show you the way that’s scientific.
Sample 2 “With more than 100 million web sites, the Internet is an information gold mine.”	Sample 2 <u>Example:</u> The internet is another great resource with tons of information. <u>Bad Example:</u> There are over 100 million web sites. <u>(this is not a great representation of the same idea)</u>



Quote/Paraphrase Anchor Chart
(For Teacher Reference)

Quote	Paraphrase
<p><u>Possible direct quotes to describe asking questions:</u></p> <p><i>"First, choose a topic that interests you."</i></p> <p><i>"Form open-ended questions that can be answered with a thoughtful statement."</i></p> <p><i>"Consider the amount of time available and the cost involved."</i></p>	<p><u>Possible paraphrased quotes to describe asking questions:</u></p> <p><i>Think about a topic you're interested in.</i></p> <p><i>Stay away from questions that can be answered with "Yes" or "No."</i></p> <p><i>Think about how much time and money you have to spend on this question</i></p>
<p><u>Possible direct quotes to describe gathering information:</u></p> <p><i>"Librarians are great resources for finding the information you need."</i></p> <p><i>"Take notes, and record the book, article, or Web site where you found the information."</i></p> <p><i>"Teachers, engineers, or other scientists can provide details not available in books or on the Web."</i></p>	<p><u>Possible paraphrased quotes to describe gathering information:</u></p> <p><i>A great resource for finding information is the librarian.</i></p> <p><i>If you record the book or article where you find information, you can find it again if you need it.</i></p> <p><i>Experts like scientists and teachers can teach you things you may not find in books.</i></p>



Max Axiom: Details and Visual Elements Graphic Organizer, Page 1
(Answers, for Teacher Reference)

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

SECTION 1: "A WORLD OF QUESTIONS"

Step 1: Ask Questions

Details that explain *how* to ask scientific questions:

- **Find a topic that's interesting to you.**
- **Use open-ended questions that you can answer with a thoughtful statement.**
- **You have to think about how much time you have and what the costs will be.**

Visual Element Focus: "Information Box"

How does an information box support your understanding of the first step Max Axiom takes to solve a problem?

***The open-ended question information box helped me understand how to select a good question because it gave an example of a yes-or-no question and an open-ended question. If I hadn't looked at that box, I might not understand the difference as well.**

Key Terms (academic)

construct, defense, affect, effects, fields, overwhelming, and repeating

Key Terms (scientific)
scientific method

Step 2: Gather Information

Details that explain *how* to gather information:

- **Librarians can help you find important information.**
- **Write down the information you find, and record the name of the book or Web site where you found it.**
- **If you can't find the information in books, you can ask teachers, engineers, or scientists.**

Visual Element Focus: "Gutters"

How do gutters support your understanding of the next step Max Axiom takes to solve a problem?

***The gutters on page 8 help me see the separate scenes at the library. I see Max outside and then inside talking to the librarian, which is separate from the scene that shows him walking through the library. These separate scenes help me understand how much the library has to offer when gathering information.**



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 3

Paraphrasing Quotes and Analyzing Visual Elements, Part 2: *Investigating the Scientific Method with Max Axiom Super Scientist*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can paraphrase information in notes and finished work. (W.5.8)

I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)

I can determine the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4)

a. I can use context as a clue to the meaning of a word or phrase.

c. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

Supporting Learning Targets

- I can explain the next steps Max Axiom takes to solve a problem by paraphrasing quotes from *Max Axiom*.
- I can analyze how visual elements in *Max Axiom* contribute to my understanding of the steps Max Axiom takes to solve a problem.
- I can use context clues and reference materials to determine the meaning of key words and phrases.

Ongoing Assessment

- Entry task (from Lesson 2 homework)
- Gist (in journal)
- *Max Axiom*: Details and Visual Elements graphic organizer, page 2
- Vocabulary defined (in journal)
- Independent Reading Choice Board response



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Reviewing Homework and Engaging the Reader (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining the Gist: <i>Max Axiom</i>, Section 2: “Searching for Answers” (15 minutes) B. Second Read: Explaining Steps Max Axiom Takes to Solve a Problem and Analyzing Visual Elements (20 minutes) C. Vocabulary to Deepen Understanding (15 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Reviewing Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Reread Section 2 of <i>Max Axiom</i>. B. Finish class work C. Independent reading. 	<ul style="list-style-type: none"> • This lesson follows a format similar to Lesson 2. In this lesson, students read closely to analyze details and visual elements that explain complex ideas associated with the next steps Max Axiom takes to solve a problem: forming a hypothesis and designing an experiment. Continue emphasizing that these are steps used during the process of scientific inquiry, and that real world scientists and inventors do not typically arrive at solutions by following as sequential a process as Max does in this graphic novel. As students identify key details, they practice paraphrasing ideas from the text. Students’ work with paraphrasing will be expanded and assessed in Units 2 and 3. • As students determine the meaning of unknown and key vocabulary in this lesson, they focus on specific vocabulary strategies related to using context clues and reference materials. Based on the needs of your class, Work Time C may run longer than 15 minutes; preview the part of the lesson and adjust accordingly. • In advance: <ul style="list-style-type: none"> – Display the Close Readers do These Things, Quote/Paraphrase, and Vocabulary Strategies anchor charts from Lesson 2. – Review Popcorn Read and Fist to Five (see Appendix). – Review and familiarize yourself with <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page 2 (answers, for teacher reference) to prepare to support students as they identify and analyze key details and visual elements in Work Time B. – Review the discussion and reference materials in Work Time C to prepare to offer support as students analyze the word “variable” and determine the meaning of other key terms. – Collect a variety of reference materials for student to use as they define key terms (such as print and online dictionaries). – Consider displaying key vocabulary from the text to save time during Work Time C.



Lesson Vocabulary	Materials
explain, steps, analyze, visual elements, contribute, context clues, reference materials, determine, hypothesis, evidence (10), variable (12), (in)dependent variable, controlled variable, accurate (13), procedure (14), reproduce (15)	<ul style="list-style-type: none">• Close Readers Do These Things anchor chart (from Lesson 2)• Document camera• <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> (book; one per student)• Journal (students' own, begun in Lesson 1)• Quote/Paraphrase anchor chart (from Lesson 2)• <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 2 (one per student)• Visual Elements of a Graphic Novel reference page (from Lesson 1, taped into journals)• <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 2 (answers, for teacher reference)• Vocabulary Strategies anchor chart (from Lesson 2)• Dictionaries (print; at least one per group)



Opening	Meeting Students' Needs
<p>A. Reviewing Homework and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out the entry task they completed for homework.• Then ask them to turn and share with a nearby partner:<ul style="list-style-type: none">* “What is one close reading strategy you used while reading your independent reading book?”* “Why did you choose to focus on that strategy?”* “How did using this strategy help you to better understand the text?”• Cold call a few students to share ideas they heard from their partners.• Direct students' attention to the Close Readers Do These Things anchor chart, posted on the document camera.• Review Popcorn Read protocol with students, and clarify as necessary. Remind students that sometimes when a point is very meaningful, it will be shared more than one time during a popcorn read.• Ask one student to begin by reading aloud one strategy he or she finds to be particularly helpful from the Close Readers Do These Things anchor chart.• Once all students share or the popcorn read reaches a natural conclusion, explain that students will begin today's close read by reading for gist.	<ul style="list-style-type: none">• Provide sentence starters to support student discussions: “One close reading strategy I used is _____,” “I chose to focus on this strategy because _____,” or “This strategy helped me understand the text because _____.”



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: <i>Max Axiom</i>, Section 2: “Searching for Answers” (15 minutes)</p> <ul style="list-style-type: none"> • Ask students to locate their <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> books and their journals and sit in their small groups. • Review the group norms established in Lesson 1. Ask students to consider the work their group has done over the past two lessons and use Fist to Five to share how successfully their group is meeting the norms. If several groups are showing three or fewer fingers, consider revisiting group norms with the whole class. If a small number of students are showing three or fewer fingers, consider providing them with additional support during group discussions in today’s lesson. • Tell students that in today’s first read, they will work in their groups to read and determine the gist. Ask students to consider and then take 1 or 2 minutes to discuss the following question: <ul style="list-style-type: none"> * “How does reading for gist help us become close readers?” • Cold call several students to share their ideas. Listen for comments such as: <ul style="list-style-type: none"> – “I think reading for the gist is helpful, because once I know the gist it’s easier to think about the details.” – “Reading for the gist can help close readers learn about the main points so they know what to focus on when they do their second read,” or similar suggestions. • Ask students to open to page 10 of <i>Max Axiom</i>, and take 5 minutes to silently read Section 2: “Searching for Answers.” Remind them to consider the gist as they read. • Refocus whole class and ask students to take 1 or 2 minutes to discuss the following question with their group: <ul style="list-style-type: none"> * “What is the gist of Section 2: ‘Searching for Answers’?” • After 1 or 2 minutes, cold call a student from each group to share out. Listen for: <ul style="list-style-type: none"> – “Max is thinking of a hypothesis and planning his experiment.” – “Max is explaining about all the things you need to consider as you make a hypothesis and decide how to test it,” or similar responses. • Give students 1 minute to record their gist statements on the same page in their journal where they recorded the gist of Section 1 during Lesson 2. 	<ul style="list-style-type: none"> • For students who struggle to determine the gist of longer passages, encourage them to find the gist of facing pages to keep track as they go and make it more manageable to determine the gist of the entire section. • Allow struggling writers to dictate their gist statement to a peer or aide.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Explaining Steps Max Axiom Takes to Solve a Problem and Analyzing Visual Elements (20 minutes)</p> <ul style="list-style-type: none"> Ask the class to read aloud the first learning target: <ul style="list-style-type: none"> * "I can explain the next steps Max Axiom takes to solve a problem by paraphrasing information from <i>Max Axiom</i>." Draw students' attention to the terms <i>explains</i>, <i>steps</i>, and "paraphrased," discussed in previous lessons. Ask students to consider the meaning of these terms as they think about how to rephrase the learning target. Invite several students to think about and share out a paraphrased version of the learning target. Read the second target aloud, or invite a volunteer to read it aloud: <ul style="list-style-type: none"> * "I can analyze how visual elements in <i>Max Axiom</i> contribute to my understanding of the next steps Max Axiom takes to solve a problem." Ask students to recall from previous lessons and discuss the meaning of the words <i>analyze</i>, <i>visual elements</i>, and <i>contribute</i>. Cold call a few students to share out whole group. Listen for: <ul style="list-style-type: none"> – "Analyze means to study carefully." – "Visual elements are things the author does with text or pictures to draw our attention to specific information." – "Contribute means to add to or support." Invite several students to think about and share out a paraphrased version of the second learning target. Then, say something like: "We had similar targets in Lesson 2. As we read each section of <i>Max Axiom</i>, we will practice paraphrasing details and analyzing visual elements so that we can deepen our understanding of these strategies and the complex ideas presented in the text." Display the Quote/Paraphrase anchor chart and tell students that before they begin their analysis, it may be helpful to revisit this chart. Ask students to think about then discuss the following questions in groups: <ul style="list-style-type: none"> * "What is the difference between quoting and paraphrasing?" * "When is it useful to paraphrase?" * "How do you know if you paraphrased accurately?" 	<ul style="list-style-type: none"> To support visual learners and ELL students, display a drawing, picture from the internet, or familiar synonym above or below key words in learning targets. To support visual learners, consider allowing students from each group to display an example of the visual element (speech bubbles or images) under the document camera. For students who struggle with the physical act of writing, allow them to type their responses on a computer or word processor, or dictate to an aide or a peer acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Cold call a few students to share out whole class. Listen for: <ul style="list-style-type: none"> – “Quotes are exactly what’s said in the text with quote marks around them; when you paraphrase, you put the idea into your own words and you don’t need quotation marks.” – “Paraphrasing is helpful when you want to communicate an idea from the text but you don’t need to prove a specific point.” – “An accurately paraphrased quote restates the quote in a way that still sounds natural and expresses the same idea,” or similar suggestions. • Distribute Max Axiom: Details and Visual Elements graphic organizer, page 2 to students. • Orient students to the format of the graphic organizer by pointing out the two largest boxes: “Form a Hypothesis” and “Design an Experiment.” Tell students they will paraphrase quotes from the text as they did in Lesson 2 to explain the next steps Max Axiom takes to solve a problem. • Refocus students’ attention on <i>Max Axiom: Detail and Visual Elements graphic organizer, page 2</i>. Remind them to paraphrase quotes from the text to complete the “details” section of each box. • Then, ask students to look at the lower half of each box, which highlights the visual elements: speech bubbles and images. Remind students that in this section they will explain how the visual element supports their understanding of the steps Max Axiom takes to solve a problem. • Ask students where they could look if they would like to review the meaning of each visual element. Listen for students to refer to the Visual Elements of a Graphic Novel reference page they taped into their journal in Lesson 1. • Tell students they will have an opportunity to examine key vocabulary from the text more closely to define and sort them into the “scientific” or “academic” key word boxes on their graphic organizers during Work Time C. • Assign students to work collaboratively with their group to read Section 2 a second time and complete the assigned portions of <i>Max Axiom: Details and Visual Elements graphic organizer, page 2</i>. • After about 10 minutes, refocus whole group. Ask students to share out the paraphrased quotes they recorded onto their graphic organizers to explain how to form a hypothesis. Refer to Max Axiom: Details and Visual Elements graphic organizer, page 2 (answers, for teacher reference) as needed. • Invite students to share how the speech bubbles their group identified supported their understating of how to form a hypothesis. 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to share out the paraphrased quotes they recorded to explain how to design an experiment.• Invite students to share how the images their group identified supported their understating of how to design an experiment.• Acknowledge students' ability to identify and paraphrase key details, as well as their analysis of how visual elements support their understanding of the ideas conveyed in Section 2 of <i>Max Axiom</i>.• Ask students to consider the information they recorded on their graphic organizers, as well as other specific details from the text to help them answer the following question:<ul style="list-style-type: none">* "Why do you think it's important for scientists to form a hypothesis?"• Give students 2 minutes to discuss the reflection question and details to from the text that support their thinking in groups.• Ask a few students to share out whole group. Encourage students to use specific details from the text or their graphic organizer to support their response. Listen for:<ul style="list-style-type: none">– "I think scientists need to create a hypothesis because it helps them focus their experiment. I think this because on page 11 Max says that his record of the hypothesis 'helps maintain a clear direction during the project.'"– "I think the hypothesis is important because it helps the scientist decide how to design an experiment that is connected to the research. On page 10, Max says that he used his research to create the hypothesis. Then, on page 11 Max says, 'the main purpose of an experiment is to show whether the data you collect supports the hypothesis,' so the hypothesis really helps connect the different steps Max Axiom uses, like the research and data," or similar responses.• Give students 1 or 2 minutes to record their response to the question, plus supporting details, on a new page in their journals.	



Work Time (continued)	Meeting Students' Needs
<p>C. Vocabulary to Deepen Understanding (15 minutes)</p> <ul style="list-style-type: none"> Refer to the Vocabulary Strategies anchor chart, then say something like: “As we take a close look at some key terms from Section 2 of <i>Max Axiom</i>, we are going to focus on two strategies in particular.” Introduce the third learning target: <ul style="list-style-type: none"> * “I can use context clues and reference materials to determine the meaning of key words and phrases.” Underline the terms <i>context clues</i>, <i>reference materials</i>, and <i>determine</i>. Ask students to consider and then discuss the meaning of these terms with group members. After 1–2 minutes, invite several students to share possible definitions. Listen for: <ul style="list-style-type: none"> – “Context clues are details in the text that help you understand what an unfamiliar word means.” – “Reference means something that shares information; reference materials are the resources you might look at to collect information.” – “When studying vocabulary, reference materials include dictionaries, glossaries, and the internet.” – “Determine means to find out,” or similar suggestions. Invite a few students to paraphrase the learning target based on their understanding of key terms. Tell students that this learning target will be particularly helpful for determining the meaning of words in Section 2 of <i>Max Axiom</i>. As they determine the meaning of unfamiliar terms from the text today, encourage students to continue building the glossary they began in Lesson 2. Ask students to turn to page 12 in <i>Max Axiom</i> and search for the term <i>variable</i> or <i>variables</i>. Call on students to hold up their books and point out where they see this term on page 12. Say something like: “Some words can be used in multiple ways, and if the definitions are very similar, it can be tricky to determine exactly which definition is intended. The term ‘variable’ is used frequently on pages 12 and 13 because it is very important to understanding how to design an experiment, but it is also a tricky word to fully understand because it can be used in a variety of contexts. To help us analyze how the term is used in the context of <i>Max Axiom</i>, we are going to consult a reference material.” Ensure all students can see a dictionary and guide them to locate the word ‘variable.’ Post this word for all students to see. Explain that dictionaries, glossaries, thesauri, and the internet are all useful reference materials students have likely used before, but today they will look closely at a page from a dictionary. 	<ul style="list-style-type: none"> To support visual learners and ELL students, display a drawing, image from the internet, or familiar synonym above or below key words in the learning target. Consider using a think-aloud strategy, either whole class or with a small group, to model using vocabulary strategies for the first several terms. Consider modeling with a small group or individual students, how to complete the four-column chart with the first two terms. For student reference, display a working definition of “academic vocabulary,” or “words found in a variety of genres and subjects unrelated to science,” and “scientific vocabulary,” or “words unique to science concepts.”



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Ask students to briefly think about and discuss in groups: <ul style="list-style-type: none"> * “What do you notice about the dictionary page that the word ‘variable’ is on?” • After 1 minute, cold call a few students to share out and listen for responses such as (these may vary depending on the dictionary students use): <ul style="list-style-type: none"> – “I notice the words are in alphabetical order.” – “I notice that there are words at the top of the page that list the first and last vocabulary terms on the page.” – “I notice that many of these words have multiple meanings.” – “I notice that variable is on this page and that some of the other words on the page sound similar to variable.” – “I notice that under each term, it shows how to pronounce the word, the part of speech, and the definition.” • Ask students to discuss in groups: <ul style="list-style-type: none"> * “What can you learn about the term variable from looking at this resource?” • After 1 minute, invite students to share out. Listen for ideas such as: <ul style="list-style-type: none"> – “Variable can be an adjective and a noun.” – “Variable can mean ‘not having a pattern, an element that is likely to change,’ or ‘a factor represented by a symbol that has an unknown or changing value.’” – “All the definitions of variable have something to do with change, but they are each a little different.” – “‘Changeable,’ ‘fickle,’ and ‘unsteady’ are synonyms for variable.” – “Variable is related to the word ‘vary’ because vary means change. I think they have the same root.” • If students do not identify the connection between variable and other terms on the page with the same root, bring that to their attention as a way to build on their knowledge of root words from Lesson 2. • Ask students to look at page 12 of <i>Max Axiom</i>. Read aloud the first speech bubble, “Welcome aboard, Max. Looks like variable winds for the flight. We should arrive in 30 minutes.” • Ask students to think about and discuss in groups the meaning of the term “variable” in the context of this speech bubble. Encourage students to refer to the dictionary page and any context clues from the first panel as they discuss. 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 minute, invite several students to share their definition as well as how their group determined the meaning of the word. Listen for:<ul style="list-style-type: none">– “We think that variable means ‘not consistent or likely to change’ because we know that in this sentence variable is describing the winds so it is an adjective.”– “We decided that in this sentence, variable means ‘changeable’ because we looked at the synonyms for variable and found one that made the most sense in the sentence,” or similar suggestions.• If students do not identify the part of speech, bring this to their attention. Remind students that knowing how the word is used in the sentence can help them understand what it might mean.• Ask students to consider and discuss the term variable as it is used in the next panel. Remind them to refer to the dictionary page and any clues they can find in the panel as they discuss.• After 1 or 2 minutes, cold call several students to share their definitions as well as how their group determined the meaning of variable in this context. Listen for:<ul style="list-style-type: none">– “We decided that here the word variables refers to things, so the word is a noun. We didn’t see anything about a symbol in the text, so we think variable means an element or factor that is likely to change,” or similar ideas.• Explain that sometimes the term variable is used in conjunction with other words to refer to something very specific. Direct students’ attention to the third panel on page 12. Read aloud the second speech bubble, “The independent variables of an experiment are parts the scientist changes to test the hypothesis.”• Ask students what they notice about the phrase “independent variables.” Listen for:<ul style="list-style-type: none">– “I notice it still has to do with change, but now it means specific parts of an experiment that a scientist changes.”– “I notice that the independent variables help the scientist test the hypothesis,” or similar suggestions.• Ask students to discuss with their group members:<ul style="list-style-type: none">* “Do you think the term variable is academic or scientific as it is used in the context of <i>Max Axiom</i>?”• After 1 minute, cold call students to share. Listen for:<ul style="list-style-type: none">– “I think variable is scientific in this context because an independent variable is a very specific part of a science experiment; however, outside of a science context it could be academic,” or similar suggestions.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Confirm or explain that depending on the context, variable can be academic or scientific.• Direct students to add the terms “variable,” <i>independent variable</i>, <i>dependent variable</i>, and <i>controlled variable</i> to their glossaries using the four-column chart they started in the previous lesson.• After 1-2 minutes, refocus whole class. Explain that in addition to variable, there are many other key terms in Section 2 of <i>Max Axiom</i>. Explain that as they continue to work with group members, they should:<ol style="list-style-type: none">1. Consult reference materials and use other vocabulary strategies to identify the meaning of the terms <i>hypothesis</i>, <i>evidence</i>, <i>accurate</i>, <i>procedure</i>, and <i>reproduce</i>.2. Add each term to the four-column chart in your glossary.3. Write an “A” next to words you believe are academic and an “S” next to words you think are scientific.• Clarify directions as needed. Circulate to offer support.• After 4-5 minutes, refocus whole class and invite students to share a synonym or definition for each key term and explain if the word is academic or scientific in this context. Listen for ideas such as:<ul style="list-style-type: none">– “A hypothesis is a prediction based on evidence; it is scientific because it is a specific step scientists use to solve a problem.”– “Evidence means the details or information that prove if something is true or false; it is academic because it can be used in a variety of contexts to describe how to prove something, such as in an argument.”– “Accurate means correct; it is academic because it used in contexts other than science.”– “Procedure means steps or plan used to compete a task; it is academic because it is a word that can be used in a variety of contexts.”– “Reproduce means to produce or create again; it is academic because it is used in a variety of contexts where it has a similar or different meanings,” or similar suggestions.• Ask students to record academic and scientific terms in the key word boxes on their graphic organizers. Remind them that the purpose for defining key words is to help them deepen their understanding of important ideas conveyed through the text.• Give students 1 or 2 minutes to revise the paraphrased details on their <i>Max Axiom</i>: Details and Visual Elements graphic organizer based on new understandings about key vocabulary.• If students are not able to complete the vocabulary sort or revision of graphic organizers in the time allotted, allow them to complete for homework.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none"> Ask students to turn and talk with a nearby partner who is not in their regular group: <ul style="list-style-type: none"> * “Which close reading strategy most helped you understand the next steps Max Axiom took to solve a problem?” Give partners 2 minutes to discuss, then cold call several students to share out the strategies they used. Listen for: <ul style="list-style-type: none"> – “It helped me to gather quotes from the text before I paraphrased and when we were answering the question about why a hypothesis is important.” – “Rereading the text helped me because there were some complex words I didn’t really understand the first time.” Read each of the learning targets aloud and ask students to show a thumbs-up or thumbs-down to indicate their mastery. Note students who show a thumbs-down, as they may need more support. 	<ul style="list-style-type: none"> Provide a sentence frame to support students during their discussions: “The close reading strategy that helped me understand steps 3 and 4 of the scientific method is _____, because _____.”
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> Reread Section 2 of <i>Max Axiom</i>. Add to or revise at least one area of your <i>Max Axiom</i>: Details and Visual Elements graphic organizer, based on new insights from your reread of the text or new understandings about key terms. If not finished in class, complete the four-column chart for each vocabulary word from this lesson, and sort key terms into the “academic” or “scientific” key word boxes on your graphic organizer. Read your independent reading book for at least 30 minutes and write a response to a third question from your Independent Reading Choice Board (from Lesson 1). 	<ul style="list-style-type: none"> Allow struggling writers to dictate their responses to someone at home. Consider providing a recording of the text for struggling readers.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 3

Supporting Materials



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Max Axiom: Details and Visual Elements Graphic Organizer, Page 2

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

SECTION 2: "SEARCHING FOR ANSWERS"

Step 3: Form a Hypothesis

Details that explain *how* to form a hypothesis

Visual Element Focus: "Speech Bubbles/Thought Bubbles"

How do speech bubbles or thought bubbles support your understanding of the third step Max Axiom takes to solve a problem?



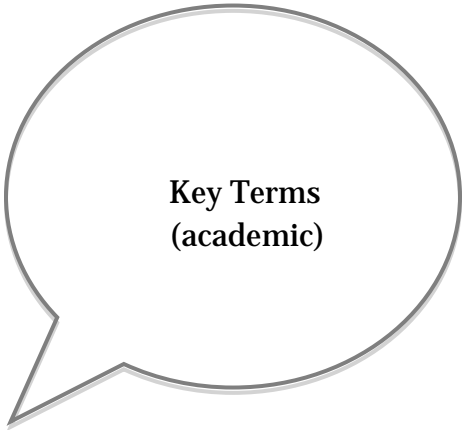
Key Terms
(scientific)

Step 4: Design an Experiment

Details that explain *how* to design an experiment

Visual Element Focus: "Images/Photos"

How do images and photos support your understanding of the fourth step Max Axiom takes to solve a problem?



Key Terms
(academic)



Max Axiom: Details and Visual Elements Graphic Organizer, Page 2
(Answers, for Teacher Reference)

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

SECTION 2: "SEARCHING FOR ANSWERS"

Step 3: Form a Hypothesis

Details that explain *how* to form a hypothesis

- **Use the information you collected in your research to make a prediction about what will happen.**
- **You have to use evidence to make a hypothesis.**
- **You should write your hypothesis down because it won't change during the experiment.**

Visual Element Focus: "Speech Bubbles/Thought Bubbles"

How do speech bubbles or thought bubbles support your understanding of the third step Max Axiom takes to solve a problem?

In the speech bubbles, Max explains what a hypothesis is and that you have to use evidence. By reading the thought bubbles on the bottom of page 10, I learned how Max made his hypothesis.

Key Terms
(scientific)

**hypothesis,
controlled
variable,
independent
variable**



Max Axiom: Details and Visual Elements Graphic Organizer, Page 2
(Answers, for Teacher Reference)

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

SECTION 2: "SEARCHING FOR ANSWERS"

Step 4: Design an Experiment

Details that explain *how* to design an experiment

- **You have to pick the parts of the experiment you want to change to test the hypothesis. They are called the independent variables.**
- **You need to decide what part you will measure to see how it changes with the independent variable. The part you measure is called the dependent variable.**
- **You have to think about the controlled variables so you know which parts of the experiment will stay the same.**
- **Scientists use procedures or plans that include a materials list when they design an experiment.**

Visual Element Focus: "Images/Photos"

How do Images and Photos support your understanding of the fourth step Max Axiom takes to solve a problem?

The images on page 13 help me understand the difference between independent and dependent variables and how they are used in experiments.

Key Terms
(academic)

**evidence, variable,
(in)dependent,
controlled,
accurate,
procedure,
reproduce**



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 4

Paraphrasing Quotes and Analyzing Visual Elements, Part 3: *Investigating the Scientific Method with Max Axiom Super Scientist*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences. (RL.5.1)

I can paraphrase information in notes and finished work. (W.5.8)

I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)

I can determine the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4)

a. I can use context as a clue to the meaning of a word or phrase.

c. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

Supporting Learning Targets

- I can explain the next steps Max Axiom takes to solve a problem by paraphrasing quotes from *Max Axiom*.
- I can analyze how visual elements in Max Axiom contribute to my understanding of the steps Max Axiom takes to solve a problem.
- I can determine the meaning of unknown words and phrases using a variety of strategies.

Ongoing Assessment

- Gist (in journal)
- *Max Axiom*: Details and Visual Elements graphic organizer, page 3
- Response to reflection questions (in journal)
- Vocabulary defined (in journal)
- Independent Reading Choice Board response



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Reviewing Homework and Engaging the Reader (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining the Gist: <i>Max Axiom</i>, Section 3: “Conducting the Experiment” (15 minutes) B. Second Read: Explaining Steps Max Axiom Takes to Solve a Problem and Analyzing Visual Elements (20 minutes) C. Vocabulary to Deepen Understanding (15 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Reviewing Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Graphic Novel Template B. Finish Classwork C. Independent Reading 	<ul style="list-style-type: none"> • This lesson follows a format similar to Lessons 2 and 3. Students refer to relevant information from <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> to explain complex ideas associated with the fifth and sixth steps Max Axiom takes to solve a problem: collecting data and analyzing data and drawing conclusions. Reiterate to students that the process of scientific inquiry is not as linear a process as it is presented in this graphic novel. Rather, students should understand that real inventors and scientists engage in scientific inquiry using a much less structured approach to develop their solutions. The concept of scientific inquiry as iterative can and should be reinforced during additional science instruction in other parts of the school day. • After identifying key details about steps 5 and 6 of the scientific method, students paraphrase quotes. Paraphrasing is not formally assessed in Unit 1. However, note that paraphrasing involves both reading and writing, so RI.5.1 and W.5.8 are working in concert in this lesson. • Students also analyze the way visual elements impact the meaning of complex ideas in <i>Max Axiom</i>. Students will apply understanding gained from this analysis for homework: they create a graphic novel version of one event from their independent reading text. Both the classwork and homework task provide scaffolding to prepare students for their performance task, which is writing a graphic novelette. • At the end of Work Time B, students respond to reflection questions that serve three purposes: to synthesize their thinking about this section of text, to continue to develop their ability to make inferences based on information from the text, and to prepare them to use multiple sources to explain what is stated explicitly or inferred in the text, a skill assessed the Mid-Unit 1 Assessment. • In advance: <ul style="list-style-type: none"> – Display Group Norms and Vocabulary Strategies anchor charts (from Lessons 1 and 2). – Review and familiarize yourself with <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 3 (answers, for teacher reference) to be prepared to support students as they identify and analyze key details and visual elements in Work Time B. – Consider displaying key vocabulary to save time during Work Time C. – Collect a variety of reference materials for students to use as they define key terms (such as print and digital dictionaries found online).



Lesson Vocabulary	Materials
explain, steps, paraphrasing, analyze, visual elements, contribute, determine, variety, strategies, gather, develop (16), observations (17), data, draw (18), contents (19), conclusion (20), findings (21)	<ul style="list-style-type: none">• <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> (book; one per student)• Journals (students' own, begun in Lesson 1)• Group Norms anchor chart (from Lesson 1)• Document camera• <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 3 (one per student)• Visual Elements of a Graphic Novel reference page (from Lesson 1, taped into journals)• <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 3 (answers, for teacher reference)• Vocabulary Strategies anchor chart (from Lesson 2)• Internet reference page (one per student)• Dictionaries (print and digital dictionaries; at least one per group)• Graphic Novel Templates A, B, and C (one per student, enough copies so each student can select one version of the template)



Opening	Meeting Students' Needs
<p>A. Reviewing Homework and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to turn and talk about the questions and response they completed on their Independent Reading Choice Board for Lesson 3 homework.• After 1 or 2 minutes, invite a few students to share out whole group.• Ask students to consider and discuss:<ul style="list-style-type: none">* “What connections are you able to make between the content of your independent reading book and the ideas expressed in <i>Max Axiom</i>?”* “How does making connections between different texts support your ability to understand complex ideas?”• After 1 or 2 minutes, invite students to share their thinking. Answers will vary, but listen for students to make specific connections between the content of their independent reading books and details from <i>Max Axiom</i>.• Positively reinforce students’ ability both to make text-to-text connections and to recognize their significance. Reiterate to students that making connections while reading, both in class and independently, can help deepen their understanding of similar complex ideas that are presented in different contexts.• Then, explain that today’s work will focus primarily on the second guiding question:<ul style="list-style-type: none">* “How do authors use visual elements and organizational structure to engage and support readers’ understanding of complex ideas?”• Ask students to think about and then discuss:<ul style="list-style-type: none">* “Which work from Lessons 2 and 3 help you answer this guiding question?”• Invite a few students to share their ideas. Listen for them to mention how their analysis of information boxes, gutters, speech bubbles, and images supported their understanding of the steps Max Axiom takes to solve a problem.• Explain that in today’s lesson, students will analyze details and visual elements in Section 3 of <i>Max Axiom</i> using methods similar to those used in Lessons 2 and 3.	<ul style="list-style-type: none">• Provide sentence starters to support student discussions: “The connection I was able to make between my independent reading book and <i>Max Axiom</i> is _____,” “Making connections between different texts supports my understanding of ideas because _____,” “Working on _____ in Lessons 2 and 3 helped me answer the guiding question because _____.”• To support visual learners, consider displaying and circling or otherwise highlighting the guiding question.



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: <i>Max Axiom</i>, Section 3: “Conducting the Experiment” (15 minutes)</p> <ul style="list-style-type: none">• Ask students to locate their copies <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> and their journals then sit in their groups.• Display the Group Norms anchor chart using the document camera and review the group norms established in Lesson 1. Ask students to think about and discuss the following questions as a group:<ul style="list-style-type: none">* “Which group norm is your group best at and why?”* “Which group norm can you focus on today to further improve your group work?”• Cold call a student from each group to share their group’s successes and goals. Listen for:<ul style="list-style-type: none">– “We are good at using specific details from the text to support our ideas, but we need to work on helping everyone in our group to participate. Today we are going to try to ask questions like, ‘What do you think?’ or ‘Would you like to add to that idea?’ to make sure everyone is talking.”– “Our group thinks that we are good at making sure everyone takes turn talking, but we could work on asking questions to make sure we really understand our group members’ ideas,” or similar suggestions.• Encourage students to work on their group norm goal as they read and determine the gist of Section 3 together.• Ask students to open their books to page 16. Direct them to read Section 3 as a group by reading alternating panels aloud. While one student is reading a panel aloud, other group members should follow along in their own text. Remind students to consider and discuss the gist as they work.• After 6 to 7 minutes, cold call a student from each group to share the gist. Listen for:<ul style="list-style-type: none">– “Max is explaining his experiment and what he did with his results.”– “Max is showing how to collect and organize information from an experiment,” or similar responses.• Give students 1 minute to record their gist statements on the same page in their journal where they recorded the gist of Sections 1 and 2.	<ul style="list-style-type: none">• Provide sentence frames to support student discussions about group norms: “We are best at using the norm _____ because we _____,” or “We can focus on improving our group work by using the norm _____.”• For students who struggle to determine the gist of longer passages, encourage them to find the gist of facing pages to keep track as they go and make it more manageable to determine the gist of the entire section.• Allow struggling writers to dictate their gist statement to a peer or aide acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Explaining the Steps Max Axiom Takes to Solve a Problem and Analyzing Visual Elements (20 minutes)</p> <ul style="list-style-type: none"> Say something like: “Now that we have identified the gist of Section 3, we can return to the text to deepen our understanding of the next steps Max Axiom uses to solve a problem. Let’s discuss the learning targets that help us focus our second read.” Read the first two learning targets aloud: <ul style="list-style-type: none"> * “I can explain the next steps Max Axiom uses to solve a problem by paraphrasing information from <i>Max Axiom</i>.” * “I can analyze how visual elements in <i>Max Axiom</i> contribute to my understanding of the steps Max Axiom uses to solve a problem.” Focus students on the terms: <i>explain, steps, paraphrasing, analyze, visual elements, and contribute</i>. Say something like: “We have seen these terms over the past few lessons, and they should seem more familiar. Consider these terms as you think about how you might restate the learning targets.” Invite a few students to paraphrase the learning targets. Explain that today’s second read follows a pattern similar to Lessons 2 and 3 with a focus on the fifth and sixth steps Max Axiom uses to solve a problem. Direct students to look at the image of Max’s tablet on page 5 of <i>Max Axiom</i>. Ask: <ul style="list-style-type: none"> * “What steps do you think Max will take next? Why do you think so?” After 1 minute, cold call a few students to share their thinking whole group. Listen for comments such as: <p>“I think he will collect and analyze data and draw conclusions because he has already asked a question, gathered information, formed a hypothesis, and designed an experiment; these seem like the next steps he would take.”</p> Reiterate that while Max Axiom uses these steps in a sequential order, he also points out on page 5 that the order and number of these steps can change. Emphasize to students that real world scientists and inventors engage in a process of scientific inquiry that is rarely tidy or linear. For real scientists and inventors, these steps are fluid, meaning they will revisit steps, revise their thinking, and conduct experiments using a much less linear approach than Max. Distribute <i>Max Axiom: Details and Visual Elements graphic organizer, page 3</i> and display using a document camera. This graphic organizer is similar to those used in previous lessons; invite several students to explain how to complete each section. Listen for the following details: <ul style="list-style-type: none"> – “We find details in the text that explain how to collect data and analyze data and draw conclusions. Then we paraphrase, or say in our own words, the details we found and record them next to the bullet points.” – “To paraphrase, we restate the ideas in our own words, but make sure it still sounds natural and means the same thing.” 	<ul style="list-style-type: none"> To support visual learners and ELL students, display a drawing, picture from the internet, or familiar synonym above or below key words in learning targets. To support visual learners, consider allowing students from each group to display an example of the visual element (colors or diagrams/information boxes) under the document camera. For students who struggle with the physical act of writing, allow them to type their responses on a computer or word processor, or dictate their analysis paragraph to an aide or a peer acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “We read the visual element focus and think about how that visual element helps us understand the steps Max Axiom uses to solve a problem. We discuss our ideas with our group. Then we record our thoughts under the question on the graphic organizer.”– “We can use our Visual Elements of a Graphic Novel reference page taped into our journals to help us learn more about the visual elements.”– “We don’t have to worry about the vocabulary section until later.”• If students do not independently express these ideas, ask targeted questions to remind them.• Direct students to work collaboratively with their group to read Section 3 a second time and complete all but the key word boxes of <i>Max Axiom: Details and Visual Elements</i> graphic organizer. Remind students to continue working on their group norms goal as they analyze the text.• After about 10 minutes, refocus whole group. Ask students to share out their paraphrased quotes from the text that explain how to design an experiment and collect data. Refer to Max Axiom: Details and Visual Elements graphic organizer, page 3 (answers, for teacher reference) as needed.• Cold call several students from different groups to share examples of colors and images their group discussed. Encourage students to offer an example that hasn’t yet been shared by another group. Examples of colors and images could include:<ul style="list-style-type: none">– The colors of rock, soil, and clay (page 16)– Color and image of the water in three different parts of the experiment (page 17)– Images of Max taking notes (pages 16, 17)• Invite a student from each group to share their response to the following questions from their graphic organizers:<ul style="list-style-type: none">* “How do colors and images support your understanding of what it means to collect scientific data?”• See <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 3 (answers, for teacher reference) for possible responses.• Cold call several students from different groups to share examples of diagrams/information boxes their group discussed. Encourage students to offer different examples each time. Examples of diagrams/information boxes could include:	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> – Line graph (page 18) – Bar graph (page 19) – Information box about averages (page 19) – All of the graphs together (page 20) • Ask students to consider and discuss with group members: <ul style="list-style-type: none"> * “How do the diagrams and information boxes you discussed support your understanding of what it means to analyze data and draw conclusions?” • See <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page 3 (answers, for teacher reference) for possible student responses. (Note: in Work Time C students will have an opportunity to revise these graphic organizers to reflect a deeper understanding after they work with key vocabulary terms.) • Display the following questions for student reflection and clarify vocabulary as needed: <ul style="list-style-type: none"> * “After reading this section of <i>Max Axiom</i>, what do you think scientists should consider to ensure they are collecting relevant data?” * “What might help a scientist to analyze data and draw conclusions?” • Ask students to include specific details from the text, paraphrased information from their graphic organizers, and ideas gleaned from visual elements to support their answers. Tell students to discuss their thinking and supporting details with group members then record their responses on a clean page in their journal. • After 2–3 minutes, cold call several students to share out whole group. Listen for: <ul style="list-style-type: none"> – “On page 17, Max says that he needs to ‘measure the dependent variable of water leaking through the levees.’ This makes me think that scientists need to consider what changes from one experiment to the next, especially the dependent variable because that will show them what the different independent variables do to the experiment.” – “To draw a conclusion, I think scientists need to consider all of the observations and notes they made to see if anything supports their hypothesis, because in most of the images Max is looking at the experiments and data very carefully. It looks like he is thinking and taking lots of notes. Then, on page 20 he says, ‘A conclusion explains whether or not the original hypothesis was correct.’” 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> – “It might help a scientist if they organize the data so it’s easier to compare. They could use visuals or graphs, and they could find the average. Max uses a line graphs and a bar graph to draw conclusions, and the information box on page 19 says that averages are helpful too.” – “I think when scientists are analyzing the data they have to think about how their data is related to the hypothesis. Our group noticed that Max had to organize the data into graphs, and on page 20 Max says, ‘But analyzing the data isn’t enough. Scientists study the trends of the data to develop a final conclusion.’ Then he starts talking about how the conclusion should be related to the hypothesis,” or similar suggestions. • Praise students for their ability to use details, visual elements, and paraphrased quotes from the text when explaining what the text says explicitly and when drawing inferences. Explain they will now take a closer look at key vocabulary to further support their analysis of the text. Then, they will have an opportunity to further revise their work. 	
<p>C. Vocabulary to Deepen Understanding (15 minutes)</p> <ul style="list-style-type: none"> • Introduce the third learning target: <ul style="list-style-type: none"> – “I can determine the meaning of unknown words and phrases using a variety of strategies.” • Draw students’ attention to the terms <i>determine</i>, <i>variety</i>, and <i>strategies</i>, discussed in previous lessons. Ask students to discuss the meaning of these terms in their groups then think about how they could restate the target in their own words. • After 1 minute, cold call a few students to paraphrase the learning target. Listen for: <ul style="list-style-type: none"> – “I can use many different techniques to find out the meaning of new words,” or similar responses. • Invite students to share strategies they have used in previous lessons. Listen for students to mention roots and affixes, context clues, and reference materials. Refer to the Vocabulary Strategies anchor chart to affirm student responses and add new strategies as needed. • Remind the class that in the last lesson they used a dictionary page to help them determine the specific meaning of a complex term. Invite a few students to share what they recall about the term “variable.” Listen for comments like: <ul style="list-style-type: none"> – “Variable has multiple meanings” – “The word variable has the same root as the term vary, and they both have to do with change.” – “Variable can be both an adjective and a noun.” – “Independent variables, dependent variables, and controlled variables are important parts of science experiments.” 	<ul style="list-style-type: none"> • To support visual learners and ELL students, display a drawing, image from the internet, or familiar synonym above or below key words in the learning target. • Consider using a think-aloud strategy, either whole class or with a small group, to model using vocabulary strategies for the first several terms.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Say something like: "Sometimes a dictionary or other reference tool can be really helpful when you stumble across a complicated term like <i>variable</i>. Now let's think about the meaning of a word that may seem more familiar to you." <ul style="list-style-type: none"> * "What does the word <i>draw</i> mean?" • Invite several students to share definitions. Listen for: "to create a picture" or similar suggestions. • Say something like: "Let's take a moment to consult a reference material. Here is an example of what you might find if you searched for a definition of the word <i>draw</i> on the internet." • Distribute the internet reference page and ask: <ul style="list-style-type: none"> * "What do you notice about the meaning of the word <i>draw</i>?" • Cold call several students to share out and listen for: <ul style="list-style-type: none"> – "I notice it has a lot more definitions than I thought." – "I notice that <i>draw</i> can mean to pull or move something." – "I notice that <i>draw</i> can be used as a verb and a noun," or similar suggestions. • Say something like: "Sometimes words that seem very simple can have multiple meanings and figuring out what those words mean can be just as tricky as defining a complex term. Using reference materials and context clues together can help you determine the correct meaning of a word with more than one definition. Let's look at the way <i>draw</i> is used in <i>Max Axiom</i>." • Have students open their books to page 18. Instruct them to listen as you read the first speech bubble aloud, "The information gathered is known as <i>data</i>. Scientists use <i>data</i> to <i>draw</i> conclusions about an experiment." • Ask students to think about and discuss the following question in their groups: <ul style="list-style-type: none"> * "What do you think the word <i>draw</i> means in the context of page 18 of <i>Max Axiom</i>?" • After 1 minute, cold call several students to share out whole group. Encourage students to refer to the specific details from the text to explain how they made their decision. Listen for: <ul style="list-style-type: none"> – "I think <i>draw</i> means to reach a conclusion, because Max said 'scientists use <i>data</i> to <i>draw</i> conclusions' and in the definition it says that <i>draw</i> can mean to reach a conclusion by using information." – "I think <i>draw</i> means to reach an idea or conclusion, because the other definitions, like moving something, filling a bath or taking a breath really wouldn't make sense in this sentence. To reach an idea or conclusion makes sense." 	<ul style="list-style-type: none"> • For student reference, display a working definition of "academic vocabulary," or "words found in a variety of genres and subjects unrelated to science," and "scientific vocabulary," or "words unique to science concepts."



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> – “I think draw mean to reach an idea or conclusion by using information to make an inference because I notice that the example from <i>Max Axiom</i> is very similar to the example on the internet reference page. Both of the examples say, ‘draw a conclusion,’” or similar suggestions. • Recognize students for their ability to use multiple strategies to determine the meaning of the term. Encourage them to continue selecting and using appropriate vocabulary strategies as they complete their vocabulary task today. • Say something like: “Now you have a chance to reread this section of the book a little more deeply to focus on key words. Independently read pages 16–21 again. This time as you read, use vocabulary strategies to determine the meaning of the words <i>gather</i>, <i>develop</i>, <i>observations</i>, <i>data</i>, <i>draw</i>, <i>contents</i>, <i>conclusion</i>, and <i>findings</i>. Remember to record your thinking in the four-column chart of your journal glossary.” • Clarify as needed, then distribute a dictionary to each group. Ask students to use a variety of strategies to determine the meaning of key terms and complete the four-column chart for each word. Circulate to offer support. • After 5 minutes of group work, invite students to share out the meaning of each word. Encourage students to explain the vocabulary strategies they used to determine the meaning of each term. Listen for: <ul style="list-style-type: none"> – “Gather means to collect because in section 2 Max collected information from the library and on page 16 he says ‘Gather information. Check!’ Also, I replaced the word gathered with collected and it made sense.” – “Develop means to create because in the text is says develop a hypothesis and in section 2, Max created a hypothesis.” – “Observations means information you collect from looking closely because I know that observe means to look closely and Max is looking closely at the experiments on pages 16 and 17.” – “Data means the information you gathered because that is what it says in the text on page 18.” – “Draw means to reach a conclusion, which I learned from my internet reference sheet.” – “Contents are the materials held inside the container because on page 19, Max says the rock levee lost most of its contents and I know that it lost most of the water it was holding.” – “Conclusion means a summary of the analysis or results because I looked at the context clues and you have to use all the information to make a conclusion and Max’s conclusion is like a summary of his experiment.” – “Findings are results because Max is going to present his results,” or similar ideas. If students do not arrive at these definitions themselves, provide definitions for them. • Give students 1-2 minutes to work with group members to determine whether each word is academic or scientific. 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1-2 minutes, refocus students whole group. Cold call students to share their thoughts.• After hearing students' ideas, reveal the actual sorting of academic and scientific words as seen on <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 3 (answers, for teacher reference). Have students add the key terms to the appropriate box on their graphic organizers.• Ask students to briefly go back to their graphic organizers from Work Time B to revise their thinking, based on new understandings about key terms.• As time allows, invite students to share out the revisions they made to their graphic organizers. Refer again to the <i>Max Axiom: Details and Visual Elements Graphic Organizer</i>, page 3 (answers, for teacher reference).• Celebrate students' ability to use details, visual elements, and key vocabulary to contribute to their understanding of a complex idea like steps a scientist can use to solve a problem.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Focus students on the splash page of <i>Max Axiom</i> (pages 4 and 5). Say something like: “The splash page is often where the author introduces the main character(s).” Ask students to review the panels on the splash page and discuss in groups:<ul style="list-style-type: none">* “What can you learn about Max Axiom’s character traits by looking at the splash page?”* “What can you learn about Max Axiom by examining his appearance, including his clothing and possessions?”• After 1 or 2 minutes, cold call several students to share their thinking. Listen for:<ul style="list-style-type: none">– “I can tell that Max Axiom is a scientist because he is wearing a lab coat.”– “The expression on Max Axiom’s face on page 4 makes me think he is very serious.”– “I learned that Max Axiom is very helpful because he is going to help the mayor solve the problem so the city doesn’t flood and he is going to teach us about steps that can be used to solve a problem.”– “I think Max Axiom is adventurous because he rides a motorcycle,” or similar suggestions.• Tell students they will get to introduce a character from their independent reading by creating their own graphic novel page for homework. Have each student select one Graphic Novel Template A, B, or C.• Ask students to follow along as you reread each learning target. Then, instruct students to quickly find a classmate who is not in their group and discuss:<ul style="list-style-type: none">* “Which learning target was most challenging for you today?”* “What strategies did you use to work on that learning target?”• If time allows, invite a few partners to share their thinking whole group.	<ul style="list-style-type: none">• Provide a sentence frame to support students during their discussions: “We did/did not meet our group goal because _____,” “The learning target that was most challenging to me was _____ because _____,” or “Strategies I used to work on the learning target are _____.”



Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read at least five pages from your independent reading text to complete your Graphic Novel Template. Bring your completed template to class to use in our entry task for the next lesson.• If you did not finish in class, complete your four-column chart for each of the vocabulary words and sort into the appropriate key word boxes on your graphic organizer.• Read your independent reading book for at least another 15–20 minutes and write a response to another one of the questions on your Independent Reading Choice Board.	<ul style="list-style-type: none">• Allow struggling writers to dictate their responses to someone at home.• Allow students to use images from other sources such as the internet, magazines, etc. to paste onto their templates.• Consider providing a recording of the text for struggling readers.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 4

Supporting Materials



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Max Axiom: Details and Visual Elements Graphic Organizer, Page 3

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

SECTION 3: “CONDUCTING THE EXPERIMENT”

Step 5: Conduct the Experiment

Details that explain *how* to conduct an experiment

- _____
- _____
- _____

Visual Element Focus: “Colors”

How do colors support your understanding of the fifth step Max Axiom takes to solve a problem?



Max Axiom: Details and Visual Elements Graphic Organizer, Page 3

Step 6: Analyzing Data and Drawing a Conclusion

Details that explain *how* to analyze data and draw a conclusion

- _____
- _____
- _____

Visual Element Focus: “Diagrams/Information Boxes”
How do diagrams and information boxes support your understanding of the sixth step Max Axiom uses to solve a problem?

Key Terms (scientific)

Key Terms (academic)



Max Axiom: Details and Visual Elements Graphic Organizer, Page 3
(Answers, for Teacher Reference)

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

SECTION 3: "CONDUCTING THE EXPERIMENT"

Step 5: Conduct the Experiment

Details that explain *how* to conduct an experiment

- **It's important to keep each trial as similar as possible. Pay attention to the controlled variables.**
- **You have to measure the dependent variable so you know what is different in each trial.**
- **You should record any information you collect or observations you make.**

Visual Element Focus: "Colors"

*How do colors support your understanding of the fifth step Max Axiom takes to solve a problem? **Looking at the colors helps me understand Max's experiment because I can see the color of the levee is the only thing that changes. The color of the water helps me see how the dependent variable changed with each levee material. In the images, Max is taking a lot of notes. This helps me understand that it's important to record your data and observations.***



Max Axiom: Details and Visual Elements Graphic Organizer, Page 3
(Answers, for Teacher Reference)

Step 6: Analyzing Data and Drawing a Conclusion

Details that explain *how* to analyze data and draw a conclusion

- **Charts and graphs can help you organize your data so you can understand the information.**
- **Averages can help you analyze numbers.**
- **Scientists look for trends, or patterns, to help them draw conclusions.**
- **The conclusion says if the hypothesis was right or wrong.**

Visual Element Focus: “Diagrams/Information Boxes”
How do diagrams and information boxes support your understanding of the sixth step Max Axiom uses to solve a problem?

The graphs on pages 18 and 19 help me see how Max used graphs to analyze his raw data and draw conclusions. The information box on page 19 helps me understand how to use averages to analyze numbers.

Key Terms
(scientific)
data, findings

Key Terms
(academic)
gather, develop, observations, draw, contents, conclusion



Learning Target: I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the meaning of key words and phrases

INTERNET SEARCH TERMS

Define Draw

Search:

Draw

Search Results

draw

draw /dru:/

VERB

(past tense **drew**; past participle **drawn**)

1. To create a picture or diagram by making lines and marks on paper
Examples: *She decided to draw a map to show him where to go.*
The boy drew a picture of a dog.
2. To pull or move something
Examples: *I drew back the curtains to let in the sunlight.*
He drew his sword.
3. To move somewhere in a slow and steady way
Example: *The train drew into the station.*
4. To fill a bath
Example: *The mother drew a bath for the baby.*
5. To take in (a breath):
Example: *The teacher drew a long breath.*
6. To direct or attract
Examples: *The girl drew her mother's attention to the problem.*
The museum draws many visitors each day.
7. To reach (an idea or conclusion) by using information to make an inference
Example: *He had looked at several resources and was ready to draw his conclusion.*
8. (draw on) to use ones experience or skills as a resource
Example: *He was able to draw on past experiences to help make the decision.*



NOUN

1. The act of selecting names randomly for a lottery or sporting event.
Example: *They made the draw for this year's tournament.*
2. A competition that ends in a tie
Example: *He scored twice to force a draw.*
3. A person or thing that is very attractive or interesting
Example: *The circus was a major draw for the community.*



Graphic Novel Template A

Name: _____

Date: _____

Directions:

1. Select one of the main characters from your independent reading text.
2. Use the frames/panels below to create a graphic novel page that introduces the character you selected. Consider including: identifying features of physical appearance and dress, as well as a representation of at least two defining character traits.
3. Incorporate both text and visual elements into your graphic novel page.
4. Bring your completed template to class to share at the start of our next lesson.

A graphic novel template consisting of three rounded rectangular panels. The left panel is large and occupies the left half of the page. The right half of the page contains two smaller panels stacked vertically. All panels are empty, intended for student drawing and text.



Graphic Novel Template B

Name: _____

Date: _____

Directions:

1. Select one of the main characters from your independent reading text.
2. Use the frames/panels below to create a graphic novel page that introduces the character you selected. Consider including: identifying features of physical appearance and dress, as well as a representation of at least two defining character traits.
3. Incorporate both text and visual elements into your graphic novel page.
4. Bring your completed template to class to share at the start of our next lesson.



Graphic Novel Template C

Name:

Date:

Directions:

1. Select one of the main characters from your independent reading text.
2. Use the frames/panels below to create a graphic novel page that introduces the character you selected. Consider including: identifying features of physical appearance and dress, as well as a representation of at least two defining character traits.
3. Incorporate both text and visual elements into your graphic novel page.
4. Bring your completed template to class to share at the start of our next lesson.

A large rectangular frame containing two smaller rectangular panels. The panels are positioned in the bottom left and bottom right corners of the main frame, leaving a large empty space at the top for text or a title. The panels are intended for drawing and illustrating a character.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 5

Paraphrasing Quotes and Analyzing Visual Elements, Part 4: *Investigating the Scientific Method with Max Axiom Super Scientist*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

- I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences. (RL.5.1)
- I can paraphrase information in notes and finished work. (W.5.8)
- I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)
- I can draw evidence from literary texts to support analysis, reflection, and research. (W.5.9)

Supporting Learning Targets

- I can explain the last step Max Axiom takes to solve a problem by paraphrasing quotes from *Max Axiom*.
- I can analyze how visual elements in *Max Axiom* contribute to my understanding of the last step Max Axiom takes to solve a problem.
- I can draw evidence from the text and visual elements in *Max Axiom* to support my analysis of how Max Axiom used a process to solve a problem.

Ongoing Assessment

- Graphic Novel Template A, B, or C (from homework)
- Gist (in journal)
- Max Axiom*: Details and Visual Elements graphic organizer, page 4
- Response to reflection questions (in journal)
- Open Response task card
- Independent Reading Choice Board response



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Reviewing Homework and Engaging the Reader (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining the Gist: <i>Max Axiom</i>, Section 4: “Sharing the Findings” (10 minutes) B. Second Read: Explaining the Last Step Max Axiom Takes to Solve a Problem and Analyzing Visual Elements (20 minutes) C. Writing Prompt: Drawing on Evidence and Visual Elements in Text to Support Analysis (20 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Reviewing Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Reread <i>Max Axiom</i>: Section 4 B. Finish Classwork C. Independent Reading 	<ul style="list-style-type: none"> • This lesson serves to familiarize students with the final step Max Axiom takes to solve a problem and the remaining visual elements found in a graphic novel. It also gives students an opportunity to synthesize their learning from Lessons 2–4 in preparation for the mid-unit assessment they take in the next lesson. • Aside from paraphrasing quotes, analyzing visual elements, and determining the meaning of key terms to support their understanding of the final step Max Axiom takes to solve a problem, students are asked to respond to a writing prompt that requires them synthesize their learning about Max Axiom’s process for solving a problem. Then, students are asked to refer back to specific pages from the text to consider and discuss how real world scientists might engage in a process of scientific inquiry that is different from the process Max Axiom uses. Emphasize to students that the process real world scientists use to develop solutions is not typically sequential, as it requires going back to repeat various stages of the experiment to refine their thinking until they are able to arrive at an accurate conclusion. This work not only prepares students to respond to similar questions on the mid-unit assessment, but also serves as a scaffold toward the final performance task: the creation of a graphic novelette to explain how an invention was developed to meet societal needs. • Note that today’s vocabulary work is incorporated into Work Time B to provide students with more time to analyze the text and respond to the synthesis question during Work Time C. • Be sure students do not read past page 23 during this lesson, since they will read pages 24–27 for the Mid-Unit 1 Assessment in Lesson 6. • In advance: <ul style="list-style-type: none"> – Display Vocabulary Strategies anchor chart (from Lesson 2). – Familiarize yourself with <i>Max Axiom</i>: Details and Visual Elements graphic organizer, page 4 (answers, for teacher reference) to be prepared to support students as they identify and analyze key details and visual elements in Work Time B. – Consider displaying the writing prompt to save time during Work Time C. – Review Fist to Five (see Appendix).



Lesson Vocabulary	Materials
explain, steps, quotes, analyze, visual elements, contribute, evidence, process, communicate, results, account, display (22), common, traits, abstract, unraveling (23)	<ul style="list-style-type: none"> • <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> (book; one per student) • Journals (students' own, begun in Lesson 1) • <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 4 (one per student) • Visual Elements of a Graphic Novel reference page (from Lesson 1, taped into journals) • Vocabulary Strategies anchor chart (from Lesson 2; one for display) • <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 4 (answers, for teacher reference)

Opening	Meeting Students' Needs
<p>A. Reviewing Homework and Engaging The Reader (5 minutes)</p> <ul style="list-style-type: none"> • Have students share their completed Graphic Novel Template, A, B, or C with a classmate. Ask them to discuss the following questions: <ul style="list-style-type: none"> * "Which visual elements did you incorporate to emphasize key details about a main character(s) from your independent reading?" * "How do these visual elements help communicate the ideas on your template?" • After 2 or 3 minutes, cold call several students to share how their partners used visual elements to communicate ideas. Encourage students to explain how the visual elements supported key understanding about the event described on the template. Answers will vary. • Tell students that today they will explore the remaining visual elements and how they support their understanding of the final step Max Axiom takes to solve a problem. Remind students that their homework task and analysis of the information presented in <i>Max Axiom</i> will help them prepare for planning and creating their own graphic novelette in Unit 3 . 	<ul style="list-style-type: none"> • Provide sentence starters to support student discussions: "The visual elements I used are _____," or "These visual elements communicate the ideas on my template because _____."



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: <i>Max Axiom</i>, Section 4: “Sharing the Findings” (10 minutes)</p> <ul style="list-style-type: none"> Ask students to locate their text <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> and their journals then join their small groups from Lessons 1–4. Explain that in today’s lesson, students will closely read only a part of Section 4 of <i>Max Axiom</i> as a group to analyze the text for understanding of the final step in the scientific method (ensure students do not read past page 23, as they will read pages 24–27 for the Mid-Unit 1 Assessment in Lesson 6). Give students an opportunity to check in with their group members about the group norm goal they created in the last lesson. If students struggled with meeting their previous goal, they should identify strategies to continue working on it today. If, as a group they feel they achieved their goal, ask them to create a new goal for today’s work. After 2 to 3 minutes, cold call a student from each group to share out with the class. Listen for examples such as: <ul style="list-style-type: none"> “We are going to keep asking questions like, ‘What do you think?’ or ‘Do you have anything to add to my idea?’ to encourage all of our group members to share.” “We think we did a good job with our goal about asking for clarity, but we are going to keep working on it today because it really helped our discussion.” “We created a new goal that everyone in our group will try to share equally because last time some people were talking most of the time, and we want to make sure everyone gets to participate.” Give students specific positive feedback for ways in which they are recognizing the needs of the diverse members of their group and developing strategies to help improve the discussion for everyone. Tell students that, just as in prior lessons from this unit, today’s first read will be for gist. Cold call a few students to explain reading for gist. Listen for: <ul style="list-style-type: none"> “The gist is a really broad statement about what the text or the section of text is generally about.” “There could be more than one right answer for the gist.” “Reading for gist helps you understand the general meaning of the text so you can focus on understanding the deeper meaning when you read a second time,” or similar responses. Ask students to open their books to page 22. Direct them to read <u>only</u> pages 22 and 23 as a group (see Teaching Note). Ask them to alternate panels they read aloud. While one student is reading a panel aloud, other group members should follow along silently in their own text. Remind students to consider and discuss the gist as they work. 	<ul style="list-style-type: none"> Provide sentence frames to support student discussions about group norms: “We struggled with _____ norm, so we will continue to work on it by _____,” or “We mastered our last norm so we are going to work on _____ today because our group needs to practice _____ to work better together.” For students who struggle to determine the gist of longer passages, encourage them to find the gist of facing pages to keep track as they go and make it more manageable to determine the gist of the entire section. Allow struggling writers to dictate their gist statement to a peer or aide acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> After 4 or 5 minutes, or as groups seem to complete the task, cold call a student from each group to share the gist. Listen for: <ul style="list-style-type: none"> “Max is sharing his results with the mayor and her team.” “Max is explaining how to share the results of a scientific experiment,” or similar responses. Give students 1 minute to record their gist statements on the same page in their journal where they recorded their previous gist statements. 	
<p>B. Second Read: Explaining the Last Step Max Axiom Takes to Solve a Problem and Analyzing Visual Elements (20 minutes)</p> <ul style="list-style-type: none"> Say: “Now that we understand the gist of these pages, let’s review the first two learning targets to help focus our attention as we read even more closely.” Read the learning targets aloud or invite volunteers to read them aloud: <ul style="list-style-type: none"> * “I can explain the last step Max Axiom takes to solve a problem by paraphrasing information from <i>Max Axiom</i>.” * “I can analyze how visual elements in <i>Max Axiom</i> contribute to my understanding of the last step Max Axiom takes to solve a problem.” Draw students’ attention to the following key vocabulary they are familiar with from previous lessons: <i>explain, steps, “paraphrasing,” analyze, visual elements, and contribute</i>. Remind students that while challenging, the terms should seem more familiar now. Encourage them to quickly review the meaning of terms in their groups. After 1 or 2 minutes, cold call several students to share definitions for each term. Listen for: <ul style="list-style-type: none"> “Explain means to describe with details or to teach others.” “Steps means stages or phases in a process, like steps to follow to complete a recipe.” “Paraphrasing means restating in your own words.” “Analyze means to study carefully.” “Visual elements are things the author does with text or pictures to draw our attention.” “Contribute means to add to or support,” or similar responses. Point out that the learning targets for this lesson are very similar to the targets they’ve been working on over the past few days. 	<ul style="list-style-type: none"> To support visual learners and ELL students, display a drawing, picture from the internet, or familiar synonym above or below key words in learning targets. To support visual learners, consider allowing students from each group to display an example of the visual element (ambient sounds or text type) under the document camera. For students who struggle with the physical act of writing, allow them to type their responses on a computer or word processor, or dictate to an aide or peer acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Distribute Max Axiom: Details and Visual Elements graphic organizer, page 4. Remind students that this graphic organizer helps them capture their thinking as they work toward today's targets. Invite several students to explain the steps for completing the graphic organizer. Listen for the following details. If students do not independently express these ideas, ask targeted questions to remind them:<ul style="list-style-type: none">– “We find details in the text that explain how to collect data and analyze data and draw conclusions. Then we paraphrase, or say in our own words, the details we found and record them next to the bullet points.”– “To paraphrase we restate the ideas in our own words, but make sure it still sounds natural and means the same thing.”– “We read the visual element focus and think about how that visual element helps us understand these steps Max Axiom takes to solve a problem. We discuss our ideas with our group. Then we record our thoughts under the question on the graphic organizer.”– “We can use the Visual Elements of a Graphic Novel reference page taped into our journals to help us learn more about the visual elements.”• Direct students to look at the key terms located at the top of their <i>Max Axiom: Details and Visual Elements</i> graphic organizer, page 4. Read each term aloud then explain that in today's lesson, students must consider the key vocabulary as they complete the graphic organizer. Refer to the posted Vocabulary Strategies anchor chart and remind students to select and apply strategies that help them determine the meaning of each word to help them make sense of the text. Encourage students to work as a group to complete the four-column chart in their glossaries and sort the terms on their graphic organizers after they record paraphrased quotes and analyze the visual elements.• Ask students to consider and discuss how the graphic organizer will help them meet today's learning targets.• After 1 to 2 minutes, cold call a few students to share their thoughts. Listen for:<ul style="list-style-type: none">– “When we record the details next to the bullet point, it helps us work on the first target because we have to paraphrase information about the last step Max Axiom takes to solve a problem.”– “The question on the bottom of the panel in our graphic organizer makes us think about the visual elements and how they help us understand the ideas better. That helps us work on the second target,” or similar responses.• Direct students to collaborate with their group to read pages 22 and 23 a second time and complete the graphic organizer.• After 7 or 8 minutes, refocus whole group. Ask students to share out their paraphrased quotes from the text that explain how to design an experiment and collect data. Refer to Max Axiom: Details and Visual Elements graphic organizer, page 4 (answers, for teacher reference) as needed.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Cold call several students from different groups to share examples of each of the visual elements they found. Listen for:<ul style="list-style-type: none">– The example of “ambient sounds” is: “Wwhirrrrrrr” (page 22)– Examples of “text type” could include:<ul style="list-style-type: none">• Color, size, and font of “Conference Room” (page 22)• Size and font of “Project Report” (page 22)• Color and font of “Data, Journal, Abstract, and Model” (page 23)• Invite a student from each group to share their response to the following question from their graphic organizers:<ul style="list-style-type: none">* “How do ambient sounds and text type support your understanding of the last step Max Axiom takes to solve a problem?”• Give students 4 or 5 more minutes to determine and record the meaning of key terms listed at the top of their graphic organizers: <i>communicate, results, account, display, common, traits, abstract, AND unraveling</i>. If time allows, ask students to sort each term into the appropriate key word box on their graphic organizer.• After 4 to 5 minutes, ask students from each group to help define the key terms. Listen for:<ul style="list-style-type: none">– “Communicate means to share or tell.”– “Results are conclusions, answers.”– “Account means a record, like the notes you keep.”– “Display means to show.”– “Common means shared or something that is the same.”– “Traits are characteristics or qualities.”– “Abstract in this context means a short summary of the scientific findings.”• “Unraveling in this context means making something understandable,” or similar responses.• Congratulate students on their in-depth analysis of information and visual elements found in <i>Max Axiom</i> over the past few lessons. Explain that this analysis not only helps them develop their understanding of a complex topic, such as how scientists use a process of scientific inquiry to solve problems, but it also supports their learning through the rest of this module as they study real inventions that were developed to meet people’s needs. In particular, their work over the past few lessons is an important part of their understanding of how to create their own graphic novelettes in Unit 3.	



Work Time (continued)	Meeting Students' Needs
<p>C. Writing Prompt: Drawing on Evidence and Visual Elements in Text to Support Analysis (20 minutes)</p> <ul style="list-style-type: none"> Read the last learning target aloud: <ul style="list-style-type: none"> * “I can draw evidence from the text and visual elements in <i>Max Axiom</i> to support my analysis of how Max Axiom used a process to solve a problem.” Focus students on these familiar terms: “evidence,” “visual elements,” “support,” and “analysis”. Remind students they have worked with these terms quite a bit, and that these words are used in a new target in this lesson. Then ask: <ul style="list-style-type: none"> * “In this target, what do you think the word ‘process’ means?” After 1 minute, invite a few students to share their thinking whole group. Listen for: <ul style="list-style-type: none"> – “I think a process is a method, course of action, or series of steps, because Max Axiom took several steps to develop a solution to the mayor’s problem.” If students are not able to define “process” accurately, define it for them. Continue to reinforce that the scientific method or process is more iterative than linear. Next, ask students to take a moment to think about the meaning of each key term in the context of this new target and discuss their thinking with group members. After 1 or 2 minutes, ask students to consider and discuss: <ul style="list-style-type: none"> * “What does this learning target really mean?” After 1 or 2 minutes, invite students to share their ideas. Listen for: <ul style="list-style-type: none"> – “It means we need to use information we learned and visual elements in <i>Max Axiom</i> to explain how Max solved a problem,” or similar responses. Remind students that after completing each page of their <i>Max Axiom: Details and Visual Elements</i> graphic organizer, they responded to a reflection question, using information from the text to support their ideas. Tell them that now that they have learned about the final step Max Axiom took to solve a problem, they get to synthesize their learning. Display the following writing prompt: <ul style="list-style-type: none"> * “How did Max Axiom use a scientific process to solve a problem? Use details from the text and visual elements to explain your thinking.” Clarify terms as needed. Ask students to discuss their thinking in groups then respond to the writing prompt on a new blank page in their journals. 	<ul style="list-style-type: none"> To support visual learners and ELL students, display a drawing, image from the internet, or familiar synonym above or below key words in the learning target. Consider using Think-aloud protocol, either whole class or with a small group, to model using vocabulary strategies for the first several terms. For student reference, display a working definition of “academic vocabulary,” or “words found in a variety of genres and subjects unrelated to science,” and “scientific vocabulary,” or “words unique to science concepts.” Provide sentence frames to support struggling writers: “Max Axiom used solved the problem by _____,” or “The visual elements that most helped me understand how scientists could use the scientific method to solve problems are _____ because _____.”



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> After 7 to 8 minutes, invite several students to share their ideas with the class. A possible student response could be: <ul style="list-style-type: none"> “Max Axiom used various steps to help him determine which material is best for building a levee so he could save the city from flooding. On the splash page, Max learned that they needed to build the strongest levee possible to prevent river water from seeping into the city. The process he used helped him organize his ideas and figure out how to solve the problem and build the best levee. He developed a question and then used information he collected from the library to make a hypothesis and design his experiment. The data he collected helped him learn that the clay levee held back more water than the rock or soil levees. His hypothesis was correct! He shared the information with the mayor so she could build a strong levee and the city wouldn’t flood.” Next, ask students to look back to page 5 of the text and focus on the upper-most speech bubble in the lower right-hand frame/panel, “The order or number of these steps can always change, but scientists often rely on these basic methods to organize information.” Pose the following question for students to consider and discuss with group members: <ul style="list-style-type: none"> “How might real world scientists engage in a process of scientific inquiry that is different from the process Max describes throughout the novel?” Encourage students to go back to the text, particularly pages 9, 11, 19, 21, 22, and 23, to help them formulate a response to the question. Provide clarification as necessary, then circulate to offer support and guidance. After 3 or 4 minutes, invite students from each group to share their thinking with the class. Remind them to support their ideas with information from the text. Listen for: <ul style="list-style-type: none"> “One way a scientist’s process may differ from Max Axiom’s is that they will repeat steps. I think this because on page 9 Max says ‘... repeating the original research can never hurt.’” “On page 11, Max says, ‘don’t worry about the hypothesis being correct ...,’ so I think that once scientists gather more data they may go back and revise their original hypothesis before continuing or repeating other steps of the process. I think scientists will organize their data differently, and not use all the types of graphs shown in the graphic novel because on page 19 Max points out that ‘Not every type of chart or graph is needed for every project.’” “I think that some scientists will repeat their experiments to double-check how correct their results are because on page 21, Max explains, ‘If there’s time, scientists double-check the accuracy of the conclusion by repeating the experiment.’” “I think scientists will present their information in different ways because on pages 22 and 23, Max describes many different ways that scientists can communicate their results like publishing a report, presenting to teachers, students, or judges, and building different types of science project displays,” and similar suggestions. 	<ul style="list-style-type: none"> For student reference, write the question and the page numbers they are encouraged to review on the board or a piece of chart paper.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Reiterate to students that the process of scientific inquiry is not linear, but rather it requires scientists to go back to various stages of their process to refine their thinking and try different things to arrive at an accurate conclusion.• Praise students for their ability to draw evidence from the text to support their analysis of how Max Axiom and real world scientists use various processes to develop solutions that meet the needs of society.	
Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to consider and discuss:<ul style="list-style-type: none">* “Which visual elements did you find most helpful for learning about the process Max Axiom used to solve a problem?”• After 1 or 2 minutes, invite several students to share out whole class. Listen for students to offer comments such as:<ul style="list-style-type: none">– “The visual element that supported my understanding the most was the splash page. The splash page really helped me understand the problem. It especially helped to see the close-up image of the mayor’s eye because it helped me to realize that this was a very big problem for the city. The splash page also helped me learn steps that scientists can take to develop solutions to a problem.”– “The images on the splash page supported my understanding, but so did the other images. The images of Max rushing to the helicopter, entering the conference room, and presenting his results helped me understand that if scientists communicate their results, the information can be used to solve problems before they become disastrous.”• Read or invite students to read each of the learning targets aloud.• Remind students of their previous conversation about how <i>Max Axiom: Details and Visual Elements</i> graphic organizer helped them capture their thinking as they worked toward mastery of each target. Direct students to take a few moments to look through all four pages of their graphic organizer and consider their progress toward meeting the learning targets.• After 2 minutes, have students use Fist to Five to show how they feel about their progress. If any students showed fewer than three fingers, consider providing ways to revisit the content before the Mid-Unit 1 Assessment.• Inform students they will take the Mid-Unit 1 Assessment in the next lesson.	<ul style="list-style-type: none">• Display the learning targets for student reference.



Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread only pages 22–23 of <i>Max Axiom</i>. Add to or revise at least one area of your <i>Max Axiom</i>: Details and Visual Elements graphic organizer based on new insights from your reread of the text or new understandings about key terms.• If not finished in class, complete the four-column chart for each vocabulary word from this lesson, and sort key terms into the academic or scientific key word boxes on your graphic organizer.• Read your independent reading book for at least 20–30 minutes, and write a response to a fourth question from your Independent Reading Choice Board (from Lesson 1).	<ul style="list-style-type: none">• Allow struggling writers to dictate their responses to someone at home.• Consider providing a recording of the text for struggling readers.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 5

Supporting Materials



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Max Axiom: Details and Visual Elements Graphic Organizer, Page 4

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

Key Terms: communicate, results, account, display, common, traits, abstract, unraveling

SECTION 4: "SHARING THE FINDINGS"

Step 7: Communicate Results

Details that explain *how* to communicate results

- _____
- _____

Visual Elements Focus: "Ambient Sounds" and "Text Type"

How do ambient sounds and text type support your understanding of the final step Max Axiom takes to solve a problem?

Key Terms
(scientific)

Key Terms
(academic)



Max Axiom: Details and Visual Elements Graphic Organizer, Page 4
(Answers, for Teacher Reference)

How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?

Key Terms: communicate, results, account, display, common, traits, abstract, unraveling

SECTION 4: "SHARING THE FINDINGS"

Step 7: Communicate Results

Details that explain *how* to communicate results

- **You could write a project report or create a presentation to share with teachers, students, or judges.**
- **A presentation frequently includes data, a detailed account of the experiment, an abstract, and a model.**

Visual Elements Focus: "Ambient Sounds" and "Text Type"

How do ambient sounds and text type support your understanding of the final step Max Axiom takes to solve a problem?

The "wwhirrrrrrr" from the plane helped me realize that it's very important to communicate ideas quickly. The different font and colors for "Conference Room," "Project Report," "Data," "Journal," "Abstract," and "Model" help me understand important ways a scientist can communicate results.

Key Terms
(scientific)

abstract

Key Terms (academic)

***communicate,
results, account,
display, common,
traits, unraveling***



EXPEDITIONARY
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Grade 5: Module 2B: Unit 1: Lesson 6

Mid-Unit Assessment: Analyzing Visual Elements in a Graphic Novel



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)

I can draw evidence from literary texts to support analysis, reflection, and research. (W.5.9)

I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4)

Supporting Learning Targets

- I can explain how visual elements add meaning to the description of the scientific problem Max Axiom will encounter next.
- I can determine the meaning of unfamiliar words and phrases using a variety of strategies.
- I can reflect on my learning about how visual elements add meaning to the text and use a variety of strategies to determine the meaning of unfamiliar words and phrases.

Ongoing Assessment

- Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel
- Tracking My Progress: Mid-Unit 1 recording form



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Reviewing Homework and Engaging the Reader (5 minutes)Reviewing Learning Targets (5 minutes)Work Time<ol style="list-style-type: none">Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel (35 minutes)Tracking My Progress: Reflecting on Learning (10 minutes)Closing and Assessment<ol style="list-style-type: none">Debrief: Sharing Reflections on Learning Targets (5 minutes)Homework<ol style="list-style-type: none">Reread final section of <i>Max Axiom</i>Independent reading	<ul style="list-style-type: none">Review the Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel and the final section of <i>Max Axiom</i>, pages 24–27. This assessment begins with a series of text-dependent questions that require students to determine the meaning of unknown words using various vocabulary strategies, including context clues.Students are asked to identify visual elements from the text, which is a scaffold that supports their ability to analyze text features in order to address Standard W.5.7, and draw evidence from the text to support their analysis on the final assessment question to address Standard W.5.9.In advance:<ul style="list-style-type: none">Ensure that all students have access to their own text of <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> as well as their notes from Lessons 1–5, including the Visual Elements of a Graphic Novel reference page in their journals.Display the Close Readers Do These Things anchor chart and the Vocabulary Strategies anchor chart from Lessons 1–5 for student reference during the assessment.Review Milling to Music in Checking for Understanding Techniques (see Appendix).



Lesson Vocabulary	Materials
visual elements, problem, encounter, analyze, variety, strategies	<ul style="list-style-type: none">• Journals (students' own, begun in Lesson 1)• <i>Max Axiom</i>: Details and Visual Elements graphic organizer, pages 1–4 (students' own, from Lessons 2–5)• Visual Elements of Graphic Novels reference page (from Lesson 1, taped into journals)• <i>Investigating the Scientific Method with Max Axiom Super Scientist</i> (book; one per student)• Close Readers Do These Things anchor chart (from Lesson 1)• Vocabulary Strategies anchor chart (from Lesson 2)• Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel (one per student)• Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel (answers, for teacher reference)• Tracking My Progress: Mid-Unit 1 recording form (one per student)

Opening	Meeting Students' Needs
<p>A. Reviewing Homework and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their Independent Reading Choice Boards then gather whole group• Review the procedure for Milling to Music with students. Provide clarification as needed.• Ask students to quickly mill to find a partner who is not a member of their regular group. Once students are paired up, ask them to share the question and response they completed on their choice boards for homework.• After 2 or 3 minutes, invite several students to share out interesting ideas they heard from their partner.• Then say something like: “Today you will complete the Mid-Unit 1 Assessment by reading the last four pages of <i>Max Axiom</i>, and answering some questions that allow you to show what you have learned about visual elements and how they contribute to the overall meaning of the ideas presented in a graphic novel. You will also get to flex your vocabulary muscles during today’s assessment and demonstrate your ability to use a variety of strategies to figure out the meaning of new words.”	



Opening (continued)	Meeting Students' Needs
<p>B. Reviewing Learning Targets</p> <ul style="list-style-type: none">• Display and read or invite volunteers to read each learning target aloud. Ask students to pay attention to familiar vocabulary words from the target and be ready to share the meaning.<ul style="list-style-type: none">* “I can explain how visual elements add meaning to the description of the scientific problem Max Axiom will encounter next.”* “I can determine the meaning of new words using a variety of strategies.”• Ask students to discuss with group members the important vocabulary from the targets that they recognize.• Invite a volunteer from each group to share at least one word and its meaning.• If not mentioned in the discussion, bring the words <i>visual elements</i>, <i>problem</i>, <i>encounter</i>, <i>analyze</i>, <i>variety</i>, and <i>strategies</i> to students' attention. Listen for students to offer definitions such as:<ul style="list-style-type: none">– “Visual elements are what I can see in the book, such as pictures, colors, and text.”– “A problem is a difficulty, trouble, or dilemma.”– “Encounter is a verb meaning to meet or face.”– “Analyze means to examine or study closely.”– “Variety means a mixture or assortment.”– “Strategies are plans or approaches to challenges.”	<ul style="list-style-type: none">• To support students' understanding of the first target, model the process of viewing an image and thinking of a hint.• To support ELL students, consider drawing a picture or locating an image from the Internet to show the meaning of each key term.



Work Time	Meeting Students' Needs
<p>A. Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel (35 minutes)</p> <ul style="list-style-type: none">• Give students an appropriate amount of time and support to locate the materials needed to complete the mid-unit assessment:<ul style="list-style-type: none">– Journals– <i>Max Axiom: Details and Visual Elements</i> graphic organizer, pages 1–4– Visual Elements of Graphic Novels reference page– <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>• Also make sure the Close Readers Do These Things and Vocabulary Strategies anchor charts are posted for student reference during the assessment.• Distribute the Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel. Give students a minute to quickly scan the assessment.• Be sure students notice the pages they will be reading for the assessment. All questions on this assessment can be answered by reading only pages 24–27 of <i>Max Axiom</i>.• Address any clarifying questions.• Give students approximately 30 minutes to work independently to complete the assessment questions.• Circulate to supervise; since this is a formal, on-demand assessment, do not provide support other than formally approved accommodations.• If students finish the assessment early, they may do the following:<ul style="list-style-type: none">– Reread the entire graphic novel.– Work on completing the glossary in their journals by adding new words from the final section of <i>Max Axiom</i> that they just read for the Mid-Unit 1 Assessment, or add synonyms, phrases, and/or pictures to any words they have not had time to complete.	<ul style="list-style-type: none">• ELLs receive extended time as an accommodation on New York State assessments.



Work Time (continued)	Meeting Students' Needs
<p>B. Tracking My Progress: Reflecting on Learning (10 minutes)</p> <ul style="list-style-type: none">• Introduce the learning target:<ul style="list-style-type: none">* “I can reflect on my learning about how visual elements add meaning to the text and use a variety of strategies to determine the meaning of unfamiliar words and phrases.”• Focus students on the word “reflect.” Ask for suggestions about what this word means. Listen for students to share:<ul style="list-style-type: none">– “It means to look back at my work to think about what I did,” “how I did,” “what I am having trouble with,” “what I am doing well,” or similar responses.• Distribute the Tracking My Progress: Mid-Unit 1 recording form. Explain that this is a self-assessment for students to use to reflect on their progress toward each of the learning targets. Read through the tracker and provide clarification as necessary.• Ask students to independently complete their Tracking My Progress form. Ask them to hold on to this sheet to refer to during the debrief.	<ul style="list-style-type: none">• Consider allowing students who struggle with written language to dictate their reflections to a partner or the teacher. This allows all students to participate in the self-reflection in a meaningful way.



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief: Sharing Reflections on Learning Targets (10 minutes)</p> <ul style="list-style-type: none">• Pair students up. Ask them to share their reflections from the Tracking My Progress form.• Invite several students to share out whole group.• Collect students' Mid-Unit 1 Assessments and Tracking My Progress for review.	<ul style="list-style-type: none">• Consider providing a sentence starter to ensure all students have access to the conversation: "On the ____ (first, second, third) target, I circled ____ because ____."
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread the final four pages (24–27) of <i>Max Axiom</i> aloud to someone at home or to yourself.• Discuss with someone which visual elements prompt you to read some parts differently than others (i.e., with excitement, with concern, like a professor lecturing to an audience).• Read your independent reading book for at least 30 minutes and write a response to a fifth question from your Independent Reading Choice Board (from Lesson 1). <p><i>Note: Be prepared to return students' Mid-Unit 1 Assessments by Lesson 9.</i></p>	<ul style="list-style-type: none">• Some students will benefit from having a "Phonics Phone" to use while reading aloud to more easily hear the inflection (or lack of) in their voice. Encourage students to continue practicing reading aloud until they are fluent enough to engage an audience with their reading.• Allow struggling writers to dictate their responses to someone at home.• Consider providing a recording of the text for struggling readers.



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Grade 5: Module 2B: Unit 1: Lesson 6

Supporting Materials



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Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel

Name:

Date:

Learning Targets Assessed:

- I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)
- I can draw evidence from literary texts to support analysis, reflection, and research. (W.5.9)
- I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4)

Directions:

- Read pages 24–27 of *Investigating the Scientific Method with Max Axiom Super Scientist: “Sharing the Findings”* to determine what this section is mainly about.
- Review the questions below.
- Refer to pages 24–27, other sections of the graphic novel, and your notes from Lessons 2–5 to help you answer each question.

1. On page 24, Mrs. Mayor praises Max, “Well done. With these *findings* the safety of the city can be restored.” What does the word *findings* mean in this sentence?

- ☐ a conclusion reached at the end of a court trial
- ☐ a research result that comes from a scientific investigation
- ☐ small tools used in making crafts
- ☐ locating an item after it has been lost



Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel

2. On page 25, Max Axiom says, “They test and retest results before accepting the conclusion?”

a. What does the word *retest* mean in this sentence?

- ☐ do something over and over
- ☐ remake
- ☐ adjust
- ☐ test again

b. What part of the word *retest* helped you to determine the meaning in 2a, and why?

c. Read the two dictionary definitions for the word *approach* below, and determine which is the correct definition based on how the word is used on page 26, “Each experiment is different, and each experiment requires a slightly different approach.”

- ☐ Approach (verb): move closer
- ☐ Approach (noun): method



Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel

3. Look closely at pages 24–27.

a. Locate and name one example of each of the following visual elements:

Ambient sounds	
Speech bubbles	
Font size, color, style	
Images	
Colors	
Information boxes	

b. Write a 2–3 sentence statement to analyze how at least two of the above visual elements help you understand that Max Axiom has a new problem to solve. Be sure to support your thinking with examples and evidence from the text.



Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel
(Answers, for Teacher Reference)

Learning Targets Assessed:

- I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)
- I can draw evidence from literary texts to support analysis, reflection, and research. (W.5.9)
- I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4)

1. On page 24, Mrs. Mayor praises Max, “Well done. With these *findings* the safety of the city can be restored.” What does the word *findings* mean in this sentence? **(L.5.4a)**

- ☐ a conclusion reached at the end of a court trial
- ☒ a research result that comes from a scientific investigation
- ☐ small tools used in making crafts
- ☐ locating an item after it has been lost



Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel
(Answers, for Teacher Reference)

2. On page 25, Max Axiom says, “They test and retest results before accepting the conclusion?”

a. What does the word *retest* mean in this sentence? **(L.5.4b)**

☐ do something over and over

☐ remake

☐ adjust

☒ test again

b. What part of the word *retest* helped you to determine the meaning in 2a, and why?

“re-” because it means to do again or go back to

c. Read the two dictionary definitions for the word *approach* below, and determine which is the correct definition based on how the word is used on page 26, “Each experiment is different, and each experiment requires a slightly different approach.” **(L.5.4a, c)**

☐ Approach (verb): move closer

☒ Approach (noun): method



Mid-Unit 1 Assessment: Analyzing Visual Elements in a Graphic Novel
(Answers, for Teacher Reference)

Ambient sounds	“BEEP!”
Speech bubbles	“Looks like we have another problem on our hands” (or any other example from pages 24–27)
Font size, color, style	steps of the scientific method in purple, larger, and different font “WHAT’S A THEORY?” in green and all capitals, also in yellow and lowercase, definition in white, different font than rest of page
Images	close-up of Max’s face as he looks out of helicopter; zoom in on Max’s finger pressing the “Play” button; lines shooting out over Max’s head; giant frogs on screen
Colors	bright red button on panel; grey/purplish background; blue/gray, green, and orange buttons on panel
Information boxes	“What’s a Theory?” and “Steps of the Scientific Method”

- b. Write a 2–3 sentence statement to analyze how at least two of the above visual elements help you understand that Max Axiom has a new problem to solve. Be sure to support your thinking with examples and evidence from the text.

Look for students to mention and describe two of the following examples:

- **The ambient sound “beep” made me wonder if another problem was coming to Max because at the beginning of the book, the beep came from Mayor Richardson telling him about the flood problem.**
- **The speech bubble where Mayor Richardson is saying, “Looks like we’ve got another problem on our hands” confirmed my thinking.**
- **I can see there’s a problem with frogs because of the images of giant frogs on Max’s screen.**
- **The red button flashing makes me think there is an emergency, some kind of alert.**
- **The lines above Max’s head while he holds it with his hands show he is worried, confused, or concerned about a problem**



Tracking My Progress Mid-Unit 1

Name: _____

Date: _____

Learning Target: I can explain how visual elements add meaning to the description of the scientific problem Max Axiom will encounter next.

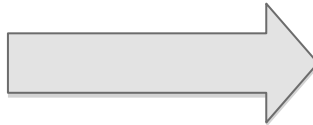
1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this



I understand some of this



I am on my way!



3. The evidence to support my self-assessment is:



Tracking My Progress Mid-Unit 1

Name: _____

Date: _____

Learning Target: I can determine the meaning of unfamiliar words and phrases using a variety of strategies.

1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this



I understand some of this



I am on my way!



3. The evidence to support my self-assessment is:



EXPEDITIONARY
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Grade 5: Module 2B: Unit 1: Lesson 7

Using Quotes to Explain Relationships: The Invention of the Electric Motor



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from a text when explaining what the text says explicitly. (RI.5.1)

I can determine the meaning of general academic and domain-specific words and phrases. (RI.5.4)

I can explain the relationship between two or more individuals, events, ideas, or concepts in a scientific text based on specific information in the text. (RI.5.3)

Supporting Learning Targets

- I can explain how the electric motor meets societal needs using quotes from the text.
- I can determine the meaning of unfamiliar words and phrases from context.
- I can identify the relationships between electricity and the electric motor based on information from the text.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- Gist statement (in journal)
- Cause and Effect note-catcher: “The Electric Motor”
- Vocabulary (in glossary)
- Answers to text-dependent questions: “The Electric Motor”



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Reviewing Homework and Engaging the Reader (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining the Gist: “The Electric Motor” (10 minutes) B. Second Read: Using Quotes to Explain How the Electric Motor was Developed to Meet Societal Needs (30 minutes) C. Identifying Relationships: Text-Dependent Questions (10 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Reviewing Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Reread “The Electric Motor” B. Finish Classwork C. Independent Reading 	<ul style="list-style-type: none"> • In this lesson, students shift their focus from reading literature to reading purely informational text. Rather than analyzing visual elements and making inferences about complex ideas presented through literature, students are asked to quote accurately to explain ideas presented in informational texts about how new or improved technologies are developed to meet societal needs. Students also revisit their understandings from fourth grade about the ways informational text is structured to support readers’ comprehension. • Students read the article “The Electric Motor,” which specifically uses a cause and effect structure to relay information about the development of the electric motor. • During their second read, students capture information from the article onto a Cause and Effect note-catcher in the form of direct quotes from the text. Students are given a note-catcher for each of four different text structures they learn about during the second half of this unit, in order to meet the demands of standard RI.5.5, comparing and contrasting the structure of two or more texts. Students’ work with various text structures and the note-catchers in Lessons 7 through 9 serves several purposes. It provides a concrete model of how authors organize information in order to convey their ideas. It also serves as a scaffold toward students’ ability to compare and contrast the overall structures of texts they read in order to consider how structure supports their understanding of complex ideas. Students will compare and contrast text structures in Lesson 9, before taking the End of Unit Assessment in Lesson 10, during which their progress toward RI.5.5 will be formally assessed. Additionally, students are asked to complete a chart using evidence from the article in the form of direct quotes, to demonstrate their enduring understanding of how new or improved technologies were developed to meet people’s needs. • Students determine the meaning of key terms from context to deepen their understanding of the text. Then they go back and revise or add quotes to their note-catchers and/or chart, based on their new understanding of vocabulary. Note that students are no longer asked to sort scientific and academic vocabulary on the note-catcher as they did during the first half of the unit. This routine is being changed because the vast majority of terms that students are now working with are academic and because students are asked to define a large number of unfamiliar words throughout this module. Therefore, the goal of the glossary is to become a singular resource for students to refer back to. They can use their glossaries both as a tool for comprehension and as a reference for infusing key terms from the texts into their own writing. • If students need more time for the text-dependent questions, consider shortening the debrief.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">• In Work Time C, students look back to the text, their notes, and key terms to answer three multiple-choice, text-dependent questions about the relationships between ideas and individuals who developed new or improved technologies, and how those technologies meet societal demands. In order to meet the demands of RI.5.3, students must be able to recognize the relationships between people and ideas. Therefore, each question asks students to identify more than one possible correct answer. This format of more than one correct answer is not typical of what students will encounter on many state assessments. But it gives students a chance to think about how they can locate more than one piece of information within a text that supports their understanding of the ideas presented.• In advance:<ul style="list-style-type: none">– Review the five structures of informational text (see Text Structure resource page).– Post Close Readers Do These Things, Group Norms, and Vocabulary Strategies anchor charts.



Lesson Vocabulary	Materials
explain, societal needs, quotes, cause, effect, determine, unfamiliar, context, identify, relationship, devices, depend, source, afford, generating, (power) plant, access, advancements	<ul style="list-style-type: none">• Journals (students' own, begun in Lesson 1)• "The Electric Motor" (article; one per student)• Close Readers Do These Things anchor chart (from Lesson 2)• Document camera• Text Structure resource page (one per student and one for display)• Tape, glue, or staples (for each student)• Cause and Effect note-catcher: "The Electric Motor" (one per student)• Cause and Effect note-catcher: "The Electric Motor" (answers, for teacher reference)• Vocabulary Strategies anchor chart (from Lesson 2)• Text-dependent questions: "The Electric Motor" (one per student)• Text-dependent questions: "The Electric Motor" (answers, for teacher reference)• Graphic Novel Templates, A, B, and C (from Lesson 4; one per student; enough copies to allow for students to select one version of the template)



Opening	Meeting Students' Needs
<p>A. Reviewing Homework and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Congratulate students on their close read and analysis of the visual elements of the graphic novel <i>Investigating the Scientific Method with Max Axiom Super Scientist</i>, as well as their thoughtful responses to the Mid-Unit 1 Assessment questions during the previous lesson.• Then, ask students to take out their Independent Reading Choice Board with the additional response they completed for homework and join their regular small groups (from Lessons 1–5).• Give students 30 seconds each (2 minutes total) to share the question and response they completed on their boards.• After 2 minutes, invite a few students to share out their thinking whole group (answers will vary).• Refocus whole group, then cold call a few students to read each of the guiding questions aloud:<ul style="list-style-type: none">* “How do new or improved technologies meet societal needs?”* “How do authors structure text and use visual elements to engage and support readers’ understanding of complex ideas?”• Tell students that in the second half of this unit, their focus will shift from reading literature (in the form of a graphic novel) to reading purely informational texts about how new or improved technologies are developed to meet people’s needs. As a part of this, they will revisit a fourth-grade standard about the ways informational text is structured to help readers understand complex ideas.• Build up the excitement for the real-life inventions and inventors they will get to learn about: how the windshield wiper and the game of basketball came to be invented. Today, they will read an article about the development of the electric motor.	<ul style="list-style-type: none">• To support visual learners, consider displaying and circling, or otherwise highlighting the guiding questions.



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: “The Electric Motor” (10 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their journals and remain with their small groups.• Distribute the article “The Electric Motor.” Display the Close Readers Do These Things anchor chart posted on the document camera. Ask students to consider and then discuss in groups:<ul style="list-style-type: none">* “Why is our first read often for gist?”• After 1 minute, cold call members from each group to share their thinking aloud. Listen for ideas such as:<ul style="list-style-type: none">– “Determining the gist allows us to get an overall sense of the ideas presented in the text before reading more closely for details.”– “It allows us to capture our initial thinking about the article.”– “It gives us an initial sense of how the text flows, moves from one idea to another, or how ideas are connected more generally,” or similar responses.• Give students 5 to 6 minutes to read the article independently and discuss the gist with their group members. Circulate to support as needed.• After 5 or 6 minutes, cold call several students to share their ideas about the gist whole class. Listen for:<ul style="list-style-type: none">– “This article is about how electric motors are found in many devices.”– “It’s about how the electric motor was developed.”– “It’s about why scientists wanted to find a new form of electricity,” and similar suggestions.• Tell students to turn to a new page in their journals to quickly record a gist statement.	<ul style="list-style-type: none">• When reviewing the graphic organizers or recording forms, consider using a document camera to display the document for students who struggle with auditory processing.• Providing models of work expectations supports all students, especially supports challenged learners.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Using Quotes to Explain How the Electric Motor was Developed to Meet Societal Needs (30 minutes)</p> <ul style="list-style-type: none"> • Refocus whole group and direct students' attention to the first learning target: <ul style="list-style-type: none"> * "I can explain how the electric motor meets societal needs using quotes from the text." • Underline the key terms in this target: <i>explain</i>, <i>societal needs</i>, and <i>quotes</i>. Point out to students that these are words they are familiar with from the first half of the unit. Ask students to think about and briefly discuss in groups how they could restate the target in their own words, based on their understanding of these key terms. • After 1 minute, cold call a few students to share their thinking with the class. • Then, display and distribute the Text Structure resource page. Ask students to quickly tape, glue or staple this resource onto a blank page in their journals. • Ask students to recall from previous grades that informational articles are often structured differently than novels. Explain that authors of shorter informational pieces do not typically include a table of contents, chapter or section titles, or a glossary with the text. Instead, these authors use specific structures to organize their ideas in a clear pattern so readers can identify how the information and ideas that are presented fit together to convey an overall message to the audience. Remind students that they learned about each of the five structure types listed on their resource page in fourth grade. Then read just the name of each structure type listed: "Descriptive," "Sequential," "Compare/Contrast," "Cause and Effect," and "Problem and Solution." • Then focus students' attention on the row titled "Cause and Effect" and quickly read the description aloud. Tell students that the article "Electric Motors" presents information using a <i>cause</i> and <i>effect</i> structure. Ask students to think about and discuss in groups what they know about the terms cause and effect. After a minute, invite several students to share out whole group. Listen for students to share ideas like: <ul style="list-style-type: none"> – "A cause is a reason something happens." – "Effects are what results from something happening," or similar suggestions. 	<ul style="list-style-type: none"> • To support visual learners and ELL students, display a drawing, picture from the internet, or familiar synonym above or below key words in learning targets. • Cause and effect can be a difficult concept for students to grasp. Consider supporting students' understanding of cause and effect with a concrete model or demonstration, such as dropping an object and listening to the resulting "thud." • For students who struggle with the physical act of writing, allow them to type their responses on a computer or word processor, or dictate to an aide or a peer acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Distribute the Cause and Effect note-catcher: “The Electric Motor” to students. Then ask them to complete the following in groups:<ol style="list-style-type: none">1. Independently reread the second paragraph of the article to locate details that explain a societal need: the “cause.”2. Briefly discuss your thinking with group members.3. Then, record exact words or phrases from the second paragraph of the article into the “Cause” box on the note-catcher to explain the societal need. Make sure to place quotation marks around the text you add to your note-catcher.• Give students 2-3 minutes to work in groups to identify, discuss, and record a cause in their note-catchers. Circulate to offer support.<ol style="list-style-type: none">1. Once students record a cause, cold call several students to share out whole group. Listen for: “... batteries cost a lot of money so many people could not afford to have electricity in their homes.”2. Next, give students 1-2 minutes to reread the second paragraph of the article to identify and underline what happened because many people were not able to afford to have electricity in their homes (Effect 1).3. Ask students to show the text they underlined to group members and briefly explain why they believe it is “Effect 1.”• Provide support as needed.• After 2 minutes, cold call members from each group to quickly share out the quote they underlined in the text that is “Effect 1.” Listen for:<ul style="list-style-type: none">– “This led scientists to begin experimenting with other ways to create electricity.”• Direct students to record this quote in the box titled “Effect 1.”• Then ask students to do the following:<ol style="list-style-type: none">1. Independently reread paragraphs 3 and 4 of the article to identify and underline two more effects of society’s need for new forms of electricity.2. Share your quotes and discuss your thinking with group members.3. Record two more effects, using exact words or phrases from the article, in the “Effect 2” and “Effect 3” boxes on your graphic organizer. Make sure to place quotation marks around the text you write down to indicate you are quoting exact sentences or phrases from the text.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • After 5 or 6 minutes, refocus whole group. Cold call members from each group to share out exact quotes from the articles that explain the effects of society's need for alternate forms of electricity. Refer to Cause and Effect note-catcher: "The Electric Motor" (answers, for teacher reference) as needed. • Draw students' attention to the "Enduring Understanding" question and chart at the bottom of their note-catchers. Then invite students to read the question aloud, "How did scientists develop new or improved technologies to meet people's needs?" Ask a few students to restate the question in their own words. • Ask students to complete the following: <ol style="list-style-type: none"> 1. Refer to the article and your notes to locate three quotes from the text that explain how scientists developed new or improved technologies to meet people's needs 2. Briefly discuss your thinking with one of your group members. 3. Record three quotes in the chart to explain how scientists develop new or improved technologies to meet people's needs. Make sure to place quotation marks around the text to indicate exact quotes. • Circulate to offer support and guidance as needed. • After 2-3 minutes, refocus whole group. Cold call individual students to share out their ideas with the class. • Ask students to quickly add their note-catchers to the next blank page in their journals using glue, tape, or staples. • Then, read the second learning target aloud: <ul style="list-style-type: none"> * "I can determine the meaning of unfamiliar words and phrases from context." • Focus students' attention on the posted Vocabulary Strategies anchor chart. Point out that using context clues to determine the meaning of unfamiliar words and phrases is one of the strategies they used in previous lessons and in Module 1. Ask students to think about and briefly discuss in groups: <ul style="list-style-type: none"> * "How can you use context clues to help you determine the meaning of unfamiliar terms?" • After a minute, cold call several students to share out. Listen for: <ul style="list-style-type: none"> – "I can look to words and phrases I'm already familiar with to help me understand unfamiliar terms." – "I can read the text before and after the word or phrase to help me determine meaning," and similar suggestions. • Write the following terms where all students can see them: <i>devices, depend, source, afford, generating, plant, access, and advancements</i>. Then give students 1-2 minutes to locate and circle each term in "The Electric Motor" article. 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Then, provide directions for a guided practice to reinforce students' understanding of how to use context clues to determine the meaning of the word "devices." Ask students to do the following:<ol style="list-style-type: none">1. In the first paragraph of the text, circle the word "devices."2. With group members, read parts of the sentence before and after the word "devices."3. Discuss, "What do you think devices are? How do these parts of the sentence help you understand what devices are or what they do?"4. With group members, read the remaining sentences in the first paragraph.5. Discuss, "Now what do you think devices are? How do these sentences build your understanding of what devices are?"• Once students have completed each step, cold call a few students to share out what they think "devices" are and explain what specific words or phrases from the text helped them determine the meaning. Listen for:<ul style="list-style-type: none">– "Devices are different types of machines, tools, or gadgets."– "The text that helped me determine the meaning of devices is 'devices are used every day' and the examples of devices such as 'alarm clocks' and 'tools,'" or similar suggestions.• Next, direct students to do the following:<ol style="list-style-type: none">1. Work with group members to determine the meaning of each of the remaining key terms from context.2. Add each word to the first column of your four-column glossary page.3. Write a synonym for each word in the second column, a definition for each word in the third column, and draw a picture to show the meaning of each word in the fourth column.• Give students 5 minutes to add and define key vocabulary terms in their glossaries. Circulate to offer support.• Once students have added and defined the words in their glossary, cold call members from each group to share out their synonyms, definitions or drawings whole group. Listen for:<ul style="list-style-type: none">– "Depend means need, use regularly."– "Source means supply, where something comes from."– "Afford means have enough money, be able to pay for."	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “Generating means making, producing, creating.”– “Plant in this context refers to a ‘power plant’ which is a large building or structure that generates or provides electricity for many people.”– “I drew a picture of a large building with a lightning bolt in the center to show the meaning of ‘plant’ in this context.”– “Access means the right or ability to use something.”– “Advancements are improvements, progress,” and similar suggestions.• Allow students 1-2 minutes to revise or add information to their note-catchers and enduring understanding response from Work Time B, based on new understandings about key terms.• As time allows, invite a few students to share out changes they made to their note-catchers.	



Work Time (continued)	Meeting Students' Needs
<p>C. Identifying Relationships: Text-Dependent Questions (10 minutes)</p> <ul style="list-style-type: none">• Read the final learning target aloud:<ul style="list-style-type: none">* “I can identify the relationships between electricity and the electric motor based on information from the text.”• Ask students to focus on the words <i>identify</i> and <i>relationships</i>. Then, consider and discuss in groups the meaning of each term in the context of this target.• After 1 or 2 minutes, invite a few students to share their thinking aloud. Listen for:<ul style="list-style-type: none">– “Identify means to name, determine.”– “Relationships in this context means how things are connected, how they are related to one another,” or similar ideas.• Distribute the Text-Dependent Questions: “The Electric Motor” to students. Tell students to:<ol style="list-style-type: none">1. Read through each of the questions.2. Refer to the article, the information recorded on your note-catchers, and key terms to help you identify the answer(s) to each question.3. Discuss your thinking with group members.4. Circle one or more correct answers from the multiple choices provided.• Clarify as needed then circulate to offer support.• After 4-5 minutes, cold call members from each group to share their response(s) to the first question. If students have conflicting responses, use it as an opportunity to ask probing questions such as:<ul style="list-style-type: none">* “Which quotes from the text support your thinking?”* “What details from the text helped you make that connection or recognize that relationship?”• After students share out, collect their text-dependent question sheets. Review students’ responses to determine their mastery toward the targets. Refer to Text-Dependent Questions: “The Electric Motor” (answers, for teacher reference).	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to gather whole group. Pose the following question for students to think about then discuss with a nearby partner:<ul style="list-style-type: none">* “How did the cause and effect structure of ‘The Electric Motor’ article help you understand the ways technology is developed to meet people’s needs?”• After 2 minutes, invite a few students to share their ideas whole group.• Read each of the learning targets aloud. Ask students to show a thumbs-up or thumbs-down to indicate their mastery toward each target. Notice students who show a thumbs-down as they may need more support using quotes from the text to support their ideas or determining the meaning of unfamiliar words and phrases in context.• Have students select one Graphic Novel Template A, B, or C for their homework.	<ul style="list-style-type: none">• Provide a sentence starter to support students during their discussions: “The cause and effect structure helped me understand that the electric motor helped people by ____.”
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread “The Electric Motor” article. Add to or revise at least one detail on your Cause and Effect note-catcher. Use details (paraphrased or exact quotes) from “The Electric Motor” article to complete your chosen Graphic Novel Template. Bring your completed template to class as to use in our entry task for the next lesson.• If you did not finish in class, complete your four-column chart for each of the key vocabulary words.• Read your independent reading book for at least 20–30 minutes and write a response to another one of the questions on your Independent Reading Choice Board.	<ul style="list-style-type: none">• Allow struggling writers to dictate their responses to someone at home to record for them.• Allow students to use images from other sources such as the internet, magazines, etc. to paste onto their templates.• Consider providing a recording of the text for struggling readers.



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Grade 5: Module 2B: Unit 1: Lesson 7

Supporting Materials



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“The Electric Motor”

Written by Expeditionary Learning for instructional purposes.

You may not know it, but electric motors are everywhere! They are found in hundreds of devices that are used by people every day. Some alarm clocks use an electric motor. Refrigerators also run on an electric motor. Parts of the windshield wipers on cars, power tools, and computers all contain electric motors. Given how much we depend on the electric motor today, it's hard to even imagine what life was like before it was invented.

In the early 1800s, the main source for electricity was batteries. However, batteries cost a lot of money, so many people could not afford to have electricity in their homes. This led scientists to begin experimenting with other ways to create electricity.

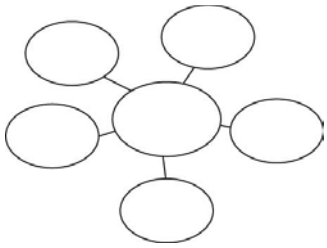
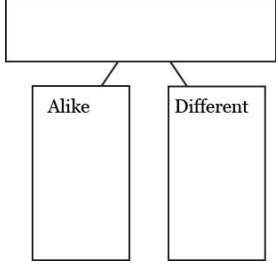
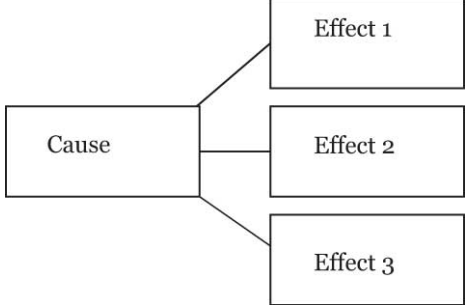
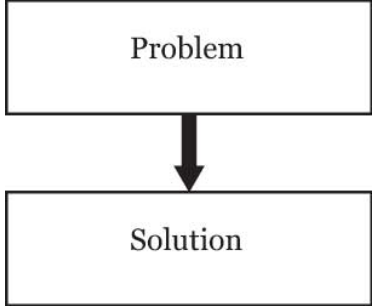
It was 1821 when an English chemist named Michael Faraday designed an experiment in which he attached a magnet to the bottom of a wire. He hung the wire with the magnet from a hook and placed it directly over a bowl of liquid. He then connected a battery partway up the wire, between the magnet and where the wire met the hook. When Faraday turned the battery on, the wire began to spin. This experiment became the first example of a machine capable of generating electricity better than a battery. Faraday called it the electric motor.

Faraday's electric motor eventually led to Thomas Edison's construction of an electric power plant in New York City in 1882. Edison used the idea of the electric motor to figure out a way to generate electricity that people could buy. Edison's massive plant provided enough electricity to power 1,200 light bulbs, essentially allowing everyone to have access to reasonably priced electricity.

Many scientists continued to improve on these earlier versions of the electric motor, and the ongoing advancements have undoubtedly made our lives much simpler. So the next time you turn on the lights, dry your hair, or use a CD player, think about how lucky you are that the electric motor was invented!



Text Structure Resource Page

Structure	Description	Graphic Organization
Descriptive	The author describes a topic by providing features, characteristics, and/or examples.	
Sequential	The author describes an event chronologically or in numerical sequence. The order of events can be obvious or implied.	1. _____ First, _____ 2. _____ Second, _____ 3. _____ Third, _____ 4. _____ Next, _____ 5. _____ Finally, _____
Compare/Contrast	The author describes the similarities and differences between two or more topics, people, or concepts	
Cause and Effect	An author tells about an idea, event, or series of events as effects that happen as a result of, or are caused by another event.	
Problem and Solution	The author presents a problem and at least one solution to the problem.	

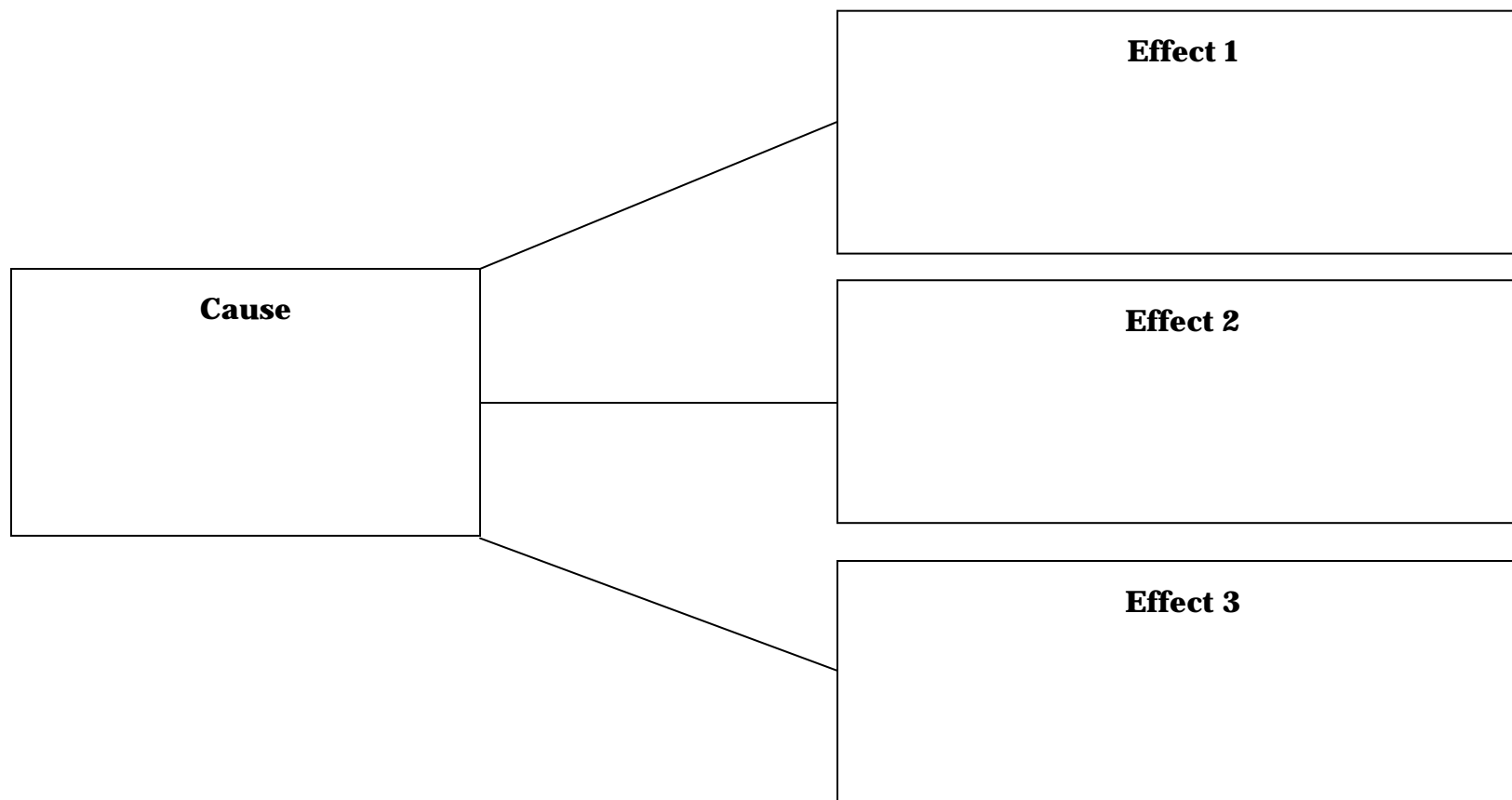


Cause and Effect Note-catcher: “The Electric Motor”

Name: _____

Date: _____

***How does the way a text is structured support our understanding of complex ideas?**





Cause and Effect Note-catcher: “The Electric Motor”

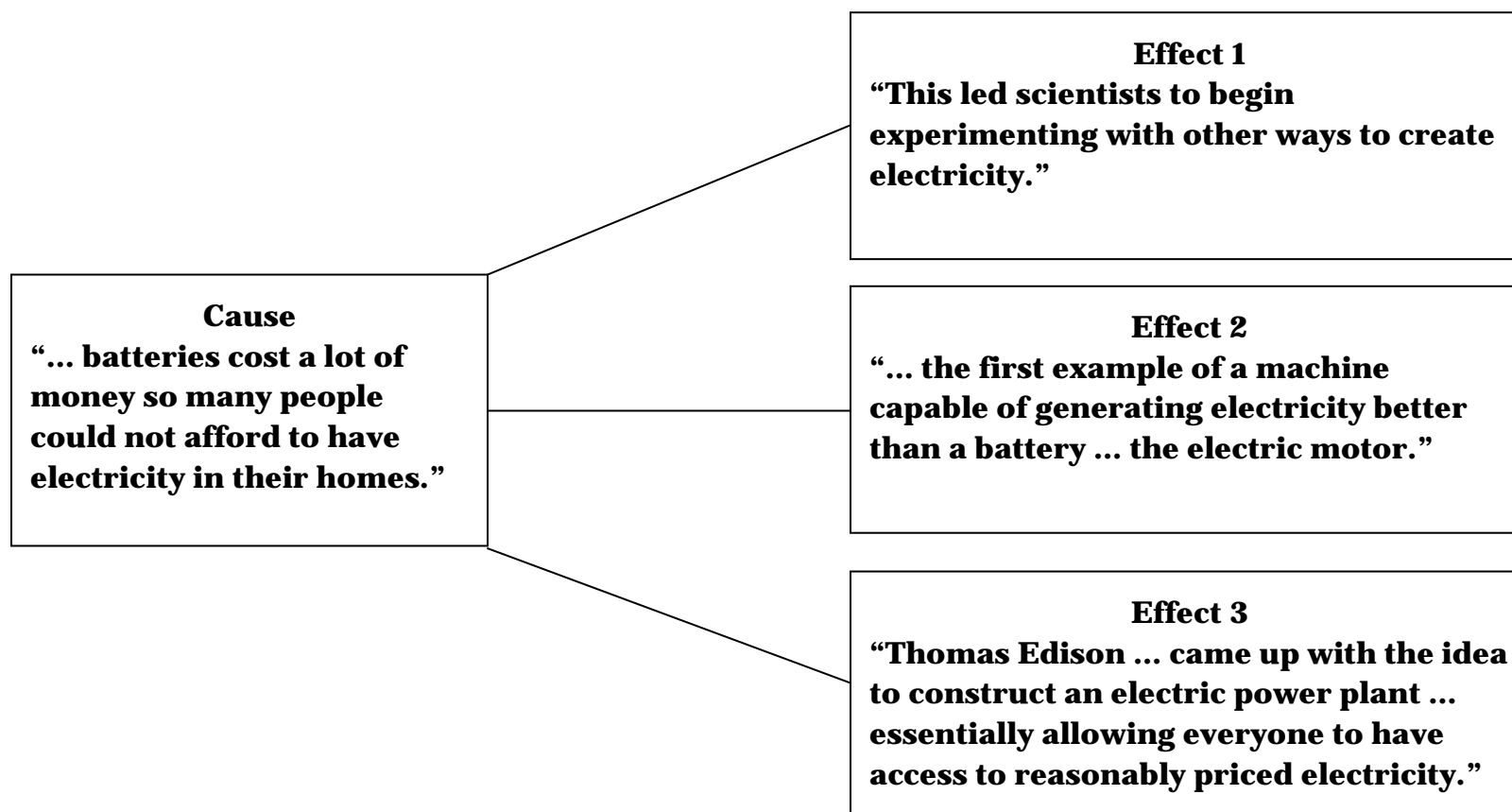
Enduring Understanding: How did scientists develop new or improved technologies to meet people’s needs?

Fill in the chart using *three* quotes from the text to show how scientists developed new or improved technologies to meet people’s needs.

Scientists develop new or improved technologies to meet people’s needs.
EVIDENCE (quote from text)



Cause and Effect Note-catcher: “The Electric Motor”
(Answers, for Teacher Reference)





Cause and Effect Note-catcher: “The Electric Motor”
(Answers, for Teacher Reference)

Enduring Understanding: How did scientists develop new or improved technologies to meet people’s needs?

Fill in the chart using *three* quotes from the text to show how scientists developed new or improved technologies to meet people’s needs.

Scientists develop new or improved technologies to meet people’s needs.
EVIDENCE (quote from text)
“... the first example of a machine capable of generating electricity better than a battery. Faraday called it the electric motor.”
“Faraday’s electric motor eventually led to Thomas Edison’s construction of an electric power plant in New York City in 1882.”
“Edison used the idea of the electric motor to figure out a way to generate electricity that people could buy.”
“Edison’s massive plant provided enough electricity to power 1,200 light bulbs, essentially allowing everyone to have access to reasonably priced electricity.”



Text-Dependent Questions: “The Electric Motor”

Name: _____

Date: _____

Refer to the text and your notes to help you answer the following questions.

*Some questions have more than one correct response. Mark all that apply.

1. Why did scientists begin developing other ways to generate electricity?
 - a. Batteries were the only source for electricity in the early 1800s.
 - b. People didn’t like batteries.
 - c. Many people could not afford batteries.
 - d. Batteries took too long to make.

2. How did the invention of the electric motor influence the development of the first power plant?
 - a. The electric motor generated electricity better than batteries.
 - b. Thomas Edison created the first power plant based on Michael Faraday’s invention of the electric motor.
 - c. The first power plant was able to supply enough electricity for 1,200 light bulbs.
 - d. Many people had access to affordable electricity after the first power plant was built.

3. How are electric motors used to meet people’s needs?
 - a. They are found in devices that people depend on.
 - b. They generate electricity better than batteries.
 - c. They are in light bulbs.
 - d. They are built using a magnet and a battery.



Text-Dependent Questions: “The Electric Motor”
(Answers, for Teacher Reference)

Correct responses are in **bold**.

1. Why did scientists begin developing other ways to generate electricity? (RI.5.3)
 - a. **Batteries were the only source for electricity in the early 1800s.**
 - b. People didn’t like batteries.
 - c. **Many people could not afford batteries.**
 - d. Batteries took too long to make.
2. How did the invention of the electric motor influence the development of the first power plant? (RI.5.3)
 - a. The electric motor generated electricity better than batteries.
 - b. **Thomas Edison created the first power plant based on Michael Faraday’s invention of the electric motor.**
 - c. The first power plant was able to supply enough electricity for 1,200 light bulbs.
 - d. Many people had access to affordable electricity after the first power plant was built.
3. How are electric motors used to meet people’s needs? (RI.5.1)
 - a. **They are found in devices that people depend on.**
 - b. **They generate electricity better than batteries.**
 - c. They are in light bulbs.
 - d. They are built using a magnet and a battery.



EXPEDITIONARY
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Grade 5: Module 2B: Unit 1: Lesson 8

Using Quotes and Opinion Writing: Ingenious Inventions by Women



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from a text when explaining what the text says explicitly. (RI.5.1)

I can determine the meaning of general academic and domain-specific words and phrases. (RI.5.4)

I can write opinion pieces supporting a point of view with reasons and information. (W.5.1)

- a. I can introduce a topic clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support my purpose.
- b. I can provide logically ordered reasons that are supported by facts and details.

Supporting Learning Targets

- I can explain how the windshield wiper and paper bag machine met societal needs using quotes from the text.
- I can determine the meaning of unfamiliar words and phrases from context.
- With peers, I can write an opinion paragraph about which invention meets a greater societal need.

Ongoing Assessment

- Graphic Novel Template A, B, or C (from homework)
- Gist statement (in journal)
- Compare and Contrast note-catcher
- Vocabulary (in journal)
- Group opinion paragraph (on chart paper)
- Independent Reading Choice Board response



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Reviewing Homework and Engaging the Reader (5 minutes)2. Work Time<ol style="list-style-type: none">A. Determining the Gist: “Ingenious Inventions by Women: The Windshield Wiper and Paper Bag Machine” (10 minutes)B. Second Read: Using Quotes and Key Vocabulary to Explain How the Windshield Wiper and Paper Bag Machine were Developed to Meet Societal Needs (20 minutes)C. Opinion Writing: Which Invention Meets a Greater Societal Need? (20 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Gallery Walk and Reviewing Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Reread the article “Ingenious Inventions by Women: The Windshield Wiper and Paper Bag Machine” and write response on index cardB. Finish ClassworkC. Independent Reading	<ul style="list-style-type: none">• This lesson follows a similar pattern to Lesson 7. Students work with a new informational text, “Ingenious Inventions by Women: The Windshield Wiper and Paper Bag Machine” to continue building their understanding of how informational texts are structured and how technologies are developed to meet societal needs. The structure focus in this lesson is compare and contrast. Because the text is above grade-level, reading the text aloud first allows all students, particularly struggling readers, to develop an initial understanding of the ideas presented, building background knowledge that will scaffold later independent reading. The read-aloud also models the fluent reading skills students are working on (appropriate rate, accuracy, and expression).• Work Time C familiarizes students with how to introduce a topic, form an opinion based on information gathered through research, and support an opinion with reasons and evidence directly from the text. Students work with group members to form an opinion about which invention meets a greater societal need, the windshield wiper or the paper bag machine. Students support their opinion with a reason and evidence from the article in the form of quotes. It is important to note that this is a cursory introduction to opinion writing. This activity serves as a scaffold toward the longer opinion pieces students are expected to write in Modules 3 and 4.• In advance:<ul style="list-style-type: none">– Post all Close Readers Do These Things, Group Norms, and Vocabulary Strategies anchor charts.– Review Milling to Music and Glass, Bugs, Mud in Checking for Understanding Techniques (see Appendix).– Create a new Opinion Paragraph anchor chart (see supporting materials).



Lesson Vocabulary	Materials
explain, societal needs, quotes, compare, contrast, determine, context, opinion, reasons, evidence, credible, rely, struggled, realized, set (out to), transport, led, value	<ul style="list-style-type: none">• Journals (students' own, begun in Lesson 1)• “Ingenious Inventions by Women: The Windshield Wiper and Paper Bag Machine” (one per student)• Document camera• Close Readers Do These Things anchor chart (from Lesson 2)• Text Structure resource page (from Lesson 7; one to display)• Compare and Contrast note-catcher: “Ingenious Inventions by Women” (one per student)• Compare and Contrast note-catcher: “Ingenious Inventions by Women” (answers, for teacher reference)• Vocabulary Strategies anchor chart (from Lesson 2)• Tape, glue, or staples (for each student)• Opinion Paragraph anchor chart (new; teacher created)• Chart paper (one sheet per group)• Markers (one per group)• Index cards (one per student)



Opening	Meeting Students' Needs
<p>A. Reviewing Homework and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out the Graphic Novel Template they completed for homework.• Review the Milling to Music technique and provide clarification as needed.• Give students 3 minutes to do the following:<ol style="list-style-type: none">1. Briefly mill to locate a partner who is not a part of your regular small group.2. Share the Graphic Novel Template you completed for homework and quickly explain why you chose to add specific details from the text to the template.• After 3 minutes, refocus whole group. Invite a few students to share interesting ideas they heard from their partner (answers will vary, but listen for students to share specific details from the text and explain why they felt certain details were important to add to the template).• Say something like: "Today, we are continuing to build knowledge around our guiding questions, 'How do new or improved technologies meet societal needs?' and 'How do authors structure text to support our understanding of complex ideas?' In this lesson, we are expanding our knowledge about new developments that meet people's needs as we read about how two women who were considered neither scientists nor engineers created solutions to make our lives both safer and simpler."	<ul style="list-style-type: none">• Provide sentence starters to support student discussions: "The visual elements I used are _____," or "These visual elements communicate the ideas on my template because _____."



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: “Ingenious Inventions by Women: The Windshield Wiper and Paper Bag machine” (10 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their journals and join their regular small groups.• Distribute the article “Ingenious Inventions by Women: The Windshield Wiper and Paper Bag Machine.” Then explain to students that the first read will be aloud.• Refer to the Close Readers Do These Things anchor chart posted on the document camera and cold call a few students to share out what they typically do when they encounter an unfamiliar text. Listen for: “Read for the gist to get the flow of the article,” “determine what the article is about,” or similar responses.• Tell students to follow along silently to determine the gist as you read the text aloud.• After the article has been read aloud, ask:<ul style="list-style-type: none">* “What is the gist of this informational article?”• Give students 1 or 2 minutes to discuss their thinking in groups. Then cold call members of each group to share out with the class. Listen for suggestions like: “The gist of this article is that Mary Anderson and Margaret E. Knight invented things that made people’s lives safer and easier,” “this article is about women inventors,” or similar ideas.• Direct students to record a gist statement on the same page in their journal where they recorded the gist of “The Electric Motor” article during the previous lesson.	<ul style="list-style-type: none">• For students who struggle to determine the gist of longer passages, encourage them to find the gist of facing pages to keep track as they go to make it more manageable to determine the gist of the entire section.• Allow struggling writers to dictate their gist statement to a peer or aide acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Using Quotes and Key Vocabulary to Explain How the Windshield Wiper and Paper Bag Machine were Developed to Meet Societal Needs (20 minutes)</p> <ul style="list-style-type: none"> Read the first learning target aloud: <ul style="list-style-type: none"> * “I can explain how the windshield wiper and paper bag machine met societal needs using quotes from the text.” Point out the key terms in this target that students are familiar with from the previous lesson: <i>explain</i>, <i>societal needs</i>, and <i>quotes</i>. Then ask students to quickly think about and discuss in groups how they could restate the target in their own words. Cold call a few students to share their thinking whole group. Display and ask students to turn to the page in their journals where they attached the Text Structure resource page. Focus students' attention on the row titled “Compare/Contrast,” then read the description aloud. Ask students to think about and discuss in groups what the words <i>compare</i> and <i>contrast</i> mean. After 1 minute, invite a few students to share their definition of these terms. Listen for: <ul style="list-style-type: none"> – “Compare means to identify ways different things are similar, alike, or the same.” – “Contrast means to identify ways things are different,” or similar suggestions. Distribute the Compare and Contrast note-catcher: “Ingenious Inventions by Women.” Direct students' attention to the top box, “Who or what is being compared and contrasted?” Tell students to read the first paragraph of the article. Then ask them to take a few minutes to discuss: <ul style="list-style-type: none"> * “Who or what do you believe is being compared and contrasted in this article?” Cold call members from each group to share out their thinking with the class. Listen for: “The inventors Mary Anderson and Margaret E. Knight.” Ask students to record this idea in the top box of their note-catchers. 	<ul style="list-style-type: none"> To support visual learners and ELL students, display a drawing, picture from the internet, or familiar synonym above or below key words in learning target. For students who struggle with the physical act of writing, allow them to type their responses on a computer or word processor, or dictate their analysis paragraph to an aide or a peer acting as a scribe. Consider using a think-aloud strategy, either with small groups or individual students, to model using context clues to determine the meaning of the first several terms.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to complete the following:<ol style="list-style-type: none">1. Reread all but the first paragraph of the article to determine and underline text that explains at least two ways Mary Anderson and Margaret E. Knight are alike and at least two ways they are different.2. Discuss the quotes you underlined with your group members, and explain your thinking.3. After discussing your ideas with group members, record at least two exact quotes from the article into each of the lower boxes on your graphic organizer to explain how Mary Anderson and Margaret E. Knight were alike and different. Make sure to place quotation marks around the text you add to your note-catcher, to indicate the information is exactly what is stated in the article.• Circulate to support.• After 7 or 8 minutes, cold call students from each group to share out quotes they added to their note-catchers that indicate likenesses and differences between the two women. Refer to the Compare and Contrast note-catcher: Ingenuous Inventions by Women (answers, for teacher reference) as needed.• Read the second learning target aloud:<ul style="list-style-type: none">* “I can determine the meaning of unfamiliar words and phrases from context.”• Underline the words <i>determine</i> and <i>context</i>. Ask students to revisit their understandings about each term then quickly think about and discuss with group members how they could restate the target in their own words.• After 1 minute, cold call a few students to share out with the class.• Write the following key terms where all students can see them: <i>rely</i>, <i>struggled</i>, <i>realized</i>, <i>set</i>, <i>transport</i>, <i>led</i>, and <i>value</i>. Then focus students on the posted Vocabulary Strategies anchor chart. Ask students to discuss in groups:<ul style="list-style-type: none">* “How can you use context clues to help you determine the meaning of unfamiliar words or phrases?”• After 1 minute, invite a few students to share out with the class. Listen for:<ul style="list-style-type: none">– “I can use words and phrases I’m already familiar with to give me a clue about unfamiliar terms.”– “I can read sentences before and after the word to help me figure out the meaning,” or similar ideas.• Ask students to locate and circle the word “rely” in the first paragraph of the article, then underline words and phrases around the word that help them determine the meaning. Direct students to briefly discuss their thinking with group members. Invite a few students to share out what they believe the word “rely” means and explain how specific words or phrases from the text support their understanding of the word. Listen for:	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “Rely means to depend on, use or need.”– “The phrase “These brilliant women developed devices that we still rely on so much today helped me understand the word rely because it means they invented things that people still use.”– “To make the sentence make sense, I can substitute the words ‘use’ or ‘depend on’ for rely, so rely probably means ‘use’ or ‘depend on.’”– “Because I am familiar with the words ‘developed’ and ‘devices’ from the previous lesson, I know developed means invented or built upon and devices are tools we use,” or similar ideas. <ul style="list-style-type: none">• Next, tell students to:<ol style="list-style-type: none">1. Work with group members to determine the meaning of each of the remaining key terms from context.2. Add each word to the first column of your four-column glossary page.3. Write a synonym for each word in the second column, a definition for each word in the third column, and draw a picture to show the meaning of each word in the fourth column.• Give students 5 or 6 minutes to define. Circulate to support as needed.• Once students have added and defined the words in their glossary, cold call members from each group to share out whole group. Listen for:<ul style="list-style-type: none">– “Struggled means fought, worked hard, tried.”– “Realized means understood, appreciated, recognized.”– “Set in this context means got started on, began.”– “Transport means move, bring, carry.”– “Led means caused, made something possible.”– “Value means the worth of something,” or similar ideas.• Give students a moment to add quotes or revise their note-catchers, based on their new understanding of vocabulary.• Draw students’ attention to the “Enduring Understanding” question and chart at the bottom of their note-catchers. Then invite students to chorally read the question aloud, “How did women develop new or improved technologies to meet people’s needs?” Ask a few students to restate the question in their own words.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to complete the following:<ol style="list-style-type: none">1. Refer to the article and your notes to locate three quotes from the text that explain how Mary Anderson and Margaret E. Knight developed new or improved technologies to meet people's needs2. Briefly discuss your thinking with one member of your group.3. Record three quotes in the chart to explain how women develop new or improved technologies to meet people's needs. Make sure to place quotation marks around the text to indicate exact quotes.• Circulate to offer support and guidance as needed.• After 3-4 minutes, refocus whole group. Cold call students from each group to share their thinking with the class.• After a whole group discussion, ask students to use tape, glue, or staples to add their note-catchers to the next blank page in their journals.	
<p>C. Opinion Writing: Which Invention Meets a Greater Societal Need? (20 minutes)</p> <ul style="list-style-type: none">• Read the final learning target aloud:<ul style="list-style-type: none">* "With peers, I can write an opinion paragraph about which invention meets a greater societal need."• Underline the word <i>opinion</i> in this target. Then ask students to discuss in groups what they know about forming an opinion. After 1 minute, invite a few students to share out whole group. Listen for:<ul style="list-style-type: none">– "An opinion is what I believe."– "Other people may not agree with my opinion, or may have a different opinion," or similar ideas.• Explain that it is important to have reasons and evidence to support an opinion, and it is also important to be able to explain the reasoning behind your opinions to others. Tell students that for the end of unit assessment in Lesson 10, they will need to write a paragraph to share their opinions about which one of the inventions they have learned about met a greater societal need. So during this final part of Work Time, they are going to learn about the parts of a basic opinion paragraph and practice writing one with their group members.• Display the Opinion Paragraph anchor chart. Then distribute one piece of chart paper and one marker to each group.	<ul style="list-style-type: none">• To support visual learners and ELL students, display a drawing, picture from the internet, or familiar synonym above or below key words in the learning target.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Tell students they will work with their group members to write a complete paragraph to express an opinion about whether the windshield wiper or the paper bag machine met a greater societal need. Explain to students that their opinion paragraphs will have five parts: <ul style="list-style-type: none"> – A sentence that briefly introduces the topic. – An opinion statement that includes key terms from the question. – A reason to support the opinion. – Two pieces of evidence from the text to support the opinion and reason. – A conclusion that restates the opinion. • Remind students that writers form opinions after conducting research on a topic. Tell them that they've collected information about two female inventors and thought about how each woman's invention met a societal need. Now they get to use that information to help form an opinion and write a paragraph to support that view. • Read the focus question from the top of the anchor chart aloud to students, "Did the invention of the windshield wiper or the paper bag machine meet a greater societal need?" • Focus students on the first line of the anchor chart, "brief introduction to the topic." Ask them to discuss in groups: <ul style="list-style-type: none"> * "What kind of sentence could you write to let a reader know what your paragraph will be about?" * "How can you include key terms from the focus question and the text in your introductory sentence?" • After 1 minute, invite a member from each group to share their thinking aloud. Listen for students to share ideas such as: <ul style="list-style-type: none"> – "Mary Anderson and Margaret E. Knight invented devices we still use today." – "Inventions like the windshield wiper and paper bag machine have made our lives simpler and safer." – "Female inventors developed ideas to make our lives better," or similar responses. • Once each group has shared out, ask students to do the following: <ol style="list-style-type: none"> 1. Confer with group members to craft a sentence that briefly introduces the topic of your opinion paragraph. 2. Have one member of your group write the agreed upon introduction sentence at the top of your group's chart paper (remember to indent the first sentence of a paragraph). 	<ul style="list-style-type: none"> • Provide sentence starters or frames to support students during their discussions about a topic sentence, opinion statement, reason, evidence, or conclusion: "A sentence that describes what this paragraph will mostly be about is _____," "In my opinion _____ meets a greater societal need because _____," "The reason I believe _____ meets a greater societal need is because _____," "The reason I believe this is because in the text it says _____," "The article also states _____," "One way I could restate the opinion is by saying _____."



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> After 1 or 2 minutes, focus students' attention on the second line of the anchor chart, "opinion statement that includes key terms from the question." Ask students to think about then discuss in groups: <ul style="list-style-type: none"> * "What key words or phrases are in the focus question?" Invite a few students to share out their thinking with the class. Listen for students to share examples like: "invention," "windshield wiper or paper bag machine," "greater," or "societal need." If students do not mention the above key words and phrases, draw their to and underline each term on the anchor chart. Give students 2 minutes to discuss with group members and then come to a consensus about which invention met a greater societal need. Encourage them to incorporate key terms from the question in their opinion statement. After 2 minutes, invite a member from each group to share out the group opinion. Listen for ideas such as: <ul style="list-style-type: none"> – "The invention of the windshield wiper met a greater societal need than the paper bag machine." – "The paper bag machine is one of the greatest inventions of all time," or similar ideas. Reinforce students' use of key terms from the focus question and clearly stated opinions. Allow students 1 to 2 minutes to do the following: <ol style="list-style-type: none"> With group members, craft an opinion statement that contains key terms from the focus question. Have one member of your group write the opinion statement after the introductory sentence on the group's chart paper. Focus students on the third line of the anchor chart, "reason why you believe the opinion." Ask groups to discuss: <ul style="list-style-type: none"> * "What kind of sentence could you write to explain why you believe the opinion?" After 1 or 2 minutes, invite students to share their ideas with the class. Listen for suggestions such as: <ul style="list-style-type: none"> – "Windshield wipers not only made our lives better, they made our lives safer." – "The paper bag machine made it possible for everyone to afford flat-bottomed bags, so transporting groceries from store to home became much easier for people," or similar responses. Draw attention to and reinforce group examples that use examples from the text and clearly support the opinion recorded on the group chart. Then, give students 2 or 3 minutes to: <ol style="list-style-type: none"> With group members, discuss and determine a reason that clearly supports the opinion you recorded onto your chart paper. Have one member of your group write the reason after the opinion statement on the group's chart paper. 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Focus students on the fourth and fifth lines of the anchor chart, “evidence/quote to support the opinion and reason.” Then explain: “Evidence from research is used to support an opinion. Integrating direct quotes into your evidence sentences is a good way to support your opinion because information from a reliable source, such as the article you read today, lends credibility to your opinion. When something is <i>credible</i> it means that it is trustworthy, reliable, or believable. If you want people to agree with your opinion, it is important to support your opinion with clear reasons and credible evidence.”• Briefly model for students how to include quotes from the text in their evidence sentences. Say something like: “If my opinion is that the windshield wiper met a greater societal need and I support that with a reason such as ‘they made our lives safer.’ I could further support my opinion and reason with an evidence sentence such as, ‘The article states “we can all be grateful to Mary Anderson for this ingenious invention because it helps us see where we’re going, even in the most inclement weather.”’ The quote from the article that I included in my evidence sentence directly connects to both my opinion that the windshield wiper met a greater societal need and my reason that it made our lives safer by allowing us to see where we are going in bad weather.”• Provide additional examples as necessary to support students’ understanding of how to incorporate quotes from the article into their evidence sentences.• Tell students to take 5 to 6 minutes work with group members to:<ol style="list-style-type: none">1. Refer to the article and quotes you recorded on your note-catcher to identify evidence that supports your opinion and connects to your reason.2. Discuss and decide which quotes from the text you will use in your two evidence sentences.3. Record two more sentences after the reason that contain evidence from the text to support your opinion and connect to your reason (make sure to place quotation marks around exact phrases from the text).• Circulate to offer support and provide guidance as needed.• Draw students’ attention to the last line on the anchor chart, “conclusion that restates the opinion.” Then ask students to think about and discuss in groups:<ul style="list-style-type: none">* “What kind of concluding statement could you write to restate the opinion?”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 or 2 minutes, invite a few students to share out their thinking with the class. Listen for ideas such as:<ul style="list-style-type: none">– “The paper bag machine is undoubtedly the greater invention.”– “Windshield wipers made people’s lives much better,” or similar suggestions.• Allow students 1 or 2 minutes to:<ol style="list-style-type: none">1. With group members, develop a concluding statement that restates the opinion.2. Have one member of your group write the conclusion after the last evidence sentence, on the group’s chart paper.• Tell students to leave their anchor charts posted for a brief gallery walk during the Closing.	



Closing and Assessment	Meeting Students' Needs
<p>A. Gallery Walk and Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none"> Ask students to do the following: <ol style="list-style-type: none"> With your group members, quickly move to another group's Opinion Paragraph chart. Read the paragraph and discuss one "star" (a specific and positive comment) about the paragraph, related to the introduction, opinion, reason, or evidence. Be prepared to share your thinking whole class. After 2 to 3 minutes, invite groups to share out the comments they have about their peers' opinion paragraphs. Encourage students to be specific with their praise. Quickly read through each learning target and ask students to use Glass, Bugs, Mud Checking for Understanding technique to indicate their mastery. Note students who show bugs or mud as they may need more support. Distribute one index card to each student, for homework. Ask students to write the following question on their index card: <ul style="list-style-type: none"> * "How did the compare and contrast structure of the article help you form an opinion about which invention met a greater societal need?" 	<ul style="list-style-type: none"> Provide a sentence frame to support students during group discussions about opinion paragraphs: "One piece of this opinion paragraph that is really clear/strong is _____ because _____." Consider writing the question on index cards in advance to support struggling writers.
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> Reread the article "Ingenious Inventions by Women: The Windshield Wiper and Paper Bag Machine" to someone at home or aloud to yourself. Think about and then write a statement on your index card to explain, "How did the compare and contrast structure of the article help you form an opinion about which invention met a greater societal need?" Bring your index card to class as an entry task for the next lesson. If you did not finish in class, complete your four-column chart for each of the key vocabulary words. Read your independent reading book for at least 20–30 minutes and write a response to another one of the questions on your Independent Reading Choice Board. 	<ul style="list-style-type: none"> Some students will benefit from using a "Phonics Phone" while reading aloud to more easily hear the inflection (or lack of) in their voice. Encourage students to practicing reading aloud until fluent enough to engage an audience. Allow struggling writers to dictate their responses to someone at home. Consider providing a recording of the text for struggling readers.



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Grade 5: Module 2B: Unit 1: Lesson 8

Supporting Materials



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“Ingenious Inventions by Women: The Windshield Wiper and the Paper Bag Machine”

Written by Expeditionary Learning for instructional purposes

Mary Anderson and Margaret E. Knight are two inventors you have probably never heard of. However, their ingenious ideas have made our lives both safer and simpler. Read on to learn more about how and why each of these brilliant women developed devices that we still rely on so much today.

Mary Anderson

Where does the idea for a great invention come from? Well, in the case of Mary Anderson it was developed purely from the desire to make people’s lives safer.

It was the year 1902 when Mary Anderson traveled far from her home in Alabama and boarded a New York City streetcar. The snow and sleet pelted the car mercilessly. The driver struggled to see the road in front of him through the frost-caked glass. It was because Mary felt sorry for the driver and realized the potential danger to her fellow passengers that she was inspired to create a device that would make people’s lives better. That invention was the windshield wiper.

At the time, the best option available was a split windshield. During bad weather, drivers would swing open their front window in the hopes that debris would slide off to clear their view. However, this design did not work very well. So Mary thought, “Why not create a device to remove the snow and ice completely?” Immediately, she began to draw up plans in her notebook.

Mary’s final sketch became what we refer to today as “windshield wipers.” Or, as she described in her patent application, “... an improvement in window-cleaning devices in which a radially-swinging arm is actuated by a handle from inside of a car-vestibule,” which is just another way of saying there would be a lever inside the car that made an arm move across the glass of the windshield.

Unfortunately, manufacturers did not see the value of her idea and she allowed the patent to expire. Several years later, someone else saw Mary’s idea. That person patented and sold the invention of windshield wipers to car companies far and wide. Today, we can all be grateful to Mary Anderson for this ingenious invention because it helps us see where we’re going, even in the most inclement weather.



“Ingenious Inventions by Women: The Windshield Wiper and the Paper Bag Machine”

Margaret E. Knight

Whereas Mary Anderson’s goal was to make people’s lives safer, another inventor, Margaret E. Knight, set out to make people’s lives easier. In the mid-1800s, Margaret Knight worked at the Columbia Paper Bag Company. Her job was to tie together stacks of handmade, flat-bottomed bags. Flat-bottomed bags took a long time to make, so they cost more than most people could afford. At the time, most people could only afford large wooden crates or poorly crafted envelope-shaped bags to transport their goods from the grocery store to their homes. So when Margaret had been on the job only a week she wondered, “Why can’t flat-bottomed bags be made with a machine so they would take less time to put together and cost less money? Then everyone could afford them.” Similar to Mary, Margaret’s question led her to create a device that would improve people’s lives.

Margaret was neither a scientist nor an engineer. However, because she had worked with machines most of her life, she understood how they worked and how to build them. She began sketching ideas for a new paper bag machine that would fold square-bottomed bags. Her next step was constructing and testing the various parts of her machine. Within a year, Margaret had built a complete and working model of her invention. Once her wooden model was complete, she hired a machinist to build one out of iron. She submitted an application for a patent along with the newest version of her “Paper Feeding Machine” in 1868.

Unlike Mary’s idea, the value of Margaret’s machine was recognized almost immediately. When a man named Charles Annan saw Mary’s paper bag machine being cast in iron at the machinist’s shop, he tried to steal the idea. Annan copied Margaret’s invention and tried to file a patent. He claimed he invented it first. Margaret fought Charles Annan’s claim. She traveled to Washington, D.C. to fight him in court. After days of presenting evidence, Margaret received credit for being the first person to develop the paper-folding device. She was awarded the patent for her invention in 1870.

Margaret spent her life developing new and useful inventions. Eventually, she held the rights to 27 patents. In fact, reporters referred to her as “Lady Edison” because of her many discoveries. Nevertheless, it was her first invention of the paper-bag machine that continues to make our lives simpler, even in today’s modern world.



Compare and Contrast Note-catcher: “Ingenious Inventions by Women”

***How does the way a text is structured support our understanding of complex ideas?**

Who is being compared and contrasted?	
Alike	Different



Compare and Contrast Note-catcher: “Ingenious Inventions by Women”

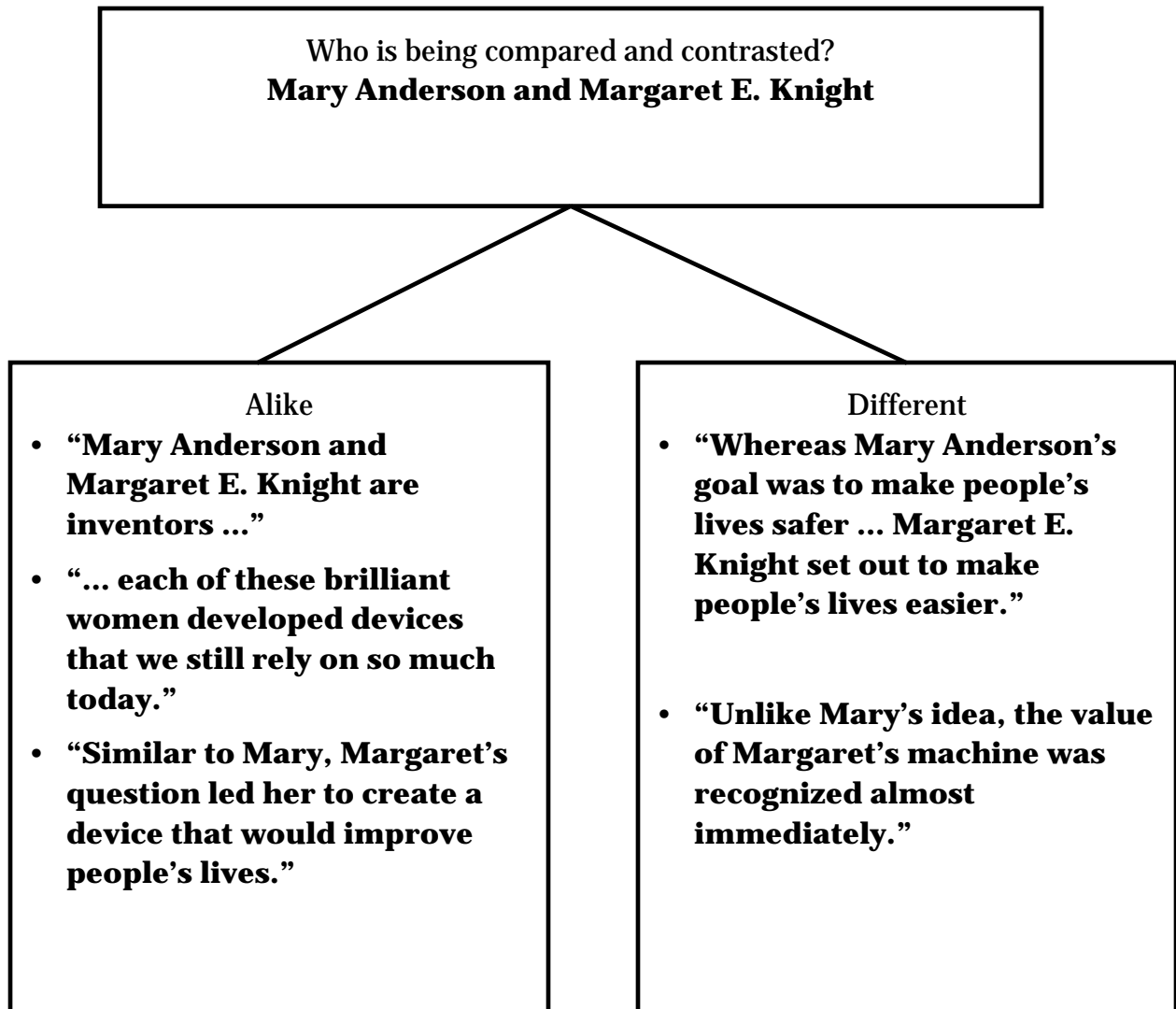
Enduring Understanding: How did female inventors develop new or improved technologies to meet people’s needs?

Fill in the chart using *three* quotes from the text to show how women developed new or improved technologies to meet people’s needs.

Female inventors have developed new or improved technologies to meet people’s needs.	
EVIDENCE (quote from text)	



Compare and Contrast Note-catcher: “Ingenious Inventions by Women”
(Answers, for Teacher reference)





Compare and Contrast Note-catcher: “Ingenious Inventions by Women”

(Answers, for Teacher reference)

Enduring Understanding: How did female inventors develop new or improved technologies to meet people’s needs? (RI.5.1, RI.5.3)

Female inventors have developed new or improved technologies to meet people’s needs.

EVIDENCE (quote from text)

“... because Mary felt sorry for the driver and realized the potential danger to her fellow passengers that she was inspired to create a device that would make people’s lives better. That invention was the windshield wiper.”

“ Today we can all be grateful to Mary Anderson for this ingenious invention because it helps us see where we’re going, even in the most inclement weather.”

“... it was her first invention of the paper-bag machine that continues to make our lives simpler, even in today’s modern world.”



Opinion Paragraph Anchor Chart

Focus question: Did the invention of the windshield wiper or the paper bag machine meet a greater societal need?

<hr/>	(brief <i>introduction</i> to the topic)
<hr/>	(<i>opinion</i> statement that includes <i>key terms</i> from the question)
<hr/>	(<i>reason why</i> you believe the opinion)
<hr/>	(<i>evidence/quote</i> to support the opinion and reason)
<hr/>	(<i>evidence/quote</i> to support the opinion and reason)
<hr/>	(<i>conclusion</i> that restates the opinion)



EXPEDITIONARY
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Grade 5: Module 2B: Unit 1: Lesson 9

Using Quotes and Comparing and Contrasting Structure: The Invention of Basketball



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from a text when explaining what the text says explicitly. (RI.5.1)
I can compare and contrast the structure of information in two or more texts. (RI.5.5)

Supporting Learning Targets

- I can explain how the game of basketball was developed to meet societal needs using quotes from the text.
- I can compare and contrast the structure of two articles that explain the invention of basketball.
- I can explain how comparing and contrasting the structure of what I read supports my understanding of the ideas presented in informational texts.

Ongoing Assessment

- Entry task (Lesson 8 homework)
- Problem and Solution note-catcher: “Dr. James Naismith, Inventor of Basketball”
- Sequential note-catcher: “First College Basketball Game”
- Venn diagram
- Synthesis questions (responses in journal)
- Independent Reading Choice Board response



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Reviewing Homework and Engaging the Reader (5 minutes)2. Work Time<ol style="list-style-type: none">A. Determining the Gist: The Invention of Basketball (10 minutes)B. Second Read: Using Quotes to Explain How Basketball was Developed to Meet Societal Needs (25 minutes)C. Comparing and Contrasting How Information is Structured to Support Understanding (15 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Reviewing Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Reread the articles “Dr. James Naismith, Inventor of Basketball” and “First College Basketball Game”B. Finish ClassworkC. Independent Reading	<ul style="list-style-type: none">• This lesson follows a pattern similar to Lessons 7 and 8. Students work with two new informational texts, “Dr. James Naismith, Inventor of Basketball” and “First College Basketball Game” to continue building their understanding of how informational texts are structured and inventions are developed to meet societal needs. The structures focused on in this lesson are “Problem and Solution” and “Sequential.”• During students’ second read, they are asked to locate and record quotes from the article “Dr. James Naismith, Inventor of Basketball” on the Problem and Solution note-catcher to explain why and how the game of basketball was invented. Then students locate and record quotes from the article “First College Basketball Game” on the Sequential note-catcher to explain how basketball was developed over time. The “Enduring Understanding” question is added only to the Sequential note-catcher, so students are able to use details from both articles to craft a thorough response to the question.• In Work Time C, students use a Venn diagram to consider and record their thinking about the similarities and differences in the ways information is presented in both articles. Then, students write a response to a synthesis question about how the structure of text supports their understanding of ideas presented in informational articles. This helps students prepare for the End of Unit 1 Assessment.• In advance:<ul style="list-style-type: none">– Be ready to return students’ Mid-Unit 1 Assessments (from Lesson 6) today with your feedback.– Make sure all anchor charts are posted: Close Readers Do These Things, Group Norms, and Vocabulary Strategies.– Ensure that students have a variety of print and digital resources available to locate the meaning of key terms during Work Time B.– Review Back-to-Back, Face-to-Face protocol (see Appendix).



Lesson Vocabulary	Materials
explain, developed, quotes, problem, solution, criteria, sequential, compare, contrast, structure, presented (from “Dr. James Naismith, Inventor of Basketball”); faced, problem, suitable, skill, relied, relatively (from “First College Basketball Game”); replaced, open-ended, broadcast, ranked	<ul style="list-style-type: none">• Journals (students’ own, begun in Lesson 1)• Close Readers Do These Things anchor chart (from Lesson 2)• Document camera or projector• “Dr. James Naismith, Inventor of Basketball” (one per student)• “First College Basketball Game” (one per student)• Text Structure resource page (from Lesson 7; one to display)• Problem and Solution note-catcher: “Dr. James Naismith, Inventor of Basketball” (one per student)• Second read task card: “The Invention of Basketball” (one per student and one to display)• Vocabulary Strategies anchor chart (from Lesson 2)• Various reference materials (print and digital; for each group)• Problem and Solution note-catcher: “Dr. James Naismith, Inventor of Basketball” (answers, for teacher reference)• Tape, glue, or staples (for each student)• Sequential note-catcher: “First College Basketball Game” (one per student)• Sequential note-catcher: “First College Basketball Game” (answers, for teacher reference)• Venn diagram: comparing and contrasting structure (one per student)• Venn diagram: comparing and contrasting structure (answers, for teacher reference)• Synthesis questions (one to display)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out the entry task (on an index card) they completed for homework.• Review Back-to-Back, Face-to-Face protocol, then ask students to quickly find a partner they have not yet worked with during this unit (or haven't worked with recently).• Ask students to pair up back-to-back, and then read the homework question aloud:<ul style="list-style-type: none">* "How did the compare and contrast structure of the article help you form an opinion about which invention was more important?"• Give students 2 minutes to refer to their entry task, think about a response to the question, then turn face-to-face to discuss their ideas with partners. Cold call several pairs to share their thinking whole group and listen for:<ul style="list-style-type: none">– "Details about how Mary Anderson and Margaret Knight had different reasons for developing technologies helped me make a judgment about whose invention was more important to people."– "Based on the article's description of how Mary's idea wasn't popular at first but Margaret Knight's was, I decided that Margaret's invention must have met a greater need," or similar suggestions.• Collect students' entry task to review and determine their understanding of how text structure supported their ability to make a judgment about which invention met a greater societal need.• Refocus whole group. Remind students that they have been focusing both on technologies that have been developed to meet societal needs, and how information about those inventions is structured to support our understanding of why and how new or improved technologies were developed to meet people's needs. Tell them that today they will read two articles about the invention of the game of basketball, then consider how the structure of each article organizes information similarly and differently to help the reader understand how basketball was developed to meet the needs of society.	<ul style="list-style-type: none">• Provide a sentence starter to support student discussions: "The compare and contrast structure helped me form an opinion about which invention was most important because it described ____."



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: The Invention of Basketball (10 minutes)</p> <ul style="list-style-type: none"> Ask students to take out their journals and join their regular small groups (from Lessons 1–8.) Direct students' attention to the Close Readers Do These Things anchor chart posted on the document camera and ask them to collectively share out what they typically do when they begin work with a new text. Listen for: “read for the gist,” or similar ideas. Distribute the article “Dr. James Naismith, Inventor of Basketball.” Then explain to students that the first read will be aloud, as this article is above grade-level and may contain unfamiliar terms that will interfere with their initial comprehension of the text. Tell students to follow along silently as you read the text read aloud. After the article has been read aloud, ask: <ul style="list-style-type: none"> * “What is the gist of this article?” Give students 1 or 2 minutes to discuss their thinking in groups, then record a gist statement on the page in their journal where they recorded gist statements in Lessons 7 and 8. Then cold call a few students to share out whole group. Listen for: <ul style="list-style-type: none"> – “Dr. Naismith invented basketball so his students would have a sport to play inside during the cold winter.” – “Dr. Naismith wanted to invent a game of skill that could be played inside,” and similar suggestions. <p>Tell students that now they will hear a second short text about the invention of basketball read aloud.</p> Distribute the text “First College Basketball Game” and ask students to follow along silently once again as you read aloud. After the read-aloud, ask students to consider: <ul style="list-style-type: none"> * “What is the gist of the second article?” Once again, allow students 1 or 2 minutes to discuss their thinking in groups then record a gist statement. Cold call several students to share out whole group. Listen for: “This article is about how the game of basketball changed over time,” “how basketball became popular,” or similar ideas. Say something along the lines of: “Based on the gist statements you shared, we can safely say that both texts provide information about the invention of basketball. However, we can also say that each article presents somewhat different information about why and how basketball was developed to meet people’s needs. During the next part of Work Time, you will work with your group members to reread each article, then locate and record quotes to support your understanding of the ideas each author is trying to convey.” 	<ul style="list-style-type: none"> For students who struggle to determine the gist of longer passages, encourage them to find the gist of facing pages to keep track as they go and make it more manageable to determine the gist of the entire section. Allow struggling writers to dictate their gist statement to a peer or aide acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Using Quotes to Explain How Basketball was Developed to Meet Societal Needs (25 minutes)</p> <ul style="list-style-type: none">• Ask students to set aside “First College Basketball Game,” as they will work with the “Dr. James Naismith, Inventor of Basketball” text first.• Then, read the first learning target aloud:<ul style="list-style-type: none">* “I can explain how the game of basketball was developed to meet societal needs using quotes from the text.”• Remind students they worked with similar targets during the previous two lessons, then ask them to think about how they could restate the target in their own words. Cold call several students to share their thinking whole group.• Display and ask students to turn to the page in their journals where they attached the Text Structure resource page. Focus students’ attention on the row titled “Problem and Solution,” then read the description aloud. Ask students to think about and discuss in groups what the words <i>problem</i> and <i>solution</i> mean.• After 1 or 2 minutes, cold call members from each group to share their thinking with the class. Listen for examples such as:<ul style="list-style-type: none">– “A problem is a difficulty, a dilemma.”– “A solution is an answer to the problem,” or similar ideas.• Next, distribute the Problem and Solution note-catcher: “Dr. James Naismith, Inventor of Basketball.” Then display and distribute the second read task card: “The Invention of Basketball.”• Direct students to focus on just Part I directions for their work with the Dr. James Naismith article. Read each direction aloud, pausing on direction 2. Direct students’ attention to the Vocabulary Strategies anchor chart, and remind them they have worked on determining the meaning of unfamiliar terms from context, various reference materials, and their understanding of roots, affixes, prefixes, and suffixes over this unit. Ask students to think then discuss in groups:<ul style="list-style-type: none">* “How can you use various strategies to help you determine the meaning of unfamiliar words and phrases?”	<ul style="list-style-type: none">• To support visual learners and ELL students, display a drawing, picture from the internet, or familiar synonym above or below key words in learning target.• For students who struggle with the physical act of writing, allow them to type their responses on a computer or word processor, or dictate their analysis paragraph to an aide or a peer acting as a scribe.• Consider using a think-aloud strategy, either with small groups or individual students, to model using context clues to determine the meaning of the first several terms.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • After 1 or 2 minutes, cold call a few students to share out whole class. Listen for: <ul style="list-style-type: none"> – “I can use context such as words and phrases that surround an unfamiliar term to give me a clue about unfamiliar terms.” – “I can read sentences before and after the word to help me figure out the meaning.” – “I can substitute a synonym for the word and read to determine if the sentence makes sense with the new word.” – “I can use print and online reference materials to locate the meaning of the word.” – “I can use my understanding about parts of the word to help me figure out what it means,” or similar ideas. • Continue reading the directions aloud, pausing on 5. Ask students to focus on the word <i>criteria</i> in this direction. Ask students to think about and discuss with group members what the word “criteria” means in the context of this direction. After 1 or 2 minutes, invite students to share their thinking whole group. Listen for ideas such as: “Criteria in this context means qualities Dr. Naismith wanted to include,” “the standards he had for creating the game,” “the principles that guided his creation of the game,” or similar suggestions. If students are not able to determine the meaning of criteria as it is used in this context, provide a definition and examples for them. • Clarify directions as needed. Make various reference materials available to students as they work. • Give students 6 to 7 minutes to reread the second paragraph of the article and record quotes in their note-catchers to explain the problem, solution, and criteria for developing the solution. Circulate to offer support and guidance as needed. • Refocus whole group. Cold call members from each group to share out quotes they recorded to explain the problem, solution, and criteria Dr. Naismith had for inventing the game of basketball. Refer to Problem and Solution note-catcher: “Dr. James Naismith, Inventor of Basketball” (answers, for teacher reference) as needed. • Then focus students on the key terms listed at the top of their note-catchers and in the Part I directions: <i>faced</i>, <i>suitable</i>, <i>skill</i>, <i>relied</i>, and <i>relatively</i>. Invite students to share out a synonym or short definition for each word. Listen for: <ul style="list-style-type: none"> – “Faced in this context means he was dealing with a problem, he came upon a problem.” – “Suitable means appropriate, the right solution for a problem.” – “Skill in this context means ability, talent.” – “Relied means depended on.” – “Relatively means as compared to,” or similar ideas. 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Give students 2 minutes to revise or add to their note-catchers based on understandings about key vocabulary.• Then, ask students to tape, glue, or staple their Problem and Solution note-catchers onto the next blank page in their journals.• Ask students to set aside the Dr. Naismith article and take out the “First College Basketball Game” text. Distribute the Sequential note-catcher: “First College Basketball Game,” then display and ask students to refer once again to their Text Structure resource page. Direct students’ attention to the row titled “Sequential” and read the description aloud. Ask students to think about and discuss in groups what the word <i>sequential</i> means.• After 1 or 2 minutes, cold call a few students to share out their thinking whole group. Listen for:<ul style="list-style-type: none">– “Sequential means the order in which something happens.”– “Chronological, in order of time, earliest to latest or most recent,” and similar ideas.• Direct students to refer back to the second read task card, and focus on the directions for Part II. Read each step aloud, pausing on Step 2 to reiterate that students should try to determine the meaning of key words and phrases in the text as they reread.• Give students 6 to 7 minutes to reread the second and third paragraphs of the article and record quotes in their note-catchers to explain how basketball developed over time. Circulate to support and offer guidance to individuals and small groups as needed.• Refocus whole group. Cold call several students to share aloud the quotes they recorded to explain how basketball was developed over time. Refer to the Sequential note-catcher: “First College Basketball Game” (answers, for teacher reference) as needed.• Once again, focus students’ attention on the key words listed at the top of their note-catchers and in the Part II directions: <i>replaced</i>, <i>open-ended</i>, <i>broadcast</i>, and <i>ranked</i>. Invite members from each group to share out a synonym or short definition for each term. Listen for:<ul style="list-style-type: none">– “Replaced means substituted, changed, used instead.”– “Open-ended in this context means there was a hole in both ends of the basket.”– “Broadcast means it was shown on television, filmed.”– “Ranked means how important something is, how it is rated,” or similar suggestions.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Give students 2 minutes to add to or revise the quotes they added to their Sequential note-catchers, based on new understandings about key words. • Then, focus students' attention on Part III of the second read task card. Read the directions aloud and provide clarification as needed. • Give students 4 or 5 minutes to complete the "Enduring Understanding" chart at the bottom of their Sequential note-catchers. Circulate to support. • Cold call a few students to share the quotes they added to the chart whole group. • Then ask students to tape, glue, or staple their Sequential note-catchers onto the next blank page in their journals. 	
<p>C. Comparing and Contrasting How Information is Structured to Support Understanding (15 minutes)</p> <ul style="list-style-type: none"> • Read the second learning target aloud: <ul style="list-style-type: none"> * "I can compare and contrast the structure of two articles that explain the invention of basketball." • Ask students to recall what they know about the meaning of the key words in this target: <i>compare</i>, <i>contrast</i>, <i>structure</i>, and <i>explain</i>. Then ask students to think about and discuss with group members: <ul style="list-style-type: none"> * "How could you restate this target in your own words?" • After 1 or 2 minutes, cold call several students to share their thinking with the class. Listen for ideas like: <ul style="list-style-type: none"> – "I can explain how the information in each article is similar and different," or similar suggestions. • Distribute the Venn diagram: comparing and contrasting structure. If students are unfamiliar with a Venn diagram, take a moment to explain that information from the articles that is different should be written in the outer left- and right-hand sides of the circles. Information that is similar should be written in the central area, where the two circles overlap. • Read the directions aloud and tell students they should write general statements about the information contained in each article, rather than direct quotes to compare and contrast the information. Clarify directions or model by providing one example of a similarity and one example of a difference. See Venn diagram: comparing and contrasting structure (answers, for teacher reference) for ideas. 	<ul style="list-style-type: none"> • To support visual learners and ELL students, display a drawing, picture from the internet, or familiar synonym above or below key words in the learning targets. • For students who struggle with the physical act of writing, allow them to dictate similarities and difference they notice and/or responses to the synthesis questions to an aide or peer acting as a scribe.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Give students 7 to 8 minutes to:<ol style="list-style-type: none">1. Refer to the articles and your note-catchers to determine similarities and differences between the information presented in each article.2. Discuss your thinking with group members.• Record your ideas in the Venn diagram.• As students work in groups, circulate throughout the room to offer support and guidance as needed.• After 7 or 8 minutes, refocus whole group and cold call several students to share out with the class what they added to their Venn diagrams.• Ask students to tape, glue, or staple the Venn diagram onto the next blank page in their journals.• Then, ask students to turn to a new blank page in their journals and display the synthesis questions where all students can see them. Read the synthesis questions aloud and provide clarification if needed.• Give students 3 or 4 minutes to complete the following:<ol style="list-style-type: none">1. Refer to the articles “Dr. James Naismith, Inventor of Basketball,” “First College Basketball Game,” your note-catchers, and the Venn diagram to help you formulate responses to the synthesis questions.2. Discuss your thinking with group members.3. Record a response to each synthesis question in your journal.• As students work in groups, circulate to offer support as needed.• Tell students they will share their synthesis responses during the debrief.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none"> • Bring students together whole group. • Then ask students to share with a nearby partner who is not a member of their regular small group their responses to the synthesis questions from Work Time C. • Give students 2 or 3 minutes to discuss their thinking with partners. Then, invite students to share their thinking whole group. Listen for ideas such as: <ul style="list-style-type: none"> – “The Dr. Naismith article is structured as problem and solution; the purpose of the article is to explain why basketball was developed and how it met people’s needs.” – “The College Basketball article is structured in a sequential order; the purpose of the article is to explain how basketball has developed or changed over time.” – “The problem and solution structure helped me understand that people needed a sport to play inside during wintertime in Massachusetts, whereas the sequential structure helped me understand how basketball changed over time to appeal to players, to appeal to fans,” or similar suggestions. • Redirect students’ attention to the learning targets. Read each target aloud and ask students to show a thumbs-up or thumbs-down to demonstrate their mastery toward each target. Note students who show a thumbs-down, as they may need more support locating quotes to explain or determining how structure supports their understanding of complex idea presented in informational texts. • Inform students they will take the End of Unit 1 Assessment in the next lesson. 	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> • Reread the articles “Dr. James Naismith, Inventor of Basketball” and “First College Basketball Game” aloud independently or to someone at home to practice your fluency skills. • Revise or add to your Problem and Solution and/or Sequential note-catchers based on new understandings. • If you did not finish in class, complete your four-column chart for each of the key vocabulary words. • Read your independent reading book for at least 15–20 minutes and write a response to the final (center square) question on your Independent Reading Choice Board. Be prepared to discuss the qualities you are looking for in the next independent reading book you choose. 	<ul style="list-style-type: none"> • Allow struggling writers to dictate their responses to someone at home. • Consider providing a recording of the text for struggling readers.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 9

Supporting Materials



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“ Inventor of Basketball”

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“First College Basketball Game”

January 18, 1896

When you are out on the court playing basketball, or watching it on TV, have you ever wondered who invented the game? The first ever college basketball game was played on January 18, 1896, when the University of Iowa invited student athletes from the new University of Chicago for an experimental game. Final score: Chicago 15, Iowa 12, a bit different from the 100-point scores of today.

In December 1891, Canadian-born James Naismith, a physical education teacher at the YMCA (Young Men's Christian Association) training school, took a soccer ball and a peach basket in the gym and invented basketball. In 1893, he replaced the peach basket with iron hoops and a hammock-style basket. Ten years later came the open-ended nets of today. Before that, you had to retrieve your ball from the basket every time you scored.

In 1963, college games were first broadcast on national TV, but it wasn't until the 1980s that sports fans ranked basketball up there with football and baseball. It's a popular neighborhood sport, too. The next time you shoot hoops with your family or friends, you can tell them how it all got started.



Problem and Solution Note-catcher: “Dr. James Naismith, Inventor of Basketball”

***How does the way a text is structured support our understanding of complex ideas?**

Key Terms: *faced, suitable, skill, relied, relatively*

PROBLEM



SOLUTION

Quotes that explain at least two of Dr. Naismith’s *criteria* for developing a solution:



Second Read Task Card: The Invention of Basketball

Part I: Problem and Solution note-catcher

1. Independently reread *only* the second paragraph of the article “Dr. James Naismith, Inventor of Basketball.”
2. As you read, circle the key words: *faced*, *suitable*, *skill*, *relied*, and *relatively*. Try to determine the meaning of each word by using a variety of strategies, including context, reference materials, and your understanding about parts of words. Be sure to discuss your thinking with group members.
3. Locate a quote that explains the problem Dr. Naismith was trying to solve. Discuss your thinking with group members, then record the quote in the “PROBLEM” box.
4. Locate a quote from the article that explains what Dr. Naismith invented to solve the problem. Discuss your thinking with group members, then record the quote on the line in the top part of the “SOLUTION” box.
5. Locate at least two quotes that describe Dr. Naismith’s *criteria* for developing a solution. Discuss your thinking with group members, then record the quotes in the lower half of the “SOLUTION” box.

Part II: Sequential note-catcher

1. Independently reread *only* the second and third paragraphs of the article “First College Basketball Game.”
2. As you read, circle the key words: *replaced*, *open-ended*, *broadcast*, and *ranked*. Try to determine the meaning of each word by using a variety of strategies, including context, reference materials, and your understanding about parts of words. Be sure to discuss your thinking with group members.
3. Locate three to five quotes that explain how *the game of basketball was developed over time*. Discuss your thinking with group members, then record the quotes in *sequential* order.

Part III: Enduring Understanding

1. Read the “Enduring Understanding” question at the bottom of the Sequential note-catcher.
2. Refer to the text and quotes you recorded into BOTH note-catchers to help you think of an answer to the question.
3. Discuss your thinking with group members.
4. Fill in the chart using quotes from **both** texts to show how the invention of basketball met people’s needs.



Problem and Solution Note-catcher: “Dr. James Naismith, Inventor of Basketball”
(Answers, for Teacher Reference)

PROBLEM

“Naismith was faced with the problem of finding a sport that was suitable for play inside during the Massachusetts winter (for the students at the School for Christian Workers).”



SOLUTION

“... the sport of basketball was born.”

Quotes that explain at least two of Dr. Naismith’s *criteria* for developing a solution:

1. **“... a game of skill for the students instead of one that relied solely on strength.”**
2. **“... a game that could be played indoors in a relatively small space.”**
3. **“The first game was played with a soccer ball and two peach baskets used as goals.”**



Sequential Note-catcher: “First College Basketball Game”

****How does the way a text is structured support our understanding of complex ideas?***

Key Terms: replaced, open-ended, broadcast, ranked

List three to five events that explain the development of basketball, in the order in which they occurred:

1st Event	
2nd Event	
3rd Event	
4th Event	
5th Event	



Sequential Note-catcher: “First College Basketball Game”

Enduring understanding: How did the invention of basketball meet societal needs?

Fill in the chart below using evidence from the text to show how the invention of basketball met the needs of society. Use quotes from **both** texts in your response.

The invention of basketball met societal needs.	
EVIDENCE (quote from text)	SOURCE (name of article)



Sequential Note-catcher: “First College Basketball Game”
(Answers, for Teacher Reference)

1st Event	“In December 1891, Canadian-born James Naismith ... took a soccer ball and a peach basket in the gym and invented basketball.”
2nd Event	“In 1893, he replaced the peach basket with iron hoops and a hammock-style basket.”
3rd Event	“Ten years later came the open-ended nets of today. Before that, you had to retrieve your ball from the basket every time you scored.”
4th Event	“In 1963, college games were first broadcast on national TV ... ”
5th Event	“... it wasn't until the 1980s that sports fans ranked basketball up there with football and baseball.”



Sequential Note-catcher: “First College Basketball Game”
(Answers, for Teacher Reference)

Enduring understanding: How did the invention of basketball meet societal needs?

Fill in the chart below using evidence from the text to show how the invention of basketball met the needs of society. Use quotes from **both** texts in your response.

The invention of basketball met societal needs.	
EVIDENCE (quote from text)	SOURCE (name of article)
“... a sport that was suitable for play inside during the Massachusetts winter ...”	“Dr. James Naismith, Inventor of Basketball”
“... a game of skill for the students instead of one that relied solely on strength.”	“Dr. James Naismith, Inventor of Basketball”
“... a game that could be played indoors in a relatively small space.”	“Dr. James Naismith, Inventor of Basketball”
“Ten years later came the open-ended nets of today. Before that, you had to retrieve your ball from the basket every time you scored.”	“First College Basketball Game”



Venn Diagram: Comparing and Contrasting Structure

Name: _____

Date: _____

Refer to the articles and your note-catcher to complete the Venn diagram below.

- In your own words, explain at least two ways the information about the invention of basketball is *similar* in the two articles.
- In your own words, explain at least two ways the information about the invention of basketball is *different* in the two articles.

“Dr. James Naismith,
Inventor of Basketball”

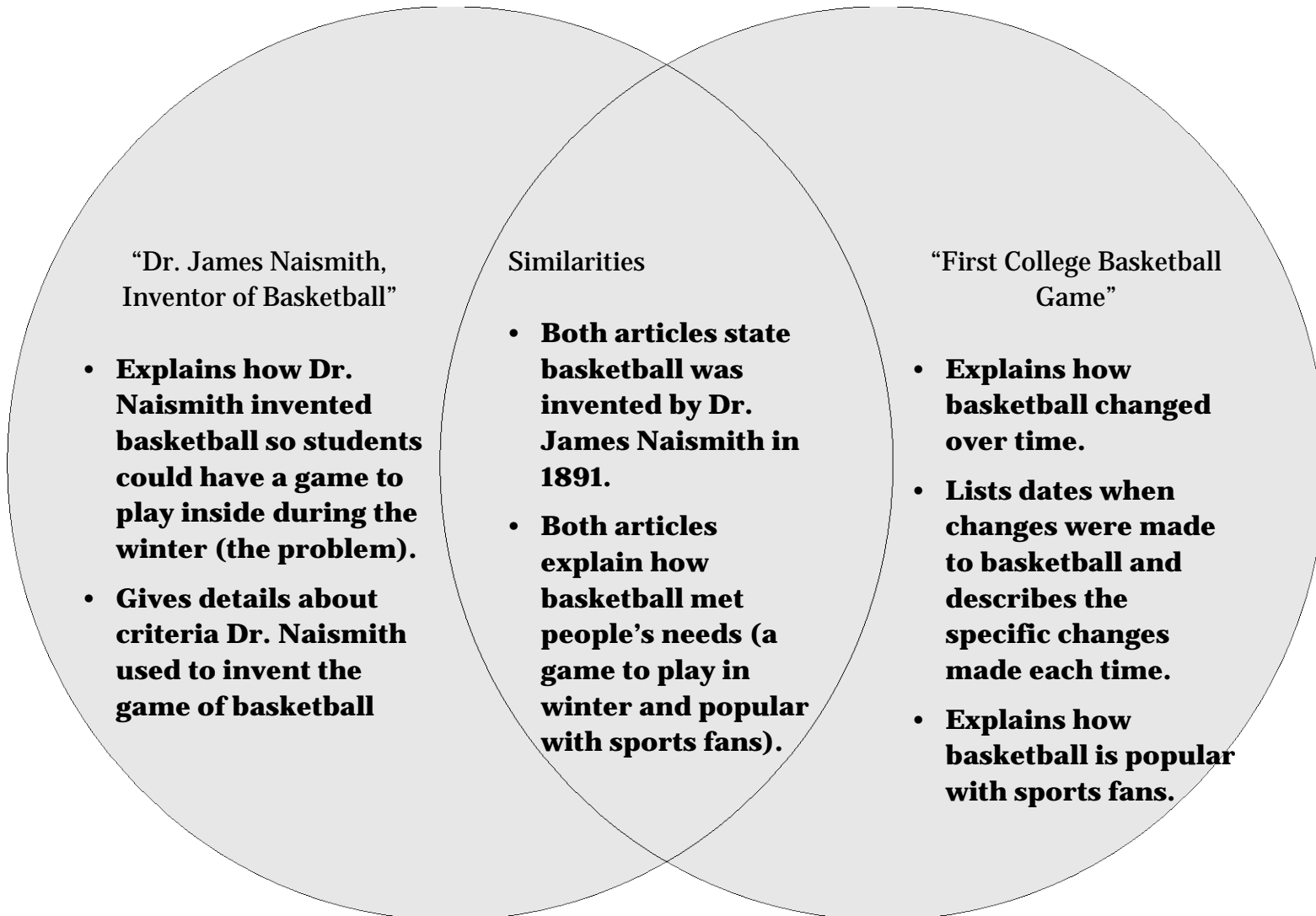
Similarities

“First College Basketball
Game”



Venn Diagram: Comparing and Contrasting Structure
(Answers, for Teacher Reference)

Below are sample answers. Accept any student responses that are supported by details from the text.





Synthesis Questions

What is the structure of the article “Dr. James Naismith, Inventor of Basketball”? What is the purpose of the article?

What is the structure of the article “The First College Basketball Game”? What is the purpose of the article?

How did reading two different types of articles help you better understand the invention of the game of basketball?



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 1: Lesson 10

End of Unit Assessment: Using Quotes to Explain Relationships and Support an Opinion



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. (RI.5.4)

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)

I can explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. (RI.5.3)

I can compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts. (RI.5.5)

I can write opinion pieces on topics or texts, supporting a point of view with reasons and information. (W.5.1)

- a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
- b. Provide logically ordered reasons that are supported by facts and details.

Supporting Learning Targets

- I can determine the meaning of unfamiliar words and phrases using a variety of strategies.
- I can analyze the way text is structured to support readers' understanding of complex ideas.
- I can write an opinion paragraph to explain which invention has been most important to people.
- I can reflect on my learning about how new or improved technologies are developed to meet societal needs.

Ongoing Assessment

- End of Unit 1 Assessment: Using Quotes to Explain Relationships and Support an Opinion
- Tracking My Progress: End of Unit 1 recording form
- Independent Reading Choice Board response



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Reviewing Homework and Engaging the Reader (5 minutes)B. Reviewing Learning Targets (5 minutes)2. Work Time<ol style="list-style-type: none">A. End of Unit 1 Assessment: Using Quotes to Explain Relationships and Support an Opinion (35 minutes)B. Tracking My Progress: Reflecting on Learning (10 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief: Sharing Reflections on Learning Targets and Exit Ticket (5 minutes)4. Homework<ol style="list-style-type: none">A. Fluency Practice	<ul style="list-style-type: none">• The end of unit assessment is “open book”: Students may use all of their texts, notes, and other written resources. However, they must work independently unless otherwise indicated by an IEP or other formal learning plan.• Students should also have completed the last square on their Independent Reading Choice Boards (from Lesson 1), “What qualities will you look for in the next book you read?” Find time during the day to meet with individual students to discuss their reflections. Students will have an opportunity to choose a new independent reading text in Unit 2, Lesson 1. For students who are not finished reading their first text, ask them if they would like to continue reading the book or if there may be a better choice for them, based on their responses to questions from the choice board. If students would like to continue, consider assigning an alternate task such as ways to build fluency skills related to accuracy, rate, and expression.• In advance:<ul style="list-style-type: none">– Review the End of Unit 1 Assessment: Using Quotes to Explain Relationships and Support an Opinion and the assessment texts “Big Thinkers” and “Steve Jobs.”– Be sure students have access to their own version of the articles “The Electric Motor,” “Dr. Naismith, Inventor of Basketball,” and “First College Basketball Game.”– Display the following anchor charts from Lessons 1–9 for student reference during the assessment: Close Readers Do These Things and Vocabulary Strategies.– Review Four Corners protocol (see Appendix).



Lesson Vocabulary	Materials
determine, variety, strategies, analyze, structured, complex, opinion, invention	<ul style="list-style-type: none">• Four Corners sheets (post each one in a different area of the room)• Journals (students' own, begun in Lesson 1)• "The Electric Motor" (from Lesson 7; one per student)• "Dr. Naismith, Inventor of Basketball" (from Lesson 9; one per student)• "First College Basketball Game" (from Lesson 9; one per student)• Close Readers Do These Things anchor chart (from Lesson 1)• Vocabulary Strategies anchor chart (from Lesson 2)• "Big Thinkers: Was Steve Jobs This Generation's Thomas Edison?" (assessment text; one per student)• "Steve Jobs" (assessment text; one per student)• End of Unit 1 Assessment: Using Quotes to Explain Relationships and Support an Opinion (one per student)• Tracking My Progress: End of Unit 1 recording form (one per student)• Index cards (one per student)• Independent Reading Choice Board (one per student)



Opening	Meeting Students' Needs
<p>A. Reviewing Homework and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Review the Four Corners protocol with students. Provide clarification as needed.• Then, focus students' attention on each of the Four Corners sheets:<ul style="list-style-type: none">– “Basketball met the greatest societal need.”– “Windshield wipers met the greatest societal need.”– “The paper bag machine met the greatest societal need.”– “The electric motor met the greatest societal need.”• Ask students to think about the articles they read about each of these inventions, and then determine which invention met the greatest societal need.• Once students have made a decision, direct them to stand near the Four Corners sheet that reflects their choice.• Give students 2 or 3 minutes to discuss with other students at the same sheet why they believe that particular invention met the greatest societal need. Encourage students to refer to direct quotes from the articles they have read to justify their opinion. Circulate to listen in on group conversations and offer guidance as needed.• After 2 to 3 minutes, invite a member from each of the four groups to share the group's thinking aloud. Answers will vary, but listen for students to justify their ideas with information from the texts they have read.• Then, explain to students that today they will take the End of Unit 1 Assessment to demonstrate their mastery toward the targets they have focused on in the second half of this unit: determining the meaning of key terms from context; comparing, contrasting, and explaining how text structure supports their understanding of complex ideas; and sharing an opinion about which invention meets the greatest societal need.	<ul style="list-style-type: none">• Provide sentence frames to support students during group discussions: “I think ____ is most important because the article about ____ says ____.”



Opening (continued)	Meeting Students' Needs
<p>B. Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Display and read aloud the first three learning targets, or invite volunteers to read them aloud. Ask students to pay attention to familiar vocabulary words from the target and be ready to share the meaning.<ul style="list-style-type: none">* “I can determine the meaning of unfamiliar words and phrases using a variety of strategies.”* “I can analyze the way text is structured to support readers’ understanding of complex ideas.”* “I can write an opinion paragraph to explain which invention has been most important to people.”• Ask students to discuss with their group mates the important vocabulary from the targets. Important vocabulary may be new or repeated from previous lessons.• Invite a volunteer from each group to share at least one word and the meaning in their own words.• If not mentioned in the discussion, bring the words <i>determine</i>, <i>variety</i>, <i>strategies</i>, <i>opinion</i>, <i>invention</i>, <i>society</i>, <i>analyze</i>, <i>structured</i>, and <i>complex</i> to students’ attention. Listen for students to offer definitions such as:<ul style="list-style-type: none">– “Determine means to find out, define.”– “Variety mean a mixture or assortment.”– “Strategies are plans or approaches to challenges.”– “Analyze means to examine or study closely.”– “Structured means organized, arranged, or set up.”– “Complex means complicated or difficult to understand.”– “An opinion is a view, judgment, or belief.”– “Invention means the creation of a new technology or device.”• To allow for synthesis of the vocabulary review, allow students 1 minute to discuss in groups ways to restate these targets in their own words. Invite a member from each group to share.	<ul style="list-style-type: none">• Display student-generated synonyms above or below key words in the learning targets to support ELLs and other students who may struggle with vocabulary.



Work Time	Meeting Students' Needs
<p>A. End of Unit 1 Assessment: Using Quotes to Explain Relationships and Support an Opinion (35 minutes)</p> <ul style="list-style-type: none">• Tell students that today they will read two new pieces of informational text about inventions and their impact on society. Then they will respond to some questions about these texts, as well as the other informational texts they have read throughout the second half of this unit.• Tell students that this is an “open book” assessment, which means they may use their resources but must work on their own. They may use their journal notes, other texts, and all anchor charts to support their responses to questions and writing prompts. Give students time and support to locate and gather materials from prior lessons that they will need:<ul style="list-style-type: none">– Journals– “The Electric Motor”– “Dr. James Naismith, Inventor of Basketball”– “First College Basketball Game”• Make sure the Close Readers Do These Things and Vocabulary Strategies anchor charts are posted for student reference.• Distribute the assessment texts, “Big Thinkers: Was Steve Jobs This Generation’s Thomas Edison?” and “Steve Jobs” as well as the End of Unit 1 Assessment: Using Quotes to Explain Relationships and Support an Opinion.• Give students 1 minute to quickly scan the assessment and then address any clarifying questions students may have.• Give students approximately 30 minutes to independently complete the assessment.• Circulate to supervise; since this is a formal, on-demand assessment, do not provide support other than formally approved accommodations.	<ul style="list-style-type: none">• ELLs receive extended time as an accommodation on New York State assessments.



Work Time (continued)	Meeting Students' Needs
<p>B. Tracking My Progress: Reflecting on Learning (10 minutes)</p> <ul style="list-style-type: none">• Introduce the learning target:<ul style="list-style-type: none">* “I can reflect on my learning about how new or improved technologies are developed to meet societal needs.”• Focus on the word “reflect.” Ask students for suggestions about what this term means. Listen for students to share ideas such as: “look back at my work to think about what I did,” “how I did,” “what I am having trouble with,” “what I am doing well,” and similar suggestions.• Distribute the Tracking My Progress: End of Unit 1 recording form. Explain that this is a self-assessment, and is very much like the self-assessment they completed for the mid-unit assessment. They will reflect on their progress toward each of the three learning targets. Read through the tracker and provide clarification as necessary.• After several minutes, invite students to share their self-assessment of these targets with a partner by referring to their Tracking My Progress recording form. Invite several students to share aloud with the group.• Collect students' End of Unit 1 Assessments to formally assess, and their Tracking My Progress forms to review.	<ul style="list-style-type: none">• Allow students who struggle with written language to dictate their reflections on learning targets to a partner or a teacher. This allows all students to participate in a meaningful way.• Consider providing a sentence frame to ensure all students have access to the conversation: “On the ____ (first, second, third) target, I circled ____ because ____.”



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief: Sharing Reflections on Learning Targets and Exit Ticket (5 minutes)</p> <ul style="list-style-type: none">• Refocus whole group and congratulate students on their thoughtful responses to the assessment questions as well as their ability to show what they know about determining the meaning of unfamiliar words from context, analyzing how text structure supports readers' understanding, and expressing their opinions through writing.• Then distribute one index card to each student to use as an exit ticket. Pose the following question:<ul style="list-style-type: none">* "Imagine you could meet one of the inventors we have read about. Who would you choose? What would you tell him or her about how this invention has impacted society?"• Give students 2 to 3 minutes to record a response on their exit ticket cards and then share their thinking with a nearby partner.• Invite several students to share their thinking whole group, then collect students' exit tickets for review. Distribute new Independent Reading Choice Boards to each student for homework.	<ul style="list-style-type: none">• Allow students who struggle with written language to dictate their exit ticket to a partner or a teacher.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread either the "Big Thinkers: Was Steve Jobs the Next Thomas Edison?" or "Steve Jobs" article aloud to someone at home or in front of the mirror, to practice fluency skills.	<ul style="list-style-type: none">• To support students who struggle with fluency, consider providing an audio recording of the articles for students to read along with.



EXPEDITIONARY
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Grade 5: Module 2B: Unit 1: Lesson 10

Supporting Materials



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Four Corners Sheets

“Basketball met the greatest societal need.”

“Windshield wipers met the greatest societal need.”



Four Corners Sheets

“The paper bag machine met the greatest societal need.”

“The electric motor met the greatest societal need.”



“Big Thinkers: Was Steve Jobs This Generation’s Thomas Edison?”

Tech

BIG THINKERS

Was Steve Jobs this generation's Thomas Edison?

When Steve Jobs, co-founder of Apple, died on October 5 at age 56, countless tributes cited his achievements. Many put his name alongside that of another great achiever. One obituary said of Jobs, “The 20th century’s Thomas Edison has stepped from the stage.” Is the comparison an apt one?

Thomas Alva Edison (1847-1931), the world’s most famous inventor, created or improved devices that revolutionized the way people lived. His work brought electricity and electric-powered devices into people’s homes and everyday lives for the first time.

Jobs is cited as the inventor or co-inventor on 313 U.S. patents. By contrast, Edison’s name is on 1,093.

Though he may not be Edison’s equal in terms of patents, Jobs is clearly one of the world’s great innovators. Other people invented the computer mouse and the MP3 player; Jobs found ways to make such devices sleeker, more versatile, and easier to use.

Jobs founded Apple Computer in 1976 with a high school friend. “We worked hard,” he told students at Stanford University in 2005, “and in 10 years Apple had grown from just the two of us in a garage into a \$2 billion company with over 4,000 employees.”

In 1984, Apple introduced the Macintosh. Macs were the first “user-friendly” computers. They let people do what we now take for granted: interact with computers with on-screen images and a mouse rather than by typing in long, tedious commands. Other popular Apple innovations include the iPhone, the first touch-screen cell phone; the iPad, the leading touch-screen tablet; and iTunes, a cheap—and legal—way to buy music online. “A lot of times,” Jobs once said, “people don’t know what they want until you show it to them.”

Steve Jobs unveils the iPad in 2010.



Thomas Edison—best known for his invention of the light bulb—in 1911



CLOCKWISE FROM TOP LEFT: EAP IMAGES/PAUL SARKIS, EAP IMAGES/STEFAN EUSTACH HUGG/GETTY IMAGES

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“Steve Jobs”

TFK 2011 Person of the Year Nominee

December 2, 2011

By TIME For Kids Staff

For a quarter of a century, Apple cofounder Steve Jobs pushed and helped define the boundaries of computing technology. In October, Jobs died from a rare form of cancer. Millions of people mourned his death, creating monuments to his memory at Apple stores across the country. Throughout his illness, he never stopped innovating. In fact, he helped push through groundbreaking new products just weeks before he died.

Apple’s first big success was the Apple II personal computer in 1977.

Ten years ago, Jobs introduced the world to a new MP3 player, the now well-known iPod. The company introduced the iTunes Music Store in 2003, allowing consumers to purchase and download music with the touch of a button.

A true breakthrough happened in 2007, when Apple first showed off its iPhone. The product, more than merely a gadget, is essentially a computer that can be carried in your pocket. Consumers agreed that it was a revolutionary product. Many camped out in front of Apple stores to be the first to buy the new device. By 2011, the iPhone was selling more than 220,000 units a day.

In 2010, Apple broke into the tablet computer industry with the iPad. The company sold 14.8 million iPads in 2010, which was well beyond what industry analysts predicted.



End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion

Learning Targets Assessed:

I can determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. (RI.5.4)

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)

I can explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. (RI.5.3)

I can compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts. (RI.5.5)

I can write opinion pieces on topics or texts, supporting a point of view with reasons and information. (W.5.1)

- a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
- b. Provide logically ordered reasons that are supported by facts and details.

Directions

- Read the articles “Big Thinkers” and “Steve Jobs.”
- Consider the gist of the articles—what are they mostly about?
- Skim the assessment questions below.
- Reread the texts in chunks to help you think about the answers to the assessment questions.
- Answer short-response questions in complete sentences.
- Be sure to cite evidence from the text to support your thinking.
- Be sure to include key words and phrases from the texts in your short-answer responses.



End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion

1. Read the following paragraph from the article “Big Thinkers,” then answer the questions that follow.

“Though he may not be Edison’s equal in terms of patents, Jobs is clearly one of the world’s great **innovators**. Other people invented the computer mouse and MP3 player; Jobs found ways to make such devices sleeker, more versatile, and easier to use.”

Part A:

What does the word *innovators* mean in this paragraph?

- a. a trendsetter
- b. an inventor
- c. a person who resists change
- d. a person who improves or makes changes to the design of existing inventions

Part B:

Which of the following phrases from the article best helps the reader understand the meaning of the word *innovator*?

- a. “Other people invented the computer mouse and MP3 player; Jobs found ways to make such devices sleeker, more versatile, and easier to use.”
- b. “We worked hard.”
- c. “Macs were the first user-friendly computers.”
- d. “Other popular Apple innovations include the iPhone ...”

2. According to the “Big Thinkers” article, how are Thomas Edison and Steve Jobs similar?

- a. They both created or improved technologies that changed people’s lives.
- b. They have both patented more than 1,000 new or improved technologies.
- c. They both said, “People don’t know what they want until you show it to them.”



End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion

3. Structure of Informational Texts

**Part A: How are the first three paragraphs of the “Big Thinkers” article structured?
(choose one)**

- a. Cause and Effect
- b. Problem-Solution
- c. Sequential
- d. Descriptive
- e. Compare and Contrast

**How is the “Steve Jobs” article structured?
(choose one)**

- a. Cause and Effect
- b. Problem-Solution
- c. Sequential
- d. Descriptive
- e. Compare and Contrast

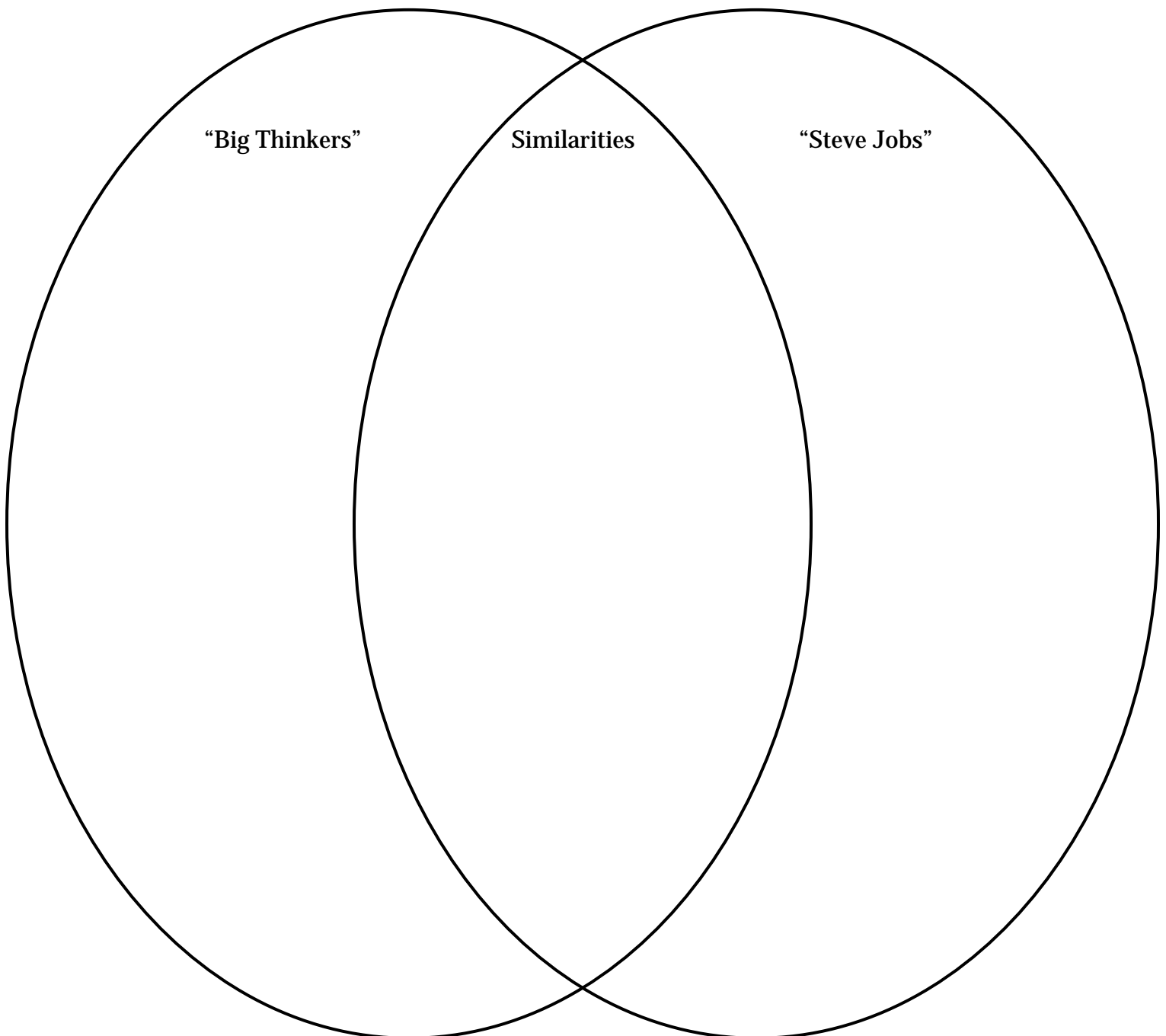


End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion

Part B. Complete the Venn diagram to show:

- At least two ways “Big Thinkers” and “Steve Jobs” convey *similar* information about Steve Jobs.
- At least two ways “Big Thinkers” and “Steve Jobs” convey *different* information about Steve Jobs.





End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion

Part C: Short Constructed Response

What were you able to understand about Steve Jobs from the “Big Thinkers” and “Steve Jobs” articles? Provide at least one specific example from each article as well as key words and phrases from the texts in your response.



End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion

4. Opinion Writing

Think about the following three inventions you have read about in this unit:

- ***The electric motor***
- ***The game of basketball***
- ***Apple computers***

Given what you know about how each of these inventions met people's needs, which one of the three do you think has been the most important to people?

Refer to the articles "The Invention of the Electric Motor," "Dr. James Naismith, Inventor of Basketball," "First College Basketball Game," "Big Thinkers," and "Steve Jobs" as well as your Cause and Effect, Problem and Solution, and Sequential note-catchers (from Lessons 7 and 9) to help you form your opinion.

Write a four or five sentence paragraph that includes:

- A brief introduction to the topic
- An opinion statement
- A reason that explains why you believe the opinion
- Two pieces of evidence to support the reason and opinion
- A conclusion that restates the opinion
- Clearly organized ideas
- Key words and phrases from the texts



End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion
(Answers, for Teacher Reference)

Learning Targets Assessed:

I can determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. (RI.5.4)

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)

I can explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. (RI.5.3)

I can compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts. (RI.5.5)

I can write opinion pieces on topics or texts, supporting a point of view with reasons and information. (W.5.1)

- a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
- b. Provide logically ordered reasons that are supported by facts and details.

*Answers are in **bold**.

1. Read the following paragraph from the article “Big Thinkers,” then answer the questions that follow. (RI.5.4)

“Though he may not be Edison’s equal in terms of patents, Jobs is clearly one of the world’s great **innovators**. Other people invented the computer mouse and MP3 player; Jobs found ways to make such devices sleeker, more versatile, and easier to use.”

Part A:

What does the word *innovators* mean in this paragraph?

- a. a trendsetter
- b. an inventor
- c. a person who resists change
- d. a person who improves or makes changes to the design of existing inventions**



End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion
(Answers, for Teacher Reference)

Part B:

Which of the following phrases from the article best helps the reader understand the meaning of the word *innovator*?

- a. “Other people invented the computer mouse and MP3 player; Jobs found ways to make such devices sleeker, more versatile, and easier to use.”**
- b. “We worked hard.”
- c. “Macs were the first user-friendly computers.”
- d. “Other popular Apple innovations include the iPhone ...”

2. According to the “Big Thinkers” article, how are Thomas Edison and Steve Jobs similar? ? **(RI.5.3)**

- a. They both created or improved technologies that changed people’s lives.**
- b. They have both patented more than 1,000 new or improved technologies.
- c. They both said, “People don’t know what they want until you show it to them.”

3. Structure of Informational Texts **(RI.5.5)**

Part A: How are the first three paragraphs of the “Big Thinkers” article structured?
(choose one)

- a. Cause and Effect
- b. Problem-Solution
- c. Sequential
- d. Descriptive
- e. Compare and Contrast**



End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion
(Answers, for Teacher Reference)

How is the “Steve Jobs” article structured?
(choose one)

- a. Cause and Effect
- b. Problem-Solution
- c. Sequential**
- d. Descriptive
- e. Compare and Contrast

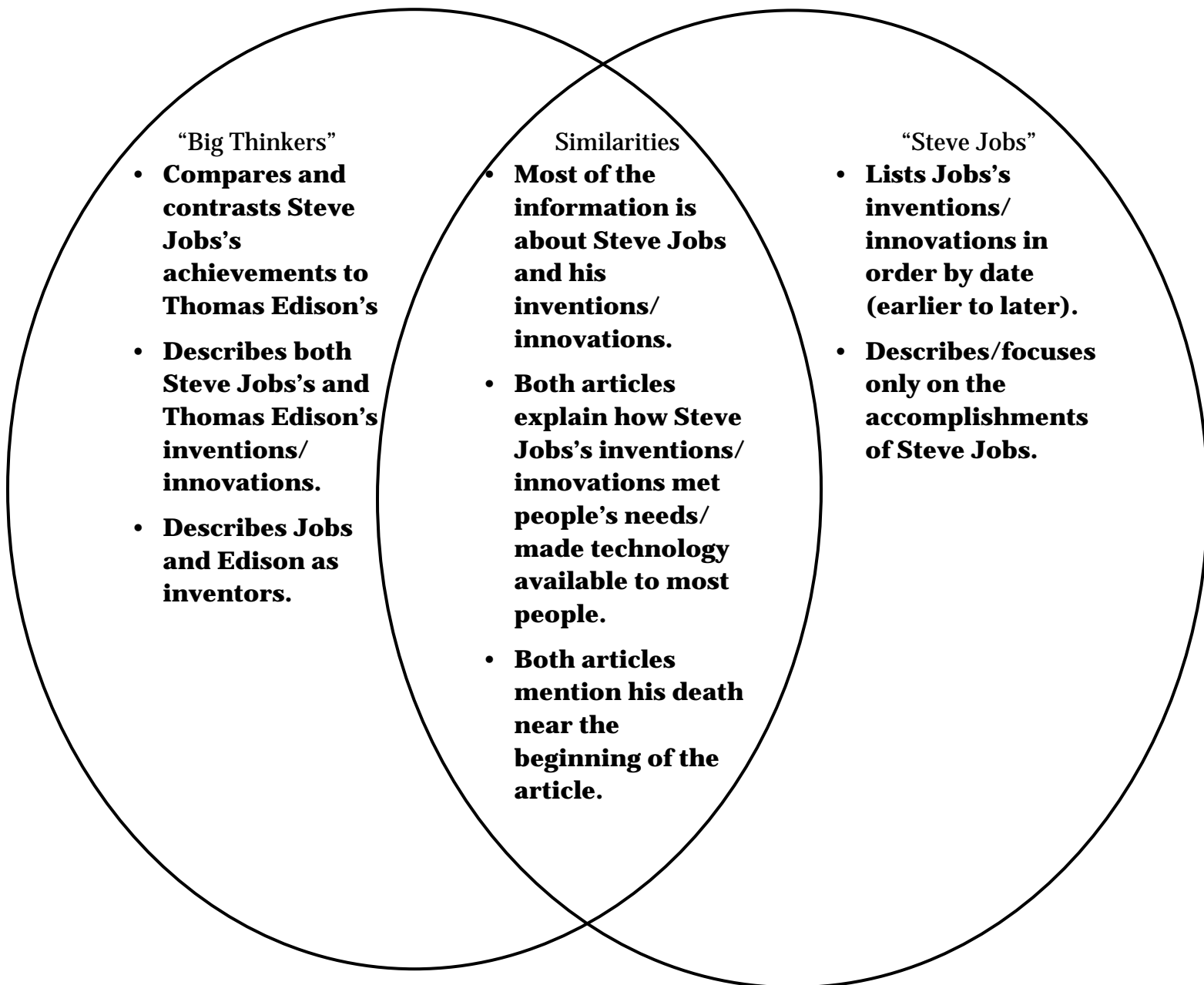


End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion
(Answers, for Teacher Reference)

Part B. Complete the Venn diagram to show:

- At least two ways “Big Thinkers” and “Steve Jobs” convey *similar* information about Steve Jobs.
- At least two ways “Big Thinkers” and “Steve Jobs” convey *different* information about Steve Jobs.





End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion
(Answers, for Teacher Reference)

Part C: Short Constructed Response

What were you able to understand about Steve Jobs from the “Big Thinkers” and “Steve Jobs” articles? Provide at least one specific example from each article as well as key words and phrases from the texts in your response.

Comparing and contrasting Steve Jobs’s achievements and inventions to those of a famous inventor like Thomas Edison helped me understand how Steve Jobs’s invention of Apple computers and other technology met people’s needs just as much as Thomas Edison’s invention of the light bulb. Describing Steve Jobs’s accomplishments/inventions in sequential order helped me understand how he developed more/newer/better ideas to meet people’s needs over a (long/extended) period of time.



End of Unit 1 Assessment:

Using Quotes to Explain Relationships and Support an Opinion
(Answers, for Teacher Reference)

4. Opinion Writing (RI.5.1 and W.5.1 a, b)

Think about the following three inventions you have read about in this unit:

- ***The electric motor***
- ***The game of basketball***
- ***Apple computers***

Given what you know about how each of these inventions met people's needs, which one of the three do you think has been the most important to people?

Refer to the articles "The Invention of the Electric Motor," "Dr. James Naismith, Inventor of Basketball," "First College Basketball Game," "Big Thinkers," and "Steve Jobs" as well as your Cause and Effect, Problem and Solution, and Sequential note-catchers (from Lessons 7 and 9) to help you form your opinion.

Write a four or five sentence paragraph that includes:

- A brief introduction to the topic
- An opinion statement
- A reason that explains why you believe the opinion
- Two pieces of evidence to support the reason and opinion
- A conclusion that restates the opinion
- Clearly organized ideas
- Key words and phrases from the texts

(sample response frame)

There have been many inventions that have made life better for people (topic). I think the most important invention is the _____ (opinion). Before the invention of the _____ life was much more difficult (reason). People had to _____ (evidence/quote), but now people can _____ (evidence/quote). That is why I believe the _____ has most met peoples' needs (conclusion.)



2-Point Rubric: Writing from Sources/Short Response¹
(For Teacher Reference)

Use the below rubric for determining scores on short answers in this assessment.

2-point Response	The features of a 2-point response are:
	<ul style="list-style-type: none">• Valid inferences and/or claims from the text where required by the prompt• Evidence of analysis of the text where required by the prompt• Relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt• Sufficient number of facts, definitions, concrete details, and/or other information from the text as required by the prompt• Complete sentences where errors do not impact readability
1-point Response	The features of a 1-point response are:
	<ul style="list-style-type: none">• A mostly literal recounting of events or details from the text as required by the prompt• Some relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt• Incomplete sentences or bullets
0-point Response	The features of a 0-point response are:
	<ul style="list-style-type: none">• A response that does not address any of the requirements of the prompt or is totally inaccurate• No response (blank answer)• A response that is not written in English• A response that is unintelligible or indecipherable

¹From New York State Department of Education, October 6, 2012.



Tracking My Progress End of Unit 1

Name: _____

Date: _____

Learning Target: I can determine the meaning of new words using a variety of strategies.

1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this



I understand some of this



I am on my way!



3. The evidence to support my self-assessment is:



Tracking My Progress End of Unit 1

Name: _____

Date: _____

Learning Target: I can analyze the way text is structured to support readers' understanding of complex ideas.

1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this



I understand some of this



I am on my way!



3. The evidence to support my self-assessment is:



Tracking My Progress End of Unit 1

Name:

Date:

Learning Target: I can write an opinion paragraph to explain which invention has been most important to people.

1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this



I understand some of this



I am on my way!



3. The evidence to support my self-assessment is:



Independent Reading Choice Board

Name: _____

Date: _____

Title of Independent Reading Book/Author's Name:

After reading independently (silently and/or aloud) for at least 30 minutes, write a response to any ONE question from the board *except* the center square. Complete the center square once you have answered each of the other eight questions.

VISUAL ELEMENTS What visual elements (pictures, text) do you notice in this book? How do the visual elements support your understanding of the text?	CONNECTIONS What connections were you able to make between your independent reading book and other texts, topics explored, or experiences you have had?	STRUCTURE How is this book structured? How does the structure support your understanding of the text?
GENRE What genre is this book? Do you enjoy this genre? Explain.	<i>*Complete this square last.</i> What qualities will you look for in the next book you read? (e.g., same author, similar visual features, same or different genre, etc.)	RECOMMENDATION Would you recommend this book and/or this author to someone else? Explain.
WORDS Which <i>words</i> repeat? List them. Why do you think the author chose to repeat these words; why are they important?	READABILITY Is your independent reading book too hard, just right, or too easy? Explain.	INTEREST Do you find this book interesting? Explain.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Overview



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Unit 2, Case Study: *The Boy Who Invented TV: The Story of Philo Farnsworth*

In Unit 2, students continue to build their reading and writing skills as well as their understanding of how new or improved technologies are developed to meet the needs of society, through a case study of Philo Farnsworth, the inventor of television. They will examine how Philo Farnsworth became motivated to develop new and useful devices that made life easier in rural America, and how he persuaded others to invest in his ideas. For the mid-unit assessment, students will

demonstrate their ability to apply what they have learned to determine the meaning of new vocabulary, as well as recognize and summarize the main ideas of an informational text by completing a text-dependent questions and short-answer quiz. At the conclusion of Unit 2, students are assessed on their ability to write a four-paragraph, on-demand essay about why Philo Farnsworth invented television, as well as how television changed people's lives.

Guiding Questions and Big Ideas

- *New or improved technologies are developed to meet societal demands.*
- *Text structure and visual elements can support readers' understanding of complex ideas.*
- **How do new or improved technologies meet societal needs?**
- **How do authors structure text to engage and support readers' understanding of complex ideas?**



Mid-Unit 2 Assessment	<p>Text-Dependent Questions: “The TV Guy”</p> <p>This assessment centers on NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.4, and L.5.4. For this assessment, students will read an article about Philo Farnsworth called “The TV Guy,” then complete multiple-choice and short-answer text-dependent questions. This short “quiz” requires students to use quotes from the text to support an inference and to summarize the main idea of the text using key details. Students are also asked to use a variety of strategies to discover the meanings of unknown words.</p>
End of Unit 2 Assessment	<p>On-Demand Informational Writing: Philo Farnsworth’s Invention of the Television and How It Changed People’s Lives</p> <p>This assessment centers on NYSP12 ELA CCLS RL.5.3, W.5.2, and L.5.4 and has two parts. In Part 1, students will read excerpts from an article called “Television” and answer a series of short-response and multiple-choice text-dependent questions to explain the relationship between people and ideas, determine the meaning of unfamiliar terms using a variety of strategies, and organize parts of an introductory paragraph related to the essay they will write for Part II of the assessment. During Part 2, students will synthesize the information (in the form of notes) that they have gathered during previous lessons, and will write an informational essay about the invention of the television and how it changed people’s lives. Students’ essays will be written using a “Painted Essay” structure that includes: a well-organized introductory paragraph, two proof paragraphs, and a conclusion.</p>



Content Connections

This module is designed to address English Language Arts standards as students read literature and informational text about inventions that have been developed to meet societal needs. However, the module intentionally incorporates scientific practices and themes to support potential interdisciplinary connections to this compelling content.

These intentional connections are described below.

NYS Science Standard 1: Analysis, Inquiry, and Design: Engineering Design

Key Idea 1:

- Engineering design is an iterative process involving modeling and optimization (finding the best solution within given constraints); this process is used to develop technological solutions to problems within given constraints.
-
- T1.1 Identify needs and opportunities for technical solutions from an investigation of situations of general or social interest.
 - T1.1a Identify a scientific or human need that is subject to a technological solution which applies scientific principles.
- T1.2 Locate and utilize a range of printed, electronic, and human information resources to obtain ideas.
 - T1.2a Use all available information systems for a preliminary search that addresses the need.

Next Generation Science Standards: 3–5 Engineering Design

ETS1.B: Developing Possible Solutions

- Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (3-5-ETS1-2)
- At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. (3-5-ETS1-2)
- Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved. (3-5-ETS1-3)



Central Texts

1. Kathleen Krull, *The Boy Who Invented TV: The Story of Philo Farnsworth* (New York: Random House, 2009), ISBN: 978-0-375-84561-1.
2. I Love History, "The TV Guy," <http://www.ilovehistory.utah.gov/people/difference/farnsworth.html>.
3. Wessels Living History Farm, "TV Turns On," http://www.livinghistoryfarm.org/farminginthe40s/life_27.html.
4. Video: "Television Takes the World by Storm," History.com, <http://www.history.com/topics/radio-and-television/videos#television-takes-the-world-by-storm>.
5. "Television." World Book Online InfoFinder. World Book, 2014. Web. 6 Feb. 2014.



This unit is approximately 3 weeks or 13 sessions of instruction.

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 1	Building Background Knowledge: <i>The Boy Who Invented TV</i> , “Life before Philo”	<ul style="list-style-type: none"> I can engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts. (SL.5.1) I can determine two or more main ideas from a text and explain how they are supported by key details. (RI.5.2) I can summarize the text. (RI.5.2) 	<ul style="list-style-type: none"> I can engage in collaborative discussions with my peers. I can determine the two main ideas about “Life before Philo” from <i>The Boy Who Invented TV</i> by identifying key supporting details. I can summarize the main ideas about “Life about Philo” from <i>The Boy Who Invented TV</i>. 	<ul style="list-style-type: none"> Building Background Knowledge graphic organizer Main Ideas and Summary graphic organizer: Life before Philo Group Norms Checklist (Teacher assessment) 	<ul style="list-style-type: none"> Supporting Details/Main Ideas/Summary anchor chart Group Norms anchor chart Vocabulary Strategies anchor chart Quote/Paraphrase anchor chart
Lesson 2	Determining Main Ideas and Summarizing: Philo Farnsworth's Early Years	<ul style="list-style-type: none"> I can determine two or more main ideas from a text and explain how they are supported by key details (RI.5.2) I can summarize the text. (RI.5.2) I can determine or clarify the meaning of unknown and multiple –meaning words and phrases by choosing flexibly from a range of strategies. (L.5.4) <ul style="list-style-type: none"> I can use context as a clue to the meaning of a word or phrase. I can use common, grade appropriate Greek and Latin affixes and roots as clues to the meaning of a word. I can engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts. (SL. 5.1) 	<ul style="list-style-type: none"> I can determine two main ideas from pages 2-9 of <i>The Boy Who Invented TV</i> by identifying key supporting details. I can summarize pages 2-9 of <i>The Boy Who Invented TV</i>. I can determine the meaning of key words and phrases using a variety of strategies. 	<ul style="list-style-type: none"> Main Ideas and Summary graphic organizer: Philo's Childhood Vocabulary, four-column chart (in journal) Group Norms Checklist (teacher assessment) 	<ul style="list-style-type: none"> Dissecting a Vocabulary Word anchor chart Group Norms anchor chart Main Ideas and Summarizing anchor chart Vocabulary Strategies anchor chart Four Corners protocol Popcorn Read protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 3	Making Inferences: What Motivates Philo Farnsworth?	<ul style="list-style-type: none"> I can engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts. (SL.5.1) I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4) <ul style="list-style-type: none"> I can use context as a clue to the meaning of a word or phrase. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. 	<ul style="list-style-type: none"> I can engage in collaborative discussions with peers. I can make inferences using quotes and paraphrased details from the text. I can determine the meaning of key words using a variety of strategies. 	<ul style="list-style-type: none"> Making Inferences graphic organizers: What Motivated Philo Farnsworth? Vocabulary, four-column chart (in journal) Group Norms Checklist (teacher assessment) 	<ul style="list-style-type: none"> Making Inferences anchor chart Vocabulary Strategies anchor chart Group Norms anchor chart Stretch-o-Meter protocol
Lesson 4	Making Inferences and Summarizing: Philo Farnsworth's Idea for "Capturing Light in a Bottle"	<ul style="list-style-type: none"> I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of general academic and domain-specific words. (RI.5.4) I can determine two or more main ideas from a text and explain how they are supported by key details. (RI.5.2) I can summarize the text. (RI.5.2) 	<ul style="list-style-type: none"> I can make inferences using quotes and paraphrased details from <i>The Boy Who Invented TV</i>. I can determine the meaning of academic and scientific words using a variety of strategies. I can write a summary paragraph explaining the multiple main ideas in pages 2-17 of <i>The Boy Who Invented TV</i>. 	<ul style="list-style-type: none"> Graphic novel templates (from homework) Making Inferences graphic organizer: Developing a Solution Vocabulary, four-column chart (in journal) Summary of pages 2-17 (in journal) 	<ul style="list-style-type: none"> Making Inferences anchor chart Main Ideas and Summary anchor chart Popcorn Read protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 5	Mid-Unit Assessment: Text-Dependent Questions about “The TV Guy”	<ul style="list-style-type: none"> • I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1) • I can summarize a text. (RI.5.1) • I can determine two or more main ideas of a text and explain how they are supported by key details. (RI.5.1) • I can determine the meaning of general academic and domain – specific words and phrases in a text relevant to a grade 5 topic or subject area. (RI.5.4) • I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4) 	<ul style="list-style-type: none"> • I can quote accurately from the text when making an inference about why Philo Farnsworth was named one of the most important people of the 20th century by <i>Time</i> magazine. • I can write a statement to summarize what the article: “The TV Guy” is mostly about using key details that support the main idea(s). • I can use a variety of strategies to determine the meaning of unknown words. 	<ul style="list-style-type: none"> • Independent Reading Choice Board response (from homework) • Mid-Unit 2 Assessment • Tracking My Progress, Mid-Unit 2 recording form 	
Lesson 6	Using Quotes to Explain: Why Philo Farnsworth Invented Television	<ul style="list-style-type: none"> • I can explain what a text says using quotes from the text. (RI.5.1) • I can determine the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L. 5.4) <ul style="list-style-type: none"> a. I can use context as a clue to the meaning of a word or phrase. c. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. 	<ul style="list-style-type: none"> • I can explain <i>why</i> Philo Farnsworth wanted to invent television. • I can determine the meaning of unknown words and phrases using a variety of strategies. 	<ul style="list-style-type: none"> • Fluency self-assessment (from homework) • Independent Reading Choice Board response (from homework) • Gist statement (in journal) • The Invention of Television note-catcher • Vocabulary defined (in journal) 	<ul style="list-style-type: none"> • Vocabulary Strategies anchor chart • Popcorn Read protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 7	Using Quotes to Explain Relationships: How the Invention of Television Changed People's Lives	<ul style="list-style-type: none"> I can explain what a text says using quotes from the text. (RI.5.1) I can explain important relationships between people, events and ideas in a historical, scientific or technical text based on specific information in the text. (RI.5.3) 	<ul style="list-style-type: none"> I can explain how television changed people's lives, using paraphrased details from the video and quotes from the text. I can identify the role of television in people's lives, based on information from the video and article. 	<ul style="list-style-type: none"> How Television Changed People's Lives note-catcher Text-Dependent Questions: The Role of Television in People's Lives Vocabulary defined (in journal) Fluency self-assessment Independent Reading Choice Board response Group Norms Checklist (teacher assessment) 	<ul style="list-style-type: none"> Quote/Paraphrase anchor chart Vocabulary Strategies anchor chart Stretch-O-Meter protocol
Lesson 8	Analysis, Reflection, and Introduction to the Painted Essay: The Invention of Television	<ul style="list-style-type: none"> I can choose evidence from literary or informational texts to support analysis, reflection and research. (W.5.9) I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2) 	<ul style="list-style-type: none"> I can analyze evidence from the texts I have read and viewed in order to explain if television changed people's lives in the ways Philo Farnsworth hoped it would. I can describe the Painted Essay structure for writing an essay. 	<ul style="list-style-type: none"> Analyze and Explain task Painted Essay template, color-coded 	<ul style="list-style-type: none"> Back-to-Back, Face-to-Face protocol
Lesson 9	The Painted Essay: The Introductory Paragraph	<ul style="list-style-type: none"> I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can introduce a topic clearly. I can provide a general observation and focus. I can group related information logically. 	<ul style="list-style-type: none"> I can identify and explain the purpose of the introduction, thesis, and points of an introductory paragraph about the invention of the electric motor. With peers, I can sort and color-code the introduction, focus, and points of an introductory paragraph about the invention of basketball. 	<ul style="list-style-type: none"> Independent Reading Choice Board responses Independent reading index card (completed during Opening A) The Electric Motor introductory paragraph, color-coded. Basketball introductory paragraph, sorted and color-coded 	<ul style="list-style-type: none"> Parts of a Painted Essay anchor chart



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 10	The Painted Essay: Writing Proof Paragraphs	<ul style="list-style-type: none"> I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can develop the topic with facts, definitions, details, and quotations. I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9) 	<ul style="list-style-type: none"> I can determine reasons and evidence related to the first and second points of an essay about the invention of basketball. I can write two proof paragraphs for an essay about the invention of basketball by using reasons and evidence related to each point in my introductory paragraph. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) Proof Paragraphs graphic organizer Written proof paragraphs 	<ul style="list-style-type: none"> Parts of a Painted Essay anchor chart
Lesson 11	The Painted Essay: Developing a Conclusion and Adding Linking Words	<ul style="list-style-type: none"> I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can use linking words and phrases to connect ideas within categories of information. I can use specific language and key vocabulary to explain the topic. I can construct a concluding statement or section of an informative/explanatory text. I can effectively engage in a range of collaborative discussions with diverse partners on grade 5 topics and texts, building on others' ideas and expressing my own ideas clearly. (SL.5.1) 	<ul style="list-style-type: none"> I can write a conclusion for my essay about the invention of basketball, using specific language and key vocabulary. I can identify the types of linking words used to connect ideas in a model essay about the invention of the electric motor. I can connect the ideas in my essay about the invention of basketball by using linking words. 	<ul style="list-style-type: none"> Written conclusion paragraph that include specific language and key terms Linking words coded on model electric motor essay Linking words added to proof paragraphs and conclusion of basketball essay 	<ul style="list-style-type: none"> Linking Words anchor chart Parts of a Painted Essay anchor chart Four Corners protocol Back-to-Back, Face-to-Face protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 12	End of Unit Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1	<ul style="list-style-type: none"> I can explain the relationships or interactions between two or more individuals, events, ideas or concepts in a historical, scientific, or technical text based on specific information in the text. (RI.5.3) I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can introduce a topic clearly, provide a general observation and focus, and group related information logically. I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4) 	<ul style="list-style-type: none"> I can explain the relationship between society and the invention of television. I can determine the meaning of unknown words using a variety of strategies. I can identify the parts of an introductory paragraph about the invention of television. 	<ul style="list-style-type: none"> Independent Reading Choice Board response End of Unit 2 Assessment, On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1 	



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 13	End of Unit Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 2	<ul style="list-style-type: none"> I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) <ol style="list-style-type: none"> Introduce a topic clearly, provide a general observation and focus, and group related information logically; including formatting (e.g. headings), illustrations, and multimedia when useful to aiding comprehension. I can develop the topic with facts, definitions, details, and quotations. I can use linking words and phrases to connect ideas within categories of information (e.g. in contrast, especially). I can use precise, content-specific vocabulary to inform or explain about a topic. I can construct a concluding statement or section of an informative/explanatory text. I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9) 	<ul style="list-style-type: none"> I can write an informational essay that explains why Philo Farnsworth invented TV and how it changed people's lives. I can draw upon evidence from the informational texts I've read about Philo Farnsworth and the invention of TV to support the ideas presented in my essay. I can reflect on my learning about Philo Farnsworth's invention of television and how it changed people's lives. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) End of Unit 2 Assessment: On-Demand Information Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 2 Tracking My Progress, End of Unit 2 recording form 	<ul style="list-style-type: none"> Parts of a Painted Essay anchor chart Linking Words anchor chart Back-to-Back, Face-to-Face protocol



Optional: Experts, Fieldwork, and Service

Experts:

- Invite local television newscasters, producers, directors, or other individuals involved in the television industry to come speak to the class about how they develop and produce television shows or how they choose shows to air.

Fieldwork:

- Arrange for students to take a tour of a nearby television studio.

Service:

- Consider teaching students about public service announcements, also called PSAs (what they are and their purpose), then ask students to identify a local issue they want to research and create a PSA for to share with classmates and/or other students in the school.

Optional: Extensions

- Coordinate with a technology teacher to help students plan for and create their own news program related to events and important happenings taking place at the school.



Preparation and Materials

- Collect a variety of independent reading choices for students to select from (see the Recommended Texts List for Unit 2 of this module).
- Some lessons suggest that students work with small white boards and dry erase markers. If this is not possible, students could just work on large pieces of scratch paper.
- Students should continue to work toward mastery of fluent reading skills outlined in the **Foundational Reading and Language Skills Resource Package**. To help students increase accuracy and move on to establishing goals aligned to more complex criteria described in the Fluency Self-Assessment, such as punctuation, phrasing and expression, consider having students reread pages of *Max Axiom* during partner and independent reading times. Providing a text that is both familiar and engaging will increase students' ability to attain fluency skills. As students work to develop their four-paragraph informational essays, beginning in Lesson 8, consider using resources from the packet related to instruction around Language Standards (e.g., "Show the Rule Strategy.")



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2:

Recommended Texts



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The list below includes texts with a range of Lexile® text measures about the invention of the television. This provides appropriate independent reading for each student to help build content knowledge about the topic.

It is imperative that students read a high volume of texts at their reading level in order to continue to build the academic vocabulary and fluency demanded by the CCLS.

Note that districts and schools should consider their own community standards when reviewing this list. Some texts in particular units or modules address emotionally difficult content.

Common Core Band Level Text Difficulty Ranges:

(As provided in the NYSED Passage Selection Guidelines for Assessing CCSS ELA)

- Grades 2–3: 420–820L
- Grades 4–5: 740–1010L
- Grades 6–8: 925–1185L

Where possible, texts in languages other than English are also provided. Texts are categorized into three Lexile measures that correspond to Common Core Bands: below grade band, within band, and above band. Note, however, that Lexile® measures are just one indicator of text complexity, and teachers must use their professional judgment and consider qualitative factors as well. For more information, see Appendix 1 of the Common Core State Standards.

Title	Author and Illustrator	Text Type	Lexile Measure
Lexile measures in grades 2–3 band level (below 740L)			
<i>How Did That Get to My House? Television</i>	Gary Chmielewski (author)	Informational	500*
<i>Philo Farnsworth Invents TV</i>	Russell Roberts (author)	Biography	525*
<i>Who Invented Television? Philo Farnsworth</i>	Mary Kay Carson (author)	Informational	525*

*Lexile based on a conversion from Accelerated Reading level.



Title	Author and Illustrator	Text Type	Lexile Measure
Lexile measures within band level (740L–1010L)			
<i>The Teen Who Invented Television: Philo Farnsworth and His Awesome Invention</i>	Edwin Brit Wyckoff (author)	Informational	750*
<i>The Television</i>	Marc Tyler Nobleman (author)	Informational	750*
<i>Televisions</i>	Kristin Petrie (author)	Informational	815*
<i>TV's Forgotten Hero: The Story of Philo Farnsworth</i>	Stephanie Sammartino McPherson (author)	Informational	910
<i>Philo T. Farnsworth: Visionary Inventor of Television</i>	Tim O'Shei (author)	Informational	940*
Lexile measures above band level (over 1010L)			
<i>The Television</i>	Richard Spilsbury (author)	Informational	1030
<i>Television</i>	John Grabowski (author)	Informational	1050*
<i>Inventing the Television</i>	Joanne Richter (author)	Informational	1050*
<i>Television</i>	Steven Otfinoski (author)	Informational	1100*

*Lexile based on a conversion from Accelerated Reading level.

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EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 1

Building Background Knowledge: *The Boy Who Invented TV, “Life before Philo”*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts. (SL.5.1)
I can determine two or more main ideas from a text and explain how they are supported by key details. (RI.5.2)
I can summarize the text. (RI.5.2)

Supporting Learning Targets

- I can engage in collaborative discussions with my peers.
- I can determine the two main ideas about “Life before Philo” from *The Boy Who Invented TV* by identifying key supporting details.
- I can summarize the main ideas about “Life before Philo” from *The Boy Who Invented TV*.

Ongoing Assessment

- Building Background Knowledge graphic organizer
- Main Ideas and Summary graphic organizer: Life before Philo
- Group Norms Checklist (teacher assessment)



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Engaging the Reader: Mystery Text (10 minutes) 2. Work Time <ol style="list-style-type: none"> A. Introducing the Text: <i>The Boy Who Invented TV</i> (10 minutes) B. Determining the Gist and Revising Predictions: “Life before Philo,” Page 1 (15 minutes) C. Second Read: Determining Main Ideas and Summarizing (20 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Reread page 1 and complete the Television and Relationships homework task card. Bring the completed task card with you as an admit ticket for the next lesson. B. Read independently for at least 15 minutes. C. If needed, complete the four-column chart in your journal glossary. 	<ul style="list-style-type: none"> • In this lesson, students are introduced to a new text, <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i>, which grounds their work in Unit 2. • In the Opening, students make predictions about the topic of Unit 2, based on their analysis of the “Mystery Text,” a graph that shows the increased prevalence of television in people’s homes. This activity serves to build student engagement and interest around the case study focus of this unit, Philo Farnsworth’s invention of the television. The activity also supports students’ developing understanding of the connection between Philo Farnsworth’s invention of television and one of the big ideas of Module 2B: “New or improved technologies are developed to meet societal demands.” • As the lesson unfolds, students revise their predictions based on new insights from closely reading page 1, “Life before Philo.” Each time they revise their predictions, students consider not only details that support their understanding of the text, but also the guiding question: “How do new or improved technologies meet societal needs?” This helps them build connections to the big idea. • In Work Time C, students are introduced to the Main Ideas and Summary graphic organizer, which is designed to provide scaffolding as they work to summarize a text with multiple main ideas. Students complete the summary portion of the graphic organizer through a shared writing experience to provide all of them with a structured model of how to summarize more than one main idea. Preview the think-aloud in Work Time C and adjust it to suit your natural style. • Students are asked to continue adding words to the four-column charts they started to create in their journal glossaries during Unit 1. Since time for this activity (in Work Time B) is limited, focus students on identifying either a definition or a synonym for each term before completing the remaining columns of their charts. They can complete this activity for homework. • Throughout Lessons 1–3, standard SL.5.1 is assessed using an observation-based assessment, the Group Norms Checklist. Complete a separate checklist for each student to assess his or her progress on collaborative group discussion. Consider keeping checklists accessible throughout the lessons so you can complete a few at a time during each group discussion or work time.



	Teaching Notes (continued)
	<ul style="list-style-type: none">• In advance:<ul style="list-style-type: none">– Decide whether to have students continue to work with the same group members from Unit 1 or to assign new groups. Display groups on a piece of chart paper for student reference.– Consider displaying the guiding questions and vocabulary from Work Time B to save time during the lesson.– Create the Supporting Details/Main Ideas/Summary anchor chart. Review the example in the supporting materials to determine which components to create in advance and which to leave blank for shared thinking and writing. To save time during the lesson, consider recording in advance definitions for each term as well as the sentence breakdown for a summary paragraph.– Review the Main Ideas and Summary graphic organizer (answers, for teacher reference) to prepare to guide the shared writing piece in Work Time C.– Review Milling to Music in Checking for Understanding Techniques (see Appendix).– Review the Unit 2 Recommended Texts list. Have a variety of independent reading texts available for students to choose from (see Teaching Note at the end of this lesson).– Post: learning targets.



Lesson Vocabulary	Materials
engage, collaborative, technologies, societal needs, determine, main ideas, supporting, summarize; television, rare, effort, trickled, haphazardly, lonely	<ul style="list-style-type: none">• Journals (begun in Unit 1, Lesson 1; one per student)• Group Norms anchor chart (from Unit 1, Lesson 2)• Building Background Knowledge note-catcher (one per student)• Mystery Text (one per student)• Group Norms Checklist (one per student for teacher use; see Teaching Notes)• <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> (book; one per student)• Document camera• Vocabulary Strategies anchor chart (from Unit 1, Lesson 2)• Quote/Paraphrase anchor chart (from Unit 1, Lesson 2)• Main Ideas and Summary anchor chart (new; teacher-created)• Modeling: How to Identify Main Ideas (for teacher reference)• Main Ideas and Summary graphic organizer: Life Before Philo (one per student)• Main Ideas and Summary graphic organizer: Life Before Philo (answers, for teacher reference)• White board (one per student)• Dry erase marker (one per student)• Homework: Televisions and Relationships (one per student)



Opening	Meeting Students’ Needs
<p>A. Engaging the Reader: Mystery Text (10 minutes)</p> <ul style="list-style-type: none"> • Invite students to bring their journals and sit in their small groups. Tell them that they are starting a new unit in which they will work in groups to conduct a “case study,” an in-depth analysis of one inventor and invention. • Read the first learning target aloud: <ul style="list-style-type: none"> * “I can engage in collaborative discussions with my peers.” • Draw students’ attention to the terms <i>engage</i> and <i>collaborative</i>. Ask them to consider and discuss the meaning of each term. • After 1 minute, invite several students to share possible definitions. Listen for these or similar suggestions: <ul style="list-style-type: none"> – “<i>Engage</i> means to participate actively.” – “<i>Collaborative</i> means working together.” • Refer to the Group Norms anchor chart from Unit 1. Ask students to consider and discuss which group norms helped them engage in successful collaborative discussions during the previous unit. • After 1 minute, cold call several students to share out whole group. • Tell them that they will continue to use their group norms, and the Group Norms anchor chart, to help them recall ways to engage in rich conversations. Remind them that they set goals and worked to improve collaborative discussions regularly. Today, you will be walking around as they work in groups to make some observations about individuals’ progress toward this learning target. • Either read the guiding questions aloud or invite a student to do so: <ul style="list-style-type: none"> * “How do authors structure text and use visual elements to engage and support readers’ understanding of complex ideas?” * “How do new or improved technologies meet societal needs?” • Focus students on the second guiding question, specifically the terms <i>technologies</i> and <i>societal needs</i>. Ask them to consider and discuss these words. 	<ul style="list-style-type: none"> • Offer a sentence starter to give all learners access to the peer discussion (“Group norm _____ helped me engage in successful collaborative discussions because ...”). • Consider displaying student-generated definitions of the terms <i>technology</i> and <i>societal needs</i>. • Offer a sentence starter for the group discussion geared toward making a prediction about the topic of this unit (“I think this unit will be about ... because ...”).



Opening (continued)	Meeting Students’ Needs
<ul style="list-style-type: none">• After 1 or 2 minutes, invite a few students to share possible definitions for each term. Listen for and guide them toward these answers or similar suggestions:<ul style="list-style-type: none">– “Technologies are new tools or inventions.”– “Societal needs are things that people or communities need.”• Cold call several students to use their understanding of the key terms to restate the guiding question in their own words. Encourage students to keep this guiding question in mind as they analyze the mystery text.• Distribute the Building Background Knowledge note-catcher and the Mystery Text. Tell students that this mystery text will give them clues and information about the topic of the new unit. Ask them to take a few minutes to begin work independently, recording observations on the first half of the note-catcher.• After 2 or 3 minutes, direct students to take 2 or 3 minutes to discuss and complete the second half of the note-catcher together.• During group discussion, circulate and begin using the Group Norms Checklist to assess each student’s progress on SL.5.1.• Refocus students whole group. Cold call students from each group to share their predictions. Encourage them to explain which details from the mystery text influenced their predictions. Listen for ideas similar to these:<ul style="list-style-type: none">– “I think our new unit will be about the invention of the TV because this document is about how TVs keep becoming more and more common.”– “I think in our new unit we will learn about how TVs meet societal needs, because our guiding question is about how inventions meet societal needs and the mystery text says that TVs are getting more popular. I think that means more people want them or need them.”• Give students specific positive feedback on ways they are using details from the mystery text to support their thinking and make predictions about the topic of the unit.	



Work Time	Meeting Students’ Needs
<p>A. Introducing the Text: <i>The Boy Who Invented TV</i> (10 minutes)</p> <ul style="list-style-type: none">• Remind students that this unit will focus mostly on a single text. Distribute <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i>.• Ask students to look closely at the cover and take a few minutes to discuss their observations with a member of their group.• Cold call students to share observations about the cover with the whole class. Listen for these or similar observations:<ul style="list-style-type: none">– “I notice the book is called <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i>.”– “I notice there are pictures that look like scientific drawings in the background.”– “I notice the boy in the picture is wearing old-fashioned clothes.”– “I notice the book was written by Kathleen Krull and illustrated by Greg Couch.”– “I notice the TV in the picture is all in one color.”• Remind students that while analyzing <i>Investigating the Scientific Method with Max Axiom</i>, they discovered that images often play an important role in communicating the ideas in a text. Explain that this text also has many expressive images. Ask students to work with a partner to take a 2- to 3-minute “Book Walk”—to quickly flip through the book—and discuss what they notice and wonder about the images they see.• Refocus students and cold call several to share out observations. Listen for suggestions such as:<ul style="list-style-type: none">– “I notice lots of pictures of farms, and I wonder if Philo was a farmer.”– “I notice a picture where Philo has a light bulb and the words ‘Electrical Devices’ above his head. I wonder if he was interested in electricity.”– “I notice a picture where it seems like Philo is asking lots of questions. I wonder why that’s important.”• Ask students to consider and discuss:<ul style="list-style-type: none">* “Do the images from the Book Walk support the predictions you made about the topic of this unit?”* “Do the images from the Book Walk make you want to alter or change the predictions you made about the topic of this unit? If so, how?”	<ul style="list-style-type: none">• Offer a sentence starter to provide all learners with access to the peer discussion about the book <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> (“I notice the book has ...”).• To support visual learners, consider displaying some examples of details students notice under a document camera.



Work Time (continued)	Meeting Students’ Needs
<ul style="list-style-type: none">• Encourage students to consider the guiding question, “How do new or improved technologies meet societal needs?” and reconsider their initial predictions. Have them record their new predictions on a clean page in their journals (they will share these predictions later in the lesson).• Point out that the pages in this text are not numbered. Invite students to briefly consider:<ul style="list-style-type: none">* “Why is it helpful to have numbered pages when you are reading and analyzing a text?”• Invite a few students to share. Listen for them to realize it is easier to locate sections, point peers to evidence, etc.• Use the document camera to show students how to number the pages in the text. Start with “Life before Philo” as page 1 and label each page, including pictures. Direct students to insert page numbers into their own books as you demonstrate.	



Work Time (continued)	Meeting Students’ Needs
<p>B. Determining the Gist and Revising Predictions: “Life before Philo” (15 minutes)</p> <ul style="list-style-type: none">• Direct students to open <i>The Boy Who Invented TV</i> to page 1, “Life before Philo.” Explain that today’s reading focuses on the section of this book titled “Life before Philo,” and the first read is for gist. Invite a few students to remind the class what it means to read for <i>gist</i>. Listen for students to suggest that a gist is a really broad statement about a reader’s initial sense of what the text or the section of text is generally about and that there can be more than one correct answer.• Ask students to take a few minutes to read for gist on their own.• Invite them to discuss the gist in their groups. Circulate and use the Group Norms Checklist to informally assess components of SL.5.1.• After 2 or 3 minutes, cold call students from different groups to share the gist of the section. Listen for suggestions such as:<ul style="list-style-type: none">– “Life on a farm in the American West in 1906 was lonely and boring.”– “People on farms in 1906 lived far apart and didn’t have that much to do.”– “Life before Philo was not that much fun.”• Ask students to record the gist on a new page in their journals.• Display these vocabulary terms: <i>rare</i>, <i>effort</i>, <i>trickled</i>, <i>haphazardly</i>, <i>lonely</i>.• Display the Vocabulary Strategies anchor chart. Encourage students to refer to the anchor chart as they work collaboratively, using a variety of strategies to do the following:<ol style="list-style-type: none">1. Locate each term on page 1 of <i>The Boy Who Invented TV</i>.2. Discuss what they believe each term means based on context clues or other strategies listed on the anchor chart.3. Add each word to their journal glossaries (create a new four-column chart on a clean page of their journal glossaries if necessary).4. Record at least a definition or synonym for each term.5. As time allows, complete the remaining columns of the chart. (Continue this work for homework.)• Circulate to offer guidance and support as needed. Encourage students to use a variety of strategies to determine the meaning of each word. As you circulate, use the Group Norms Checklist to assess SL.5.1.	<ul style="list-style-type: none">• To support struggling readers, consider assigning a shorter passage of the text to read for determining gist. Be sure to select an appropriate section that will allow them to contribute meaningfully to the group discussion of the gist.• Consider pulling a small group of struggling readers to read an abbreviated section of the text and guide them through the process of determining the gist. This will set them up to meaningfully contribute to the discussion with their regular small group.• To support struggling writers, consider displaying a sample journal page accurately capturing a reasonable gist statement as well as how this gist statement is revised after deeper understanding of vocabulary is developed.



Work Time (continued)	Meeting Students’ Needs
<ul style="list-style-type: none"> • After 4 or 5 minutes, invite students from each group to share out definitions for each term. Listen for: <ul style="list-style-type: none"> – “<i>Rare</i> means ‘uncommon.’” – “<i>Effort</i> is the energy or work you put into something.” – “<i>Trickled</i> means ‘arrived slowly, a little bit at a time.’” – “<i>Haphazardly</i> means ‘randomly or by chance.’” – “<i>Lonely</i> is a negative feeling you have when you are by yourself.” • If students are unable to determine definitions independently, provide definitions or synonyms for them. • Give students 1 minute to use their new understandings about these key terms to revise their gist statements. Then, cold call one or two students to share out and briefly explain the revisions they made. • Next, direct students to revisit the prediction they recorded in their journals earlier. Encourage them to use details from the guiding question, the Mystery Text, and <i>The Boy Who Invented TV</i> as they consider and discuss: <ul style="list-style-type: none"> * “Has the new information you collected from ‘Life before Philo’ changed or added to your prediction? If so, how?” • After 2 or 3 minutes, cold call a few students to share out whole group. Listen for suggestions such as: <ul style="list-style-type: none"> – “I notice on page 1 it says, ‘It was all a bit lonely.’ It also says people didn’t have a lot of things to do for fun. I think the unit will be about how Philo Farnsworth’s TV helped people find something fun to do.” – “I used to think the book was going to be about how many people watch TV, because that’s what I read in the mystery text. Now I think it will be about how Philo Farnsworth’s invention of the TV changed people’s lives.” – “I think this unit will be about how Philo Farnsworth’s invention of the TV met the needs of society because our guiding question is about how new technologies meet societal needs. Also, the mystery document was about how so many people use TVs.” • Encourage students to revise their predictions in their journals. 	<ul style="list-style-type: none"> • Consider pulling a small group of ELLs to guide them through the steps for the first one or two terms. Gradually release them to independence as they demonstrate readiness. • To help students who need extended processing/writing time, consider providing some definitions for them or provide definitions with words or phrases missing that they work to fill in during this time. • Offer a sentence starter to provide all learners access to the discussion about adding to or changing their prediction (“The new information I collected from ‘Life before Philo’ makes me want to change my prediction from ... to ...”).



Work Time (continued)	Meeting Students’ Needs
<p>C. Second Read: Determining Main Ideas and Summarizing (20 minutes)</p> <ul style="list-style-type: none"> • Display the second and third learning targets then read the second learning target aloud: <ul style="list-style-type: none"> * “I can determine the two main ideas about ‘Life before Philo’ from <i>The Boy Who Invented TV</i> by identifying key supporting details.” • Draw students’ attention to the terms: <i>determine</i>, <i>main ideas</i>, <i>identifying</i>, and <i>supporting details</i>. Give them 1 to 2 minutes to discuss the meaning of each term with their group. • Invite students to share definitions for each term. Listen for: <ul style="list-style-type: none"> – “<i>Determine</i> means ‘to find out.’” – “A <i>main idea</i> is the most important or central thought of a paragraph or larger section of text.” – “<i>Identifying</i> means ‘finding.’” – “<i>Supporting details</i> are pieces of information that prove a point or make it stronger.” • Invite a few students to use their understanding of the key terms to paraphrase the learning target. • Read the third learning target or invite a student to read it aloud: <ul style="list-style-type: none"> * “I can summarize the main ideas about ‘Life before Philo’ from <i>The Boy Who Invented TV</i>.” • Circle or underline the term <i>summarize</i>. Ask students to discuss the meaning of this term in their groups. Listen for and clarify: <ul style="list-style-type: none"> – “Summarize means to briefly explain the main ideas presented in a text.” • Give brief direct instruction about main ideas, saying something like, “Some texts have a single main idea, but most texts are actually more complex than that. <i>The Boy Who Invented TV</i> has many main ideas. During today’s second read, you will analyze the text to determine the main ideas then summarize this first page.” • Display the Main Ideas and Summary anchor chart. Focus students on the first column and read <i>aloud the definition</i> of main ideas then tell students that proficient readers can oftentimes determine main ideas by first identifying related details in the text. • Read the “Steps for Determining the Main Idea” from the Main Ideas and Summary anchor chart and clarify any directions as needed. Tell students you will briefly model strategies for determining main ideas by using a think aloud (see Modeling: How to Identify Main Ideas (for teacher reference) for suggestions.) 	<ul style="list-style-type: none"> • For students struggling to identify supporting details, consider creating an Examples/Non-Examples chart for reference. • To make it clear to visual learners, display the text under the document camera as you read during the think-aloud for determining the main idea(s). Toggle back and forth between the text and your graphic organizer to make it clear how your thinking gets transferred onto the note-catcher. • To support students still having difficulty identifying main idea(s), consider pulling a small group to guide them through the steps.



Work Time (continued)	Meeting Students’ Needs
<ul style="list-style-type: none">• Distribute the Main Ideas and Summary graphic organizer: Life Before Philo and ask students to complete theirs alongside you.• After completing the main ideas think aloud and modeling, ask students to consider and discuss:<ul style="list-style-type: none">* “What strategies did I use as I was identifying supporting details and determining the main idea?”* “What strategies might be helpful to you as you work to determine main ideas?”• After 1 or 2 minutes, cold call several students to share strategies they discussed. Record their suggestions for helpful strategies in the Main Ideas column of the Main Ideas and Summary anchor chart. Possible student responses could include:<ul style="list-style-type: none">– “Identify details that are related to each other.”– “Don’t record unrelated details.”– “Look for ideas that make up a big portion of the paragraph.”– “Use details from multiple paragraphs.”– “The main idea is the common thread through all of the supporting details.”• Display these directions and direct students to work collaboratively in groups to:<ol style="list-style-type: none">1. Reread the remaining paragraphs on page 1 of <i>The Boy Who Invented TV</i>.2. Use quotes or paraphrased details to record three key supporting details from the text in the box titled Details about Section 2 on your graphic organizer.3. Determine and record Main Idea 2 based on the details you selected and recorded in your graphic organizer.• Remind students to refer to the Quote/Paraphrase anchor chart to refresh their memories about when to quote versus paraphrase the text.• Circulate and use the Group Norms Checklist to informally assess SL.5.1.• After 4 or 5 minutes, cold call several students to share the work they recorded on their graphic organizer. Refer to the Main Ideas and Summary graphic organizer: Life Before Philo (answers, for teacher reference) for possible student responses.• Refer to the Main Ideas and Summary anchor chart and read the definition of summary aloud. Explain that to write a summary of the text, students will need to write a paragraph that incorporates information from both main ideas. Read aloud or invite students to read aloud the components of a summary paragraph, listed on the anchor chart.	



Work Time (continued)	Meeting Students’ Needs
<ul style="list-style-type: none">• Distribute a white board and dry erase marker to each group.• Tell students that they will write these first summary paragraphs as a class. Then remind students that the first sentence should incorporate both main ideas.• Direct students to work with group members to develop and record a sentence on their white boards then hold them up when they have a strong first sentence for the class paragraph (refer to the Main Ideas and Summary graphic organizer answers, for teacher reference graphic organizer for an example.)• Select a strong example of a topic sentence and use the document camera to demonstrate as you record the first sentence.• Continue, by asking students to work collaboratively within groups to develop two to three sentences that describe the first main idea and details. Have them record their ideas on their white boards.• After 1 or 2 minutes, cold call a few students to share their groups’ sentences. Record a strong example on the graphic organizer using the document camera.• Ask students to then develop two to three sentences that describe the second main idea and details, and record ideas on their white boards.• After 1 to 2 minutes, cold call a few students to share their groups’ sentences. Record a strong example on the graphic organizer using the document camera.• Direct students to develop and write a conclusion sentence for the class paragraph on their white boards and hold them up when they are finished.• Once again, record a strong example on the graphic organizer.• Read the whole paragraph aloud or invite students to read it aloud. Celebrate the product of the class’s collaborative writing.	



Closing and Assessment	Meeting Students’ Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Review Milling to Music with students. Then ask them to locate a partner whom they have not spoken with much throughout the lesson. Direct students to share their revised predictions about the topic for this unit with their new partner.• After 1 or 2 minutes, invite several students to share their partners’ predictions.• Then, ask students to mill once again to meet with a new partner.• Reread the second and third learning targets aloud. Then, ask students to consider and share with their partner their mastery of each target.• After 1 to 2 minutes, invite several students to share about what their partner shared. Answers will vary.• Distribute Homework: Television and Relationships and preview as needed.	<ul style="list-style-type: none">• Offer a sentence starter for the Milling to Music prompt (“My revised prediction about what we will be studying in Unit 2 is ...”).
Homework	Meeting Students’ Needs
<ul style="list-style-type: none">• Reread page 1 and complete the Television and Relationships homework task card. Bring the completed task card with you as an admit ticket for the next lesson.• Read independently for at least 15 minutes.• If needed, complete the four-column chart in your journal glossary. <p><i>Note: Find another time during the day to allow students to peruse the independent reading choices for this unit. Remind students to refer to the Criteria for Selecting an Independent Text (from Unit 1, Lesson 1) as well as the center square on their Independent Reading Choice Boards (completed for Unit 1, Lesson 9 homework) to help them make their decisions.</i></p>	<ul style="list-style-type: none">• Consider providing a recording of the text.• Allow someone else to read the text aloud to the student.• Consider providing second-language learners with an image related to each key term and asking them to complete only the synonym or short definition columns, based on their understanding of the image.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 1

Supporting Materials



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Building Background Knowledge Note-catcher

Name: _____

Date: _____

Learning target:

- I can engage in collaborative discussions with my peers.

1. After looking at the data, complete each box:

I Notice

- _____
- _____

I Wonder

- _____
- _____

I Predict

I think this unit is about:



Building Background Knowledge Note-catcher

2. After sharing your ideas with your group, record your thinking:

I Heard

-
-

I Wonder

-
-

Now, I
Predict



Television Set Ownership
Estimated total number of TV households: 100,800,000

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
% of total households:											
TV households	10	67	87	94	96	97	98	98	98	98	98
% of TV households:											
Multi-set	—	4	12	22	35	43	50	57	65	71	76
Color	—	—	—	7	41	74	83	91	98	99	99
VCR	—	—	—	—	—	—	—	14	66	79	85
Remote control	—	—	—	—	—	—	—	29	77	91	95
Wired pay cable	—	—	—	—	—	—	—	26	29	28	32
Wired cable	—	—	—	—	7	12	20	43	56	63	68

<http://www.tvhistory.tv/facts-stats.htm>



Group Norms Checklist
(For Teacher Reference)

Student Name: _____

Standard assessed: I can engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts. (SL.5.1)

Collaborative Skill	Never	Sometimes	Often	Teacher Comments
Prepares for discussion with peers by reading the texts carefully				
Draws explicitly on details from the text to explore ideas under discussion				
Follows agreed-upon rules for group discussion				
Poses and responds to questions by making comments that contribute to the discussion and elaborates on the remarks of others				
Draws conclusions based on the information and knowledge gained from the discussions				
Asks and responds to questions to understand and communicate with students of diverse perspectives and backgrounds				



Group Norms Checklist
(For Teacher Reference)

Collaborative Skill	Never	Sometimes	Often	Teacher Comments
Uses experience and knowledge of language, logic, and culture to:				
Think analytically				
Address problems creatively				
Advocate persuasively				



Main Ideas and Summary Anchor Chart
(Example, for Teacher Reference)

Main Ideas	Summary
<p>Definition: the most important or central thought of a paragraph or larger section of text</p> <p>Steps for Determining the Main Idea</p> <ol style="list-style-type: none">1. Read the text closely.2. As you are reading, identify supporting details:<ul style="list-style-type: none">– Details that are related to other details throughout the text– Details that are important to or help prove the author’s main point– Sometimes share similar vocabulary3. Write a single sentence that connects all of the supporting details.	<p>Definition: a brief explanation of the main ideas presented in a text</p> <p>Summary Paragraph</p> <ul style="list-style-type: none">– First sentence: overarching statement related to all main ideas– Second sentence: description of the first main idea and supporting details– Third sentence: description of the second main idea and supporting details– Fourth sentence: conclusion; restate the first sentence <p>Example</p> <p><i>Life on a farm in 1906 was very different from our lives today. It was much harder for people to communicate because they lived far apart and it wasn’t easy to travel or get news. People also didn’t have a lot of the things we use today for fun, like movies, radio, and TV. There are many differences between life on a farm in 1906 and life today.</i></p>



Modeling: How to Identify Main Ideas
(For Teacher Reference)

1. Read aloud the title, “Life before Philo,” and the first sentence: “Imagine what it would be like growing up in a farm in the American West of 1906.”

Pause to think aloud:

- * “I know that *the first sentence in an informational text* is often a topic sentence that tells me what the text is going to be about. This sentence makes me think that this section of text is going to tell me something about what life was like on an American farm in 1906.”
2. Continue reading, pausing after “hardly any indoor bathrooms.” Say something like:
 - * “Wow! Not very many indoor bathrooms. I wonder what it would be like to have an outdoor bathroom.”
 3. Finish reading the first paragraph. Pause to share something like:
 - * “I notice that the first half of this paragraph discusses many different aspects of life on a farm in 1906, but *the second half focuses on one idea*. It seems to me that a big chunk of that paragraph discusses how hard it was to see friends and family because people lived so far apart and didn’t have fast modes of transportation. Since this idea was a big part of the first paragraph, I wonder if it is related to the main idea.”
 4. Read the first sentence in the second paragraph: “Getting news was another challenge.”

Pause to think aloud:

- * “If people lived so far apart, I bet it really was hard to get news. The challenge of getting news seems to be related to the challenge of visiting relations. I’m going to start recording some of these related details. Let’s look back at paragraph one to decide what we are going to write on our graphic organizers. I notice it says, ‘Long distances separated you from friends and relations.’ Then it describes how it was hard to travel between places. To make that a little bit shorter and clearer on my graphic organizer, I’m going to paraphrase.”
5. Use the document camera to demonstrate as you record the sentence: “In 1906, people who lived on farms often had to walk or ride a horse long distances to see their family or friends” in the first box, labeled Details about Section 1, on the Main Ideas and Summary graphic organizer.

Modeling: How to Identify Main Ideas
(For Teacher Reference)

Then, share something like:

- * “The detail about not having indoor bathrooms is really *interesting*, *but it’s not related* to people living far apart and having to work hard to talk to each other or share news. Since it’s not really related, I don’t think it’s going to support my main idea. I’m not going to write it down. Before I add the detail I found in Paragraph 2, I’m going to finish reading that paragraph.”
6. Read the rest of Paragraph 2 aloud then tell students you are going to *paraphrase* some of the information from that paragraph to write the next supporting detail. In the second box under Details about Section 1, write: “It was hard to get news quickly because you had to wait for it to come in the mail.”
 7. Read aloud the sentence: “It was all a bit lonely.” Then explain:
 - * “That sentence connects to the supporting details I wrote down as well. Since it’s pretty short and seems to really connect the other details I wrote down, I’m going to write it as a *direct quote*.”
 8. In the last box under Details about Section 1, write: “It was all a bit lonely.” Then, synthesize your thinking by sharing something like:
 - * “It seems to me that all of the details I pulled out are about how hard it was for people to communicate. To talk to friends and family, they had to walk or ride a horse long distances. To get news, they had to wait for slow mail, and having to wait so long to talk to others or hear from people was very lonely. I think the main idea is: ‘In 1906, people on farms felt a bit lonely because it was difficult to communicate with people who lived far away.’”
 9. Record the main idea in the box labeled Main Idea 1 on the Main Ideas and Summary graphic organizer.
 10. Refer back to the lesson for the remainder of Work Time B.



Main Ideas and Summary Graphic Organizer: Life Before Philo

Learning Targets:

I can determine two or more main ideas from a text and explain how they are supported by key details.

I can summarize the text.

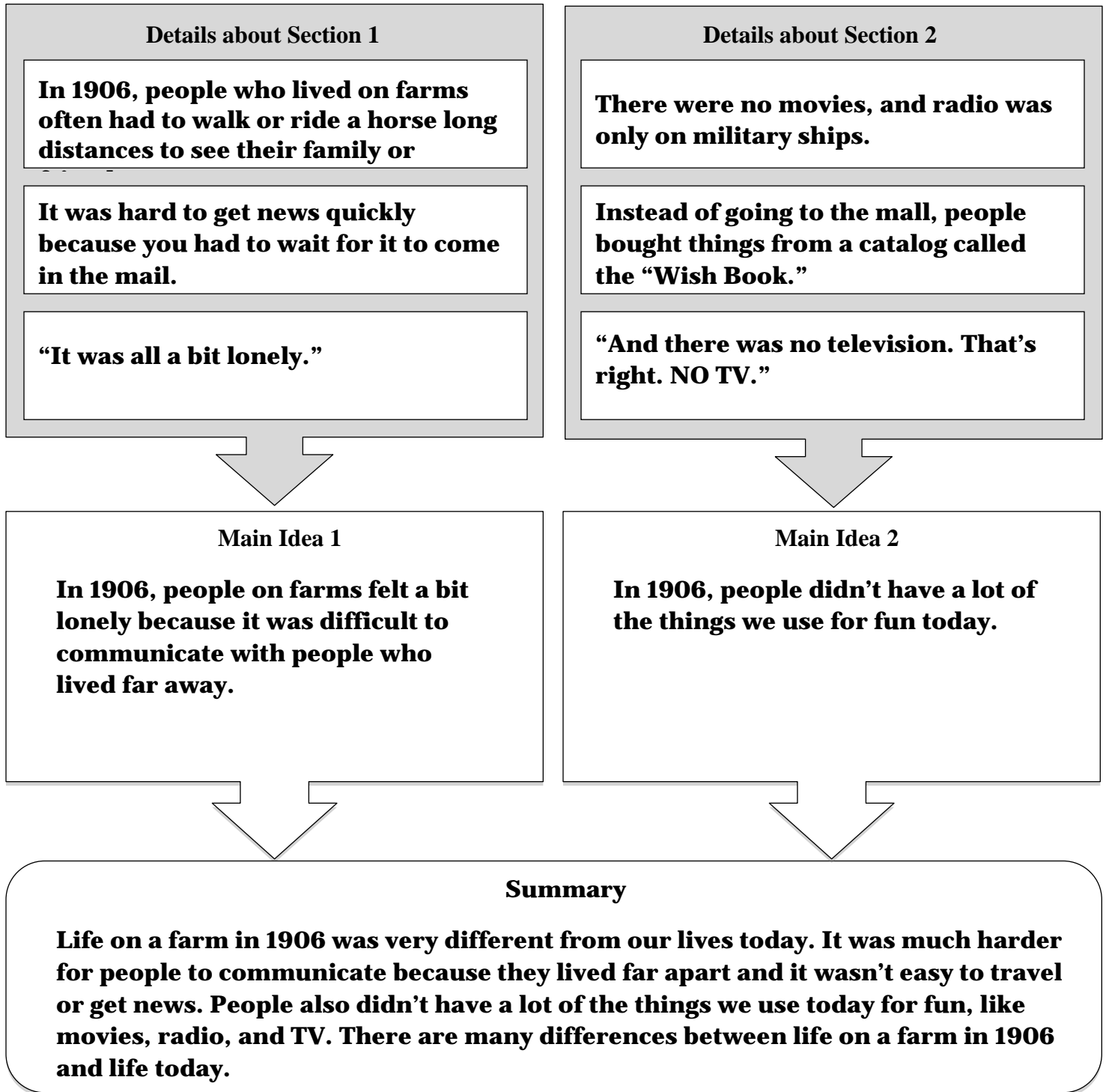
Details about Section 1	Details about Section 2

Main Idea 1	Main Idea 2

Summary



Main Ideas and Summary Graphic Organizer: Life Before Philo
(Answers, for Teacher Reference)





Homework: Television and Relationships

1. How do you usually watch TV? (Circle one)

Alone	With friends
With family	I rarely or never watch TV

2. Does TV bring people together or separate them? Explain your answer.

3. What would your life be like without TV?



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 2

Determining Main Ideas and Summarizing: Philo Farnsworth's Early Years



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can determine two or more main ideas from a text and explain how they are supported by key details. (RI.5.2)

I can summarize the text. (RI.5.2)

I can determine or clarify the meaning of unknown and multiple-meaning words and phrases by choosing flexibly from a range of strategies. (L.5.4)

a. I can use context as a clue to the meaning of a word or phrase.

b. I can use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word.

I can engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts. (SL.5.1)

Supporting Learning Targets

- I can determine two main ideas from pages 2–9 of *The Boy Who Invented TV* by identifying key supporting details.
- I can summarize pages 2–9 of *The Boy Who Invented TV*.
- I can determine the meaning of key words and phrases using a variety of strategies.

Ongoing Assessment

- Main Ideas and Summary graphic organizer: Philo's Childhood
- Vocabulary, four-column chart (in journal)
- Group Norms Checklist (teacher assessment)



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Reader (5 minutes)2. Work Time<ol style="list-style-type: none">A. Determining the Gist: <i>The Boy Who Invented TV, The Story of Philo Farnsworth</i> Pages 2–9 (10 minutes)B. Second Read: Determining Main Ideas and Summarizing (20 minutes)C. Vocabulary to Deepen Understanding (20 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Review Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Reread pages 2–9.B. Electricity Inventory	<ul style="list-style-type: none">• This lesson builds on and continues to deepen students' understanding of the challenging skill of summarizing. Students return to the Main Ideas and Summary graphic organizer that was introduced in Lesson 1. Class discussion encourages students to recognize strategies for identifying supporting details and determining the main ideas.• This lesson requires students to more independently write a summary paragraph for a section of text with multiple main ideas, a complex skill that will be further developed in Lesson 4 and assessed in the mid-unit assessment.• Direct instruction of vocabulary in this lesson centers on a single word, as students are asked to break it apart and explore the root and affixes. This work reinforces vocabulary strategies presented in Unit 1 of this module and aligns directly with L.5.4b. Encourage students to use this model strategy as they work to determine the meanings of other words, which serves to support their growing capacity for determining the meaning of unknown words based on common Greek and Latin prefixes, affixes, and roots. In Work Time C, it is less important that students define all the words; the focus is on helping students name and practice strategies that will help them continue to build word knowledge.• In advance:<ul style="list-style-type: none">– Review the Main Ideas and Summary graphic organizer (answers, for teacher reference) to prepare to listen for and support student thinking in Work Time B.– Review Four Corners and Fist to Five in Checking for Understanding Techniques (see Appendix).– Review the Popcorn Read protocol (see Appendix).– Create a Dissecting a Vocabulary Word anchor chart.– Consider displaying vocabulary to save time in Work Time C.• Post: Learning targets.



Lesson Vocabulary	Materials
<p>inferences, summarize, explain, main ideas, determine, variety, strategies; engineer, captivated, beloved, phonograph, incredibly, clever, gazed, appointed, appealing</p>	<ul style="list-style-type: none"> • Four Corners sheets (one of each, posted in different areas of the room) • Journals (begun in Unit 1, Lesson 1; one per student) • <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> (book; one per student) • Group Norms anchor chart (from Unit 1, Lesson 2) • Group Norms Checklist (from Lesson 1; one per student for teacher use) • Main Ideas and Summary graphic organizer: Philo's Childhood (one per student) • Main Ideas and Summarizing anchor chart (begun in Lesson 1) • Main Ideas and Summary graphic organizer: Philo's Childhood (answers, for teacher reference) • Vocabulary Strategies anchor chart (from Unit 1, Lesson 2) • Dissecting a Vocabulary Word anchor chart (new; teacher-created) • Homework: Vocabulary Strategies (one per student)

Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none"> • Ask students to locate their responses to the TV and Relationships homework task card questions. • Display and review the directions for the Four Corners protocol. Clarify directions as needed. Point out the Four Corners sheets posted in different areas of the room. Have students move to the sheet that most accurately describes their own television viewing habits and discuss these questions with other students at the same sheet: <ul style="list-style-type: none"> * "Does TV bring people together or separate them? Explain your thinking." * "What would your life be like without TV?" • After 2 or 3 minutes, cold call students to share about their group's discussion. Answers will vary. • Say something like: <ul style="list-style-type: none"> * "Today, we will read a section of <i>The Boy Who Invented TV</i> to learn more about what Philo Farnsworth's life was like without TV." 	<ul style="list-style-type: none"> • Provide all learners access to the Four Corners protocol discussion with a sentence starter ("I think TV does/does not bring people together because ..." or "Without TV, my life would be ...").



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: <i>The Boy Who Invented TV, The Story of Philo Farnsworth</i> Pages 2–9 (10 minutes)</p> <ul style="list-style-type: none">• Ask students to locate their journals and books, <i>The Boy Who Invented TV</i>, before sitting with their groups.• Refer to the Group Norms anchor chart. Say something like:<ul style="list-style-type: none">* “While working with your groups, you have had many successes, and today we are going to refer to those successes as <i>stars</i>. Your groups also have room for improvement. We are going to refer to your areas for improvement as <i>steps</i>. Take a few minutes to work with your group members to identify one star and one step for your group. Be prepared to share your stars and steps with the class.”• After 1 or 2 minutes, cold call students from each group to share their stars and steps whole class. Listen for suggestions such as:<ul style="list-style-type: none">– “Our star is that we are good at staying on topic. Our step is that we need to make sure everyone gets a chance to contribute.”– “Our star is that we ask questions to make sure everyone is participating. Our step is that we need to remember to refer to specific details in the text so that we can really explain our ideas to our group mates.”• Encourage students to keep their stars and steps in mind as they work today. Remind them you’ll continue observing.• Ask students to work in their groups to read pages 2–9 for gist. They can take turns reading paragraphs aloud (students may pass) while the rest of the group follows along.• Remind students to consider details from both the text and images as they determine and discuss the gist.• Circulate to support students. Use the Group Norms Checklist to assess SL.5.1.• After 5 or 6 minutes, cold call students from several groups to share the gist their group discussed. Listen for suggestions such as:<ul style="list-style-type: none">– “This section is about Philo as a young boy.”– “The gist is that Philo was interested in inventions as a child even though he lived on a farm and had lots of chores.”– “The gist is that Philo Farnsworth worked hard and dreamed big.”• Have students record their gist statement on the same page where they recorded the gist of “Life before Philo” in Lesson 1.	<ul style="list-style-type: none">• To allow students who struggle with the physical act of writing to document the ideas generated in their small group, provide access to an assistive writing tool like an AlphaSmart, tablet, or laptop with word-processing software, or provide an aide or yourself as a scribe.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Determining Main Ideas and Summarizing (20 minutes)</p> <ul style="list-style-type: none"> Focus students on the first two learning targets. Ask them to discuss in groups: <ul style="list-style-type: none"> * "What do you notice about these learning targets?" After 1 minute, cold call a few students and listen for observations such as: <ul style="list-style-type: none"> – "I notice that we are looking for more than one main idea." – "I notice we are reading a section of <i>The Boy Who Invented TV</i>." – "I notice that these targets are similar to the targets we used in Lesson 1." – "I notice we are going to summarize the text." Confirm that today's second read follows a similar pattern to Lesson 1. Focus students on the terms <i>determine</i>, <i>main ideas</i>, <i>identifying</i>, <i>supporting details</i>, and <i>summarize</i> (from Lesson 1). Ask students to review the meaning of each term in groups. After 1 or 2 minutes, cold call several students to define the terms. Listen for definitions similar to these: <ul style="list-style-type: none"> – "<i>Determine</i> means to find out." – "A <i>main idea</i> is the most important or central thought of a paragraph or larger section of text." – "<i>Identifying</i> means finding." – "<i>Supporting details</i> are pieces of information that prove a point or make it stronger." – "<i>Summarize</i> means to briefly explain the main ideas presented in a text." Cold call several students to use their understanding of the key terms to restate the learning targets in their own words. Distribute the Main Ideas and Summary graphic organizer: Philo's Childhood. Remind students that it's the same one used in Lesson 1. Ask them to take a moment to review the graphic organizer independently. Refer to the Main Ideas and Summary anchor chart. Ask students to consider the information on the anchor chart and discuss strategies for completing the supporting details and main ideas boxes on their graphic organizers. Praise students for their ability to summarize a text with multiple main ideas and explain that they will have an opportunity to revise and further improve their summaries at the end of Work Time C, after they work with key terms from the text. After 1 or 2 minutes, invite several students to share strategies for selecting details and determining main ideas. Listen for suggestions such as: <ul style="list-style-type: none"> – "Details from each section must be connected to one another and to a single topic." 	<ul style="list-style-type: none"> To support the synthesis of new vocabulary, consider displaying student-generated synonyms to key terms above or below where they appear in the target. To support all students' appropriate use of the graphic organizer, display a sample of responses on a model of the Main Ideas and Summary graphic organizer or invite students to place their work under the document camera. To support students who struggle with the physical act of writing, offer yourself, an aide, or a peer as a scribe for writing the summary. Another alternative would be to provide access to a device for word processing to use while actively engaging in collaborative group discussions. To support visual learners, record an adequate summary offered by a student to display under the document camera or invite a student to display his or her version of the Main Ideas and Summary graphic organizer.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “Random or unrelated details will not support the main idea.– “To determine the main idea, you need to explain how details from different parts of the text are connected to one point.”– “There could be many main ideas in a single text, but we are going to look for the strongest main idea in each section.” <ul style="list-style-type: none">• If students mention new strategies, record them in the Main Ideas column of the Main Ideas and Summary anchor chart.• Ask students to collaborate to reread just pages 2–5 to complete the Details about Section 1 and Main Idea 1 boxes of their graphic organizer. Encourage students to refer to the Main Ideas and Summary anchor chart for support. Tell students not to read beyond page 5 for now.• Circulate to provide support. Use the Group Norms Checklist to assess standard SL.5.1.• After 4 or 5 minutes, cold call several students to share the details and main idea they recorded. Encourage them to explain how the details they selected support their main idea. Refer to Main Ideas and Summary graphic organizer: Philo's Childhood (answers, for teacher reference) for possible student responses.• Have students work together to read pages 6–9 and complete the Details about Section 2 and Main Idea 2 boxes on their graphic organizers.• Circulate to provide support and assess SL.5.1.• After 4 or 5 minutes, cold call students from different groups to share the details and main idea they recorded on their graphic organizer. Encourage them to explain how the details they selected support the main idea. Refer to the Main Ideas and Summary graphic organizer: Philo's Childhood (answers, for teacher reference) for possible student responses.• Draw students' attention to the Summary column of the Main Ideas and Summary anchor chart. Invite several students to use the details on the anchor chart to explain how to write a summary paragraph for a section of text with two main ideas. Listen for them to highlight the need for:<ul style="list-style-type: none">– First sentence: overarching statement related to all main ideas– Second sentence: description of the first main idea and supporting details– Third sentence: description of the second main idea and supporting details– Fourth sentence: conclusion; restate the first sentence• Direct students to work collaboratively to write a summary paragraph for pages 2–9 on their graphic organizers.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Circulate to support student work. Use the Group Norms Checklist to assess SL.5.1. • After 3 or 4 minutes, invite a few students to share their summary paragraphs. See the Main Ideas and Summary graphic organizer: Philo's Childhood (answers, for teacher reference) for possible student responses. 	
<p>C. Vocabulary to Deepen Understanding (20 minutes)</p> <ul style="list-style-type: none"> • Read aloud the third learning target: <ul style="list-style-type: none"> * "I can determine the meaning of key words and phrases using a variety of strategies." • Cold call several students to restate the learning target in their own words. • Direct students' attention to the Vocabulary Strategies anchor chart. Review the Popcorn Read protocol with students and clarify any directions as necessary. Remind the class that sometimes when a point is very meaningful, it will be shared aloud more than one time during a Popcorn Read. • Invite one student to begin a Popcorn Read of the Vocabulary Strategies anchor chart by reading aloud one strategy he or she finds particularly helpful. • Once all students have shared or the Popcorn Read has reached a natural conclusion, say something like: <ul style="list-style-type: none"> * "Sometimes one strategy may be most helpful for determining the meaning of a word, and sometimes you may need to use multiple strategies together. Let's turn to page 4 to practice using vocabulary strategies." • Encourage students to consider the term <i>incredibly</i> as you read the third paragraph aloud, starting with "These things seemed like magic" and ending with "in whole new ways." • Ask students to discuss: <ul style="list-style-type: none"> * "What do you notice about <i>incredibly</i>?" • After 1 or 2 minutes, cold call several students to share their thinking. Listen for ideas such as: <ul style="list-style-type: none"> – "I notice <i>incredibly</i> has a prefix, <i>in-</i>." – "I notice <i>incredibly</i> has a suffix, <i>-ly</i>." – "I notice it kind of sounds like the word <i>credible</i> that we talked about before." – "I notice it seems like <i>incredibly</i> is describing the word <i>clever</i>." • Display the Dissecting a Vocabulary Word anchor chart. Confirm or explain that <i>incredibly</i> has both a prefix and a suffix and shares a root with the word <i>credible</i>, introduced in Unit 1, Lesson 8. Say something like: <ul style="list-style-type: none"> * "Let's take some time to dissect this word, or pull it apart and look at the individual pieces, to help us understand it" 	<ul style="list-style-type: none"> • When reading aloud, consider displaying the text under the document camera. Even though students have a copy of the text in front of them, struggling readers often have a difficult time finding the right spot if they lose it. Allowing them to track the words on the screen while you read and point will reduce anxiety and promote fluency. • To give all students access to the conversation about the word <i>incredibly</i>, offer a sentence starter ("I think <i>incredibly</i> means.... The strategy I used to figure that out is ..."). • To support ELLs or those who need more processing/writing time, consider scaffolding the vocabulary work. Depending on what is needed, provide four-column charts with some parts missing that they need to fill in based on their group discussion.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Use the anchor chart to explain or invite students to explain that the prefix <i>in-</i> means “not,” and the suffix <i>-ly</i> changes an adjective to an adverb. If needed, use the examples on the anchor chart to clarify that an adjective is a word that describes a noun, and an adverb is a word that describes a verb or an adjective. • Ask students to use this information, as well as context clues from page 4, as they discuss these questions in their groups: <ul style="list-style-type: none"> * “What does the term <i>incredibly</i> mean?” * “What strategies helped you determine the meaning of this term?” • After 1 or 2 minutes, cold call several students to share their thinking. Listen for answers such as: <ul style="list-style-type: none"> – “<i>Incredibly</i> means ‘unbelievably’ or ‘hard to believe.’” – “I know that <i>credible</i> means ‘believable’ and the prefix <i>in-</i> means ‘not,’ so I put those together to create my definition.” – “I used what I knew about the prefix, suffix, and the root to come up with a synonym, <i>unbelievably</i>, and then I replaced <i>incredibly</i> in the text with the synonym to see if it made sense.” – “I noticed that in the first sentence in the paragraph, Philo says that the machines were like magic to him, and I know that <i>in-</i> means ‘not’ and <i>credible</i> means ‘believable.’ I put all this information together to find out that <i>incredibly</i> means ‘hard to believe.’” – Encourage students to keep using appropriate vocabulary strategies as they consider definitions for these terms: <i>engineer</i>, <i>captivated</i>, <i>beloved</i>, <i>phonograph</i>, <i>clever</i>, <i>gazed</i>, <i>appointed</i>, <i>appealing</i>. • Ask students to work collaboratively to define each term and add it to the four-column chart in their journal glossaries. • Circulate to provide support and offer guidance as needed. Point out how to break apart the word <i>phonograph</i> into <i>phono-</i>, meaning “sound,” and <i>-graph</i>, meaning “writing,” to help them understand that “sound writer” was the term used to describe this early musical recording device. • As you circulate, use the Group Norms Checklist to assess SL.5.1. • After 10 to 12 minutes, invite several students to share definitions for each term. Listen for suggestions such as: <ul style="list-style-type: none"> – “<i>Engineer</i> means ‘the person who drives a train.’” – “<i>Captivated</i> is ‘really interested.’” – “<i>Beloved</i> means ‘much loved or cared about.’” – “A <i>phonograph</i> is a machine that plays music.” 	<ul style="list-style-type: none"> • To support students’ understanding of how to revise a summary after vocabulary work, consider displaying two sample summaries: one initial and one after revision based on new understanding.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “<i>Incredibly</i> means ‘unbelievably’ or ‘hard to believe.’”– “<i>Clever</i> means ‘smart.’”– “<i>Gazed</i> means ‘looked at.’”– “<i>Appointed</i> means ‘gave someone a job.’”– “<i>Appealing</i> means ‘interesting.’” <ul style="list-style-type: none">• Ask students to return to their Main Ideas and Summary graphic organizer: Philo’s Childhood. Encourage them to use their new understanding of key terms to revise the work on their graphic organizer.• After 1 or 2 minutes, invite a few students to share how and why they changed their work. Answers will vary, but students should focus on rewording their summary paragraph to make it clearer.	

Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to quickly find a partner who is not in their discussion group and take a few minutes to:<ol style="list-style-type: none">1. Share, by reading aloud, their summary paragraph.2. Explain what strategies they used to determine the details and main idea.• Cold call several students to share a strategy that their partner used to determine the details and main idea.• Read aloud each learning target one at a time. After each, ask students to use the Fist to Five Checking for Understanding technique to show their progression toward mastery of each target.• For students who show fewer than three fingers, consider providing additional support and opportunities to practice determining main ideas and summarizing before Lesson 4.• Distribute the Homework: Vocabulary Strategies handout and preview as needed.	<ul style="list-style-type: none">• Allow students who struggle with reading aloud to choose just one or two sentences from their summary to read aloud to a partner.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete the Homework: Vocabulary Strategies handout and bring it to the next lesson.	



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 2

Supporting Materials



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Alone



With friends



With family



I rarely or
never watch TV



Main Ideas and Summary Graphic Organizer: Philo's Childhood

Learning targets:

- I can determine two or more main ideas from a text and explain how they are supported by key details.
- I can summarize the text.

Details about Section 1	Details about Section 2
<div></div>	<div></div>
<div></div>	<div></div>
<div></div>	<div></div>

Main Idea 1

Main Idea 2

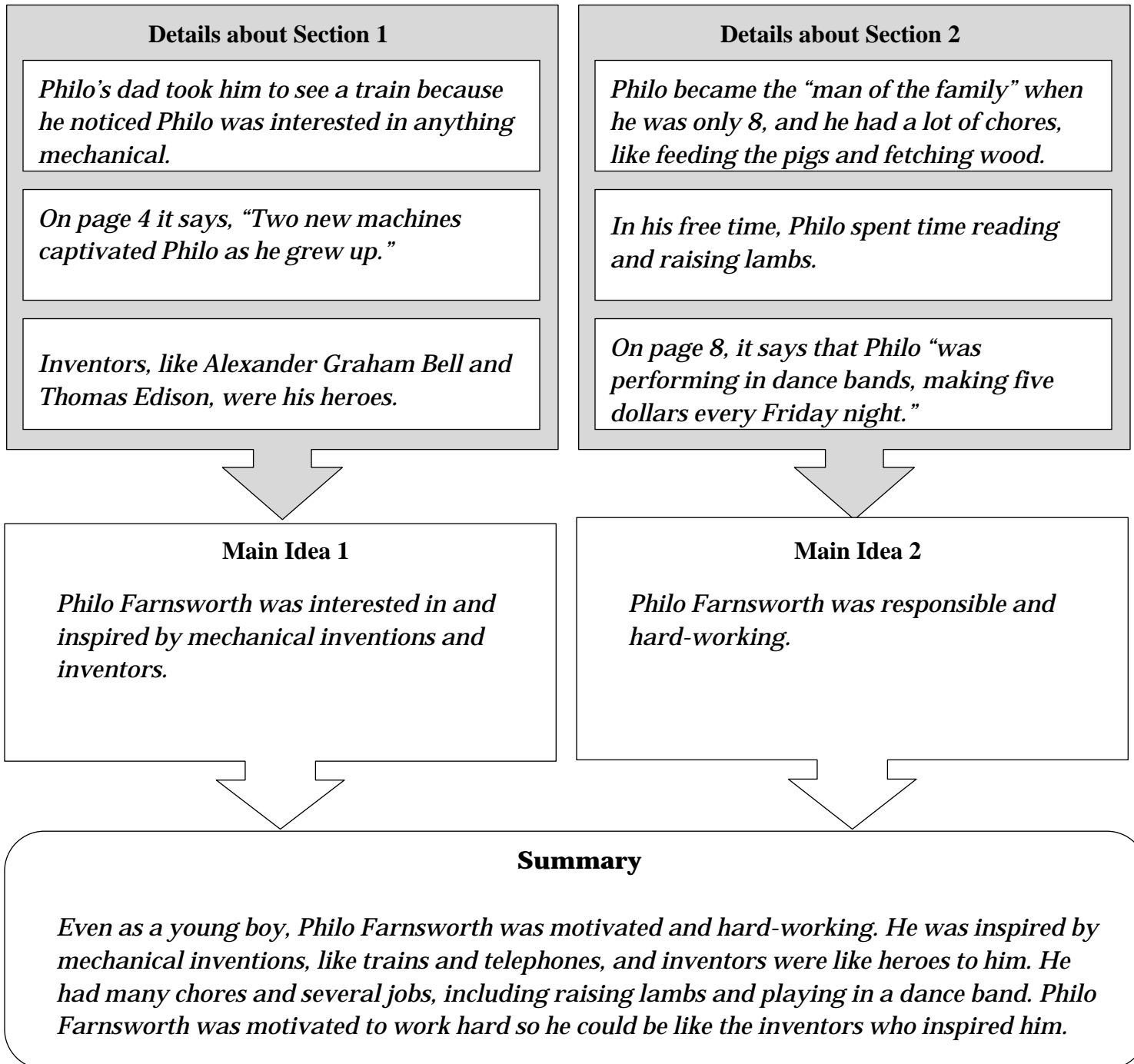
Summary



Main Ideas and Summary Graphic Organizer: Philo's Childhood
(Answers, for Teacher Reference)

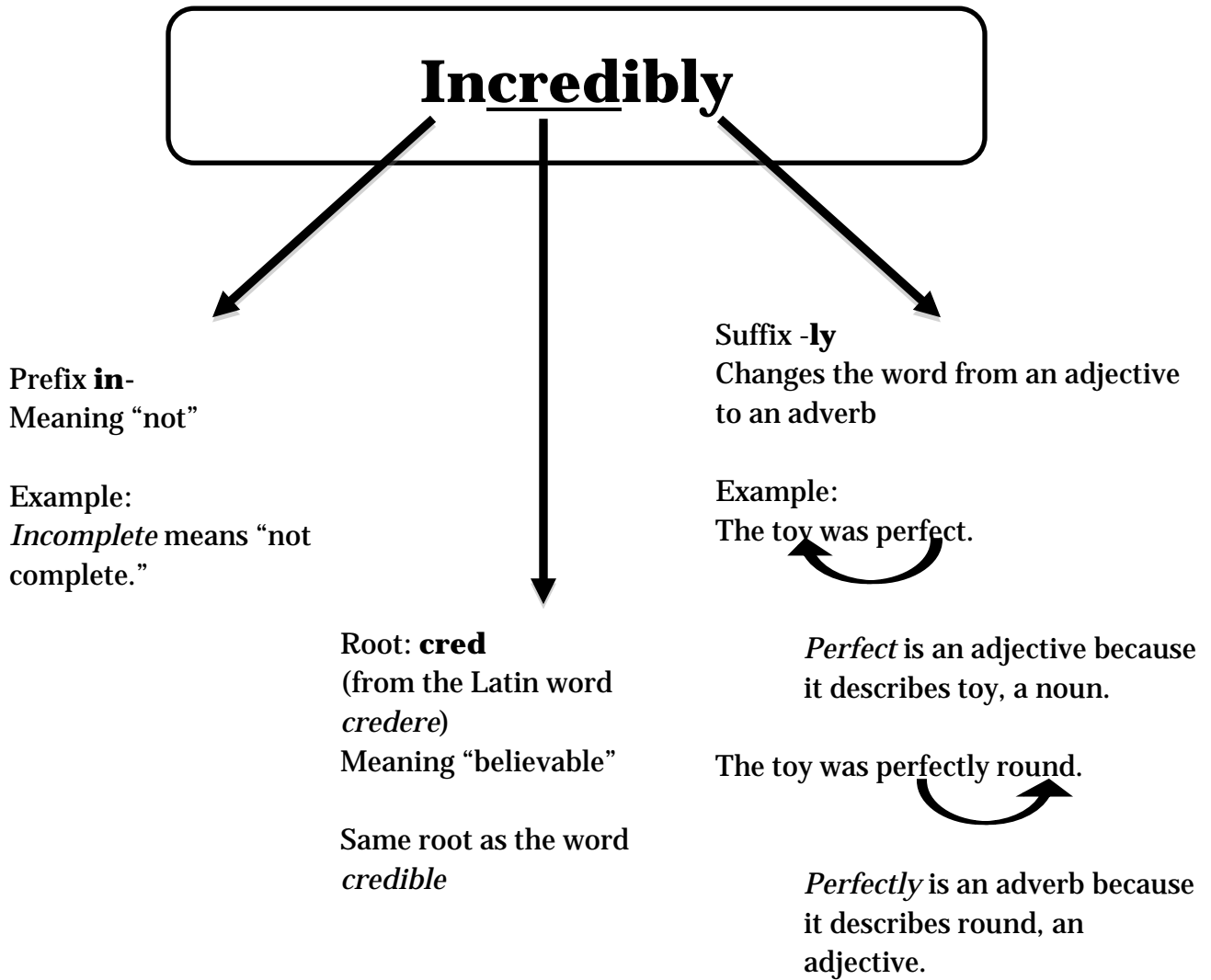
Learning targets:

- I can determine two or more main ideas from a text and explain how they are supported by key details.
- I can summarize the text.





Dissecting a Vocabulary Word Anchor Chart





Homework: Vocabulary Strategies

1. Select three challenging terms from your independent reading text.
2. Use a variety of vocabulary strategies as you determine the meanings of the terms you selected and complete the chart below.

Word	Synonym	Definition	Picture	Strategies Used to Determine Meaning



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 3

Making Inferences: What Motivated Philo Farnsworth?



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts. (SL.5.1)

I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1)

I can determine the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4)

- a. I can use context as a clue to the meaning of a word or phrase.
- b. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

Supporting Learning Targets

- I can engage in collaborative discussions with peers.
- I can make inferences using quotes and paraphrased details from the text.
- I can determine the meaning of key words using a variety of strategies.

Ongoing Assessment

- Making Inferences graphic organizer: What Motivated Philo Farnsworth?
- Vocabulary, four-column chart (in journal)
- Group Norms Checklist (teacher assessment)



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Reader: Starting the Graphic Organizer (10 minutes)2. Work Time<ol style="list-style-type: none">A. Determining the Gist: <i>The Boy Who Invented TV</i> Pages 10–13 (10 minutes)B. Second Read: Making Inferences (20 minutes)C. Vocabulary to Deepen Understanding (15 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Review Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Reread pages 10–13 and create graphic novel template.B. Read Independently.	<ul style="list-style-type: none">• In this lesson, students make and later revise an inference about Philo Farnsworth’s move to Idaho. The purpose is to demonstrate that strong inferences are based on thoughts or ideas from the reader’s preexisting knowledge as well as details from the text. This activity also highlights for students that inferences can be supported or sometimes changed with the addition of new information.• Students are introduced to a Making Inferences anchor chart in Work Time B. The definitions for <i>infer</i> and <i>inference</i> on the anchor chart are intentionally left incomplete to allow students to grapple with the meaning of evidence as it relates to making inferences. Adding specific information about the types of evidence used to make an inference during the lesson draws students’ attention to the idea that inferences require both details from the text and ideas from the students’ own knowledge base.• In Work Time C, students use a glossary to explore vocabulary words in the text. This activity builds on previous work using resources to determine the meaning of words but provides exposure to a new type of resource.• In advance:<ul style="list-style-type: none">– Review and familiarize yourself with the Making Inferences graphic organizer to prepare to support students during the Opening and Work Time B.– Create a Making Inferences anchor chart (see supporting materials). Familiarize yourself with aspects of the anchor chart to be completed during the lesson to prepare to support student thinking.– Review the Stretch-o-Meter protocol (from Unit 1, Lesson 2) to prepare for modeling the activity in Work Time B.– Review Milling to Music in Checking for Understanding techniques (see Appendix).• Post: Learning targets.



Lesson Vocabulary	Materials
inference, engage, collaborative, quotes, paraphrased, draw, conclusion, evidence, relevant, determine, variety, strategies; electricity, magnetism, devised, pulleys	<ul style="list-style-type: none">• Making Inferences graphic organizer: What Motivated Philo Farnsworth? (one per student)• Making Inferences graphic organizer: What Motivated Philo Farnsworth? (answers, for teacher reference)• Journals (begun in Unit 1, Lesson 1; one per student)• <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> (book; one per student)• Group Norms anchor chart (from Unit 1, Lesson 1)• Group Norms Checklist (from Lesson 1; one per student for teacher use)• Making Inferences anchor chart (new; teacher-created; see supporting materials)• Vocabulary Strategies anchor chart (from Unit 1, Lesson 2)• Vocabulary Resource Page, Glossary (one per student)• Document camera• Graphic novel templates, A, B, C (several options for students to choose from; one per student)



Opening	Meeting Students' Needs
<p>A. Engaging the Reader: Homework Review and Starting the Graphic Organizer (10 minutes)</p> <ul style="list-style-type: none">• Ask students to locate their Homework: Vocabulary Strategies handout and find a partner who is not in their discussion group.• Direct students to share with their partners the terms and definitions they explored in their homework task, as well as which vocabulary strategies they found most helpful.• After 1 or 2 minutes, cold call several students to share out whole class about an interesting vocabulary word their partner discussed. Answers will vary.• Invite students to now think about a term they will be using throughout today's lesson. Ask them to consider and discuss the meaning of <i>inference</i> as it is used in the following sentence:<ul style="list-style-type: none">* "After looking at the picture on page 7 of the book, Jon made an <i>inference</i> about how the main character was feeling."• After 1 or 2 minutes, invite several students to share possible definitions for <i>inference</i>. Encourage them to explain how they determined the meaning of the word. Listen for answers such as:<ul style="list-style-type: none">– "I think an inference is a conclusion that you draw based on the information you have from the text and your own knowledge. In the sentence, Jon made an inference about how the main character was feeling. First he considered the information in the picture, but he also had to use his own knowledge about how people look when they feel a certain way to make his inference."• Distribute the Making Inferences graphic organizer: What Motivated Philo Farnsworth? Read the focusing question aloud or invite a student to read it aloud:<ul style="list-style-type: none">* "Why was Philo Farnsworth's move from Utah to Idaho such an important event in his life?"• Ask students to consider and discuss the focusing question. Remind them to refer to relevant details from their notes and what they have already read in <i>The Boy Who Invented TV</i> to answer the question.• After 1 or 2 minutes, cold call several students to share out their answer. Encourage them to explain what details helped them develop their answer. Listen for answers like these:<ul style="list-style-type: none">– "In the text we read in the last lesson, it says that Philo was bullied at school. I think the move will help him because he will be able to make new friends who like the same kinds of things he does and do not tease him."– "In the text, it says that life on a farm required a lot of hard work. Philo had a lot of chores and jobs to do, so maybe his move to Idaho was important for his life because he moved to a city where he had more free time and could focus on inventing the TV."	<ul style="list-style-type: none">• Provide a sentence starter to help all students gain access to the discussion in response to the focus question ("Philo's move from Utah to Idaho was such an important event in his life because ...").



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Explain that the answers they shared are <i>inferences</i> they have made because they used details from the text to develop an answer to the focusing question even though the answer was not explicitly stated in the text.• Give students 1 or 2 minutes to record the relevant details from their notes and the text into the first box on their graphic organizer, labeled Knowledge Base, and their inferences into the second box, labeled Inference.	



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: <i>The Boy Who Invented TV</i> Pages 10–13 (10 minutes)</p> <ul style="list-style-type: none"> • Direct students to locate their journals and <i>The Boy Who Invented TV</i> texts before meeting in their small groups. • Read aloud or invite a student to read aloud the first learning target: <ul style="list-style-type: none"> * “I can engage in collaborative discussions with peers.” • Draw students’ attention to the terms <i>engage</i> and <i>collaborative</i>, discussed in Lesson 1. Give them a moment to review the meaning of each term with a classmate. • After 1 minute, cold call a few students to share definitions for the terms. Listen for: <ul style="list-style-type: none"> – “<i>Engage</i> means ‘to participate actively.’” – “<i>Collaborative</i> means ‘working together.’” • As needed, review with students what it means to engage in collaborative discussions. • Add any new ideas or suggestions students share to the Group Norms anchor chart. Encourage students to refer to the anchor chart as they work collaboratively in their groups today. Remind them you’ll continue to observe their discussions. • Direct students to work in their groups to read pages 10 -13 of <i>The Boy Who Invented TV</i> and determine the gist. Remind them that they should consider both the images and text in their discussion. • Circulate to provide assistance and to use the Group Norms Checklist to assess SL.5.1. • After 4 or 5 minutes, cold call several students to share their gist statements. Listen for responses similar to these: <ul style="list-style-type: none"> – “Philo Farnsworth’s family moved to a new home where they had electricity.” – “Philo Farnsworth started reading more science magazines and learning about machines.” • Give students 1 or 2 minutes to record their gist statement on the same page as prior gist statements from <i>The Boy Who Invented TV</i>. 	<ul style="list-style-type: none"> • Consider recording student-generated synonyms for key terms above or below where they appear in the learning target to promote understanding of the target. • Offer these possible sentence starters to promote discussion during the introduction of the learning targets: “I think ‘engage in collaborative discussion’ means ...” and “I’ll know I’m engaged if....” • To support struggling readers, consider abbreviating the amount of text they are responsible for. Be sure to select the text passage carefully to ensure they are set up to contribute meaningfully to the group discussion of the gist. • Consider displaying the text under the document camera as you read aloud. Although students have a copy of the text in front of them, struggling readers often have difficulty finding where you are if they lose their spot for any reason. Having the option to track you on the screen as you read and point minimizes anxiety and promotes fluency.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Making Inferences (20 minutes)</p> <ul style="list-style-type: none">• Explain that students now have the opportunity to read more closely so they can use the details from this new section of text to revise their inferences from the beginning of the lesson.• Read aloud or invite a student to read aloud the second learning target:<ul style="list-style-type: none">* “I can make inferences using quotes and paraphrased details from the text.”• Invite several students to share what they notice about the learning target. Listen for ideas such as:<ul style="list-style-type: none">– “I notice we are going to be working on making inferences again.”– “I notice that sometimes we will use quotes and sometimes we will use paraphrased details from the text to make our inferences.”• Draw students' attention to the terms <i>inference</i>, <i>quote</i>, and <i>paraphrased</i>.• Cold call students to explain the difference between quotes and paraphrased details. Listen for:<ul style="list-style-type: none">– “When you quote, you use the exact words from the text and you put quotation marks around them to indicate that they are not your own words but are the words of the author.”– “When you paraphrase details, you put them in your own words.”– “Quoting is useful when you want to prove something specific or support your thinking with ‘credible’ evidence.”– “Paraphrasing is good when you just want to communicate an idea that is similar to what you read to give a summary or share a general idea.”• Invite several students to restate the learning target in their own words.• Display the Making Inferences anchor chart.• Read aloud or invite a student to read aloud the definitions of <i>infer</i> and <i>inference</i>.<ul style="list-style-type: none">* “To <i>infer</i> is to draw conclusions based on evidence.”* “An <i>inference</i> is a conclusion drawn from evidence.”• Direct student attention to the terms draw, conclusion, and evidence. Explain that some of these words have more than one meaning and will need to be considered carefully. Ask them to think about and discuss the meaning of each term as they are used in the definitions to be prepared to share out.	<ul style="list-style-type: none">• To support visual learners, after the Stretch-o-Meter, consider displaying a sample of a student's inference that changed significantly.• Offer a sentence starter to give all students access to the discussion about Philo's character after reading aloud page 12 (“Based on what we just read, what I can infer about Philo's character traits is ...”).



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 or 2 minutes, cold call a few students to define each term. Listen for:<ul style="list-style-type: none">– “<i>Draw</i> has multiple meanings, but here it means ‘to reach an idea or conclusion.’”– “A <i>conclusion</i> is a judgment based on information.”– “<i>Evidence</i> is information or a set of specific details that lead you to form an idea.”• Invite a few students to restate the definitions of <i>infer</i> and <i>inference</i> in their own words.• Ask students to consider and discuss:<ul style="list-style-type: none">* “Where does the evidence you use to make inferences come from?”• After 1 or 2 minutes, invite several students to share out the ideas they discussed. Listen for suggestions such as:<ul style="list-style-type: none">– “You could find evidence by reading details in the text during class.”– “You might be able to use information that you already have from your own experiences.”– “If you have read other books that have connections to the book we are reading about Philo Farnsworth, you could use information from those books.”– “There might be quotes in <i>The Boy Who Invented TV</i> that give you information to help you make inferences about Philo Farnsworth.”• Say something like:<ul style="list-style-type: none">* “Inferences are the readers’ judgments, so they come from your own thoughts and ideas about your prior experiences and knowledge base, but a strong inference must also be based on the information you read in the text. An inference is the judgment you make by connecting your own knowledge and ideas to the details in the text. I am going to add to our definitions of <i>infer</i> and <i>inference</i> to make them clearer.”• Write: “from the text, your thoughts, and your knowledge base” at the end of each definition.• Say something like:<ul style="list-style-type: none">* “Making inferences can be very tricky because you are drawing conclusions about what the author wants you to know but is not necessarily saying to you directly. Let’s discuss a few strategies to guide your thinking on this work.”• Direct students’ attention to the Suggestions for Making Inferences section of the anchor chart. Cold call a student to read the first suggestion and invite several students to restate the suggestion in their own words.• Cold call a few students to read the second suggestion and associated explanatory points aloud.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to consider and discuss the meaning of the term <i>relevant</i> in the first explanatory point.• After 1 minute, invite a few students to share possible definitions. Listen for them to identify that <i>relevant</i> means “related to” or “on topic.”• Ask students to consider and discuss the meaning of the phrase “read between the lines.”• After 1 or 2 minutes, cold call a few students to share out. Listen for:<ul style="list-style-type: none">– “You have to figure out what the author is trying to explain by giving you certain information. It takes some thinking because you have to use your own knowledge with the details in the text to really understand what the author is saying.”– “If you are reading between the lines, you are trying to understand the things the author is telling you without saying them directly.”• Invite students to read the last two suggestions on the anchor chart aloud.• Explain that the class is going to work together to make an inference about a short section of today’s text.• Ask students to follow along as you read aloud from page 12, starting with “The electric generator broke down a lot ...” and ending with “It worked.”• Ask students to discuss this question with someone sitting near them:<ul style="list-style-type: none">* “After reading these paragraphs from page 12, what can you infer about Philo Farnsworth’s character traits?”• After 1 or 2 minutes, cold call students to share out their responses. Encourage them to explain what evidence and ideas they used to make their inferences. Refer to the Making Inferences anchor chart in the supporting materials for possible student responses.• Record a few strong student examples on the class anchor chart.• Using the student examples you record on the anchor chart, point out or invite students to share the specific details in the text as well as the knowledge base used to make each inference. Examples could include:<ul style="list-style-type: none">– “I thought he might be curious because he was bombarding the repairman with questions, and I know that people who are curious ask a lot of questions.”– “I think Philo is clever because in the text it said that it was expensive to repair the generator, but Philo figured out how to do it himself. I know that generators are complicated machines so I think fixing one would probably be hard. If Philo could learn to fix it, he must be clever. Even though the author didn’t say it, I also think that Philo knew he could save his family money if he learned to fix the generator.”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Explain that students now have the opportunity to use their deeper understanding of what it means to make an inference and the new information from today's reading to revise their inference from the beginning of the lesson. Direct them to work in their groups to complete the second half of the Making Inferences graphic organizer. Remind them to use paraphrased details, direct quotes, and their own thoughts and ideas as they revise their inferences.• After 5 or 6 minutes, cold call several students to share their responses. Refer to the Making Inferences graphic organizer: What Motivated Philo Farnsworth? (answers, for teacher reference) for possible student responses.• Review the Stretch-o-Meter protocol with students. Explain that they will use the Stretch-o-Meter to show how much they revised their inferences from the beginning of the lesson. Model for students as you explain that if their inference from the beginning of class was exactly the same as their inference now, they should stay squished up in a ball. If they revised their inference a little bit, they might be a bit taller. If they completely changed their inference, they should be as stretched out as they can get.• Direct students to use the Stretch-o-Meter.• Invite several students with different amounts of stretch to share about the change, or lack of change, in their inferences. Ask them to use details from the text as they explain why they did or did not revise their work.• Say something like:<ul style="list-style-type: none">* "Sometimes as readers discover new information in the text, their inferences change. It's okay for your inferences to change and evolve as you learn new information. Sometimes instead of changing your inference, new information might support your inference. The more evidence you have to support an inference, the stronger it becomes."	



Work Time (continued)	Meeting Students' Needs
<p>C. Vocabulary to Deepen Understanding (15 minutes)</p> <ul style="list-style-type: none"> • Explain that now students have the opportunity to explore key vocabulary from the text to deepen their understanding. • Read aloud or invite a student to read aloud the third learning target: <ul style="list-style-type: none"> * “I can determine the meaning of key words using a variety of strategies.” • Draw student attention to the terms <i>determine</i>, <i>variety</i>, and <i>strategies</i> and remind them that these terms have been discussed in previous lessons. Invite a few students to use their understanding of these terms to restate the learning target in their own words. • Refer to the Vocabulary Strategies anchor chart and ask students to consider and discuss: <ul style="list-style-type: none"> * “Which vocabulary strategies have you found most helpful in previous lessons? Why?” • After 1 or 2 minutes, cold call several students to share out whole class. Listen for them to mention strategies such as using roots and affixes to figure out the meaning of the word, using context clues to determine a synonym for the word, or using resources such as the dictionary or Internet. • Say something like: <ul style="list-style-type: none"> * “Different strategies are helpful in different circumstances, and what works for one word, or even one student, might not work for another. In our previous lessons, we have practiced using context clues, roots and affixes, and resources to help us determine the meanings of words. Today you will use a variety of strategies to determine the meanings of key terms, but you will have the opportunity to focus on using a vocabulary reference material.” • Invite students to share the names of the vocabulary resources they referred to in previous lessons. Listen for them to identify print dictionaries and Internet definitions. • Ask students to consider and discuss the similarities and differences between these two resources. • After 1 or 2 minutes, invite several students to share out. Listen for ideas such as: <ul style="list-style-type: none"> – “They both describe the definitions for vocabulary words. For multiple-meaning words, they share more than one definition.” – “They are both useful when you are trying to determine the meaning of a challenging word.” – “They both give you information about the part of speech and the way the word is supposed to be pronounced.” – “Dictionary pages contain many words that are listed in alphabetical order, but an Internet definition includes only the definitions for the word you typed into the search engine.” 	<ul style="list-style-type: none"> • Consider recording student-generated synonyms for key terms above or below where they appear in the learning target to promote understanding of the target. • To support ELLs and students who need more processing/writing time, consider paring down the number of words or the type of response students are expected to produce in their vocabulary journals.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Say something like: "Today we will be looking at a new type of resource, a glossary. Internet and dictionary pages are resources that are separate from the text, and they often share many possible definitions for a term. A glossary is different because it is attached to a specific text. Glossaries are usually found at the end of a nonfiction text. You might remember that there was a glossary at the back of <i>Investigating the Scientific Method with Max Axiom</i>. Because a glossary is attached to a specific text, it usually includes only the definitions that are relevant for that book. You are creating your own glossaries in your journals to help you better understand the key terms for this module. <i>The Boy Who Invented TV</i> does not have a glossary, but today you will examine a glossary page that includes many of the terms from pages 10–13."• Distribute the Vocabulary Resource Page, Glossary. Invite students to share what they notice about the glossary page. Listen for observations such as:<ul style="list-style-type: none">– "I notice the words are listed in alphabetical order."– "I notice there is only one definition for each term."– "I notice that some of the terms are related to each other."• Explain that although the glossary doesn't include all of today's vocabulary terms, it may be a helpful reference for today's vocabulary work.<ul style="list-style-type: none">– Display these vocabulary terms via a document camera: <i>electricity, magnetism, devised, pulleys</i>.• Ask students to work in their groups to determine the meaning of each term and add it to the four-column chart in their own journal glossaries.• After 5-6 minutes, cold call several students to share definitions for each term. Listen for:<ul style="list-style-type: none">– "<i>Electricity</i> is a form of energy that is found in nature but can be created artificially by rubbing together two unlike things (like glass and silk), by the action of chemicals, or by a generator."– "<i>Magnetism</i> is the science that deals with magnetic occurrences or conditions."– "<i>Devised</i> means 'to come up with' or 'to invent.'"– "<i>Pulleys</i> are wheels with grooved rims used with a rope or chain to change the direction of a pulling force and increase the force applied for lifting."• Give students 1 or 2 minutes to use their new understanding of key vocabulary to revise the second half of their Making Inferences graphic organizers.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Use Milling to Music to allow students to find a partner. Ask pairs to consider and discuss this question:<ul style="list-style-type: none">* “How do you know if you have made a strong inference?”• Cold call a few students to share out whole class. Listen for comments like these:<ul style="list-style-type: none">– “If you used a few pieces of evidence from the text that connects to your own knowledge, then you probably made a strong inference.”– “A strong inference is based on quotes or paraphrased details from the text and your own knowledge.”• Have students Mill to Music again to find a new partner. Display the learning targets. Ask pairs to consider and discuss:<ul style="list-style-type: none">* “Which learning target was most challenging for you today?”* “What strategies did you use to work toward the target?”• After 1 or 2 minutes, invite a few students to share out whole class.• Have students continue milling to find a third partner. Ask pairs to consider and discuss:<ul style="list-style-type: none">* “Which learning target did you feel most confident about today? Why?”• After 1 or 2 minutes, invite a few students to share whole class.• Preview the graphic novel templates (A, B, C): students will choose and complete one template for homework.	<ul style="list-style-type: none">• Offer a sentence starter for Milling to Music to give all students access to the prompts (“You know you made a strong inference when ...” or “The learning target that was the most challenging today was ...” or “One strategy I used to work toward this target is ...”).
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread pages 10-13 of <i>The Boy Who Invented TV</i>. Create a Philo Farnsworth graphic novel template page. Select one of the graphic novel templates. Use the template to create a graphic novel page about pages 10–13. Bring your complete graphic novel page as an admit ticket to the next lesson.• Read your independent reading book for at least 15 minutes.	<ul style="list-style-type: none">• Consider providing an audio version of the text to support struggling readers.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 3

Supporting Materials



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Making Inferences graphic organizer:
What Motivated Philo Farnsworth?

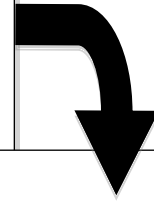
Name: _____

Date: _____

Focusing question: Why was Philo Farnsworth's move from Utah to Idaho such an important event in his life?

Knowledge Base:

Details about the focusing question from previous reading and images viewed



Inference:

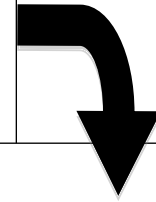
Response to focusing question



Making Inferences graphic organizer:
What Motivated Philo Farnsworth?

New Information from the Text:

Paraphrased details, quoted text, and observations from images



Revised Inference:

Revised response to focusing question



Making Inferences graphic organizer:

What Motivated Philo Farnsworth?
(Answers, for Teacher Reference)

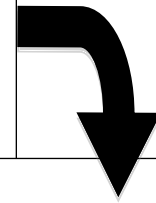
(Some possible student responses)

Focusing question: Why was Philo Farnsworth's move from Utah to Idaho such an important event in his life?

Knowledge Base:

Details about the focusing question from previous reading and images viewed

Philo Farnsworth was bullied by kids at school in Utah.



Inference:

Response to focusing question

Philo Farnsworth's move to Idaho may have been important because he made new friends and didn't get teased anymore.



Making Inferences graphic organizer:

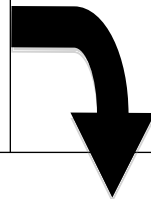
What Motivated Philo Farnsworth?

(Answers, for Teacher Reference)

New Information from the Text:

Paraphrased details, quoted text, and observations from images

- **Philo Farnsworth moved to a house with electricity for the first time.**
- **He found lots of science magazines in the attic, and on page 10 it says, “That’s where he saw the word ‘television’ for the first time.”**
- **One of the images shows him asking lots of questions about the generator. He was curious to learn about how electrical machines worked.**
- **He started inventing electrical machines that could make his chores easier.**
- **I know that learning about machines was important to Philo because I know that he is going to invent the TV.**



Revised Inference:

Revised response to focusing question

Philo Farnsworth’s move to Idaho was an important event in his life because it gave him the opportunity to be more of a scientist by learning about electricity and electrical machines.

Making Inferences Anchor Chart
(for Teacher Reference)

Making Inferences

Definitions

infer: (verb) to draw conclusions based on evidence *from the text, your thoughts, and your knowledge base*

inference: (noun) a conclusion drawn from evidence *from the text, your thoughts, and your knowledge base*

Suggestions for Making Inferences

- To make an inference, you have to draw a conclusion because the author is communicating something but doesn't say it directly in the text.
- You have to "read between the lines."
- Locate important and relevant details in the text.
- Use your own thoughts, ideas, and knowledge base to decide what the author is trying to communicate by sharing those details.
- Because it is your own conclusion, an inference statement often starts with "I think...."
- You can use both direct quotes and paraphrased details as evidence to support your inferences.

Example

Text (from page 12):

"The electric generator broke down a lot, and repairs were costly. Each time the repairman came, Philo bombarded him with questions.

After yet another breakdown, Philo set out to fix the machine himself. He took it apart, cleaned it, put it back together, and pressed the 'on' button. It worked."

Inferences about Philo's character traits:

(Possible student suggestions)

- *I think Philo was curious because he bombarded the repairman with questions.*
- *I think Philo was clever because he figured out how the generator worked to save his family money.*



Vocabulary Resource Page, Glossary

Learning Target: I can determine the meaning of key words using a variety of strategies.

Glossary

circuit	A closed path in which an electrical current flows
device	Something made for a particular purpose
electric current	A flow of electricity
electrical engineer	A person who designs or can fix electrical machinery
electricity	A form of energy created by rubbing two unlike things (like glass and silk) together
gears	A set of toothed wheels that work together to change speed
generator	A machine that generates electricity
lever	A rigid bar resting on a pivot used to help move an object
magnet	A material which attracts things made of iron
magnetic	Attracted to a magnet
magnetism	The science of magnets
motor	A machine that produces power for doing work
pulleys	A wheel with a grooved rim around which a cord passes in order to change the direction of a force applied to the cord.



Graphic Novel Template A

Name: _____

Date: _____

Directions:

1. Reread pages 10–13 of *The Boy Who Invented TV*.
2. Use the frames/panels below to create a graphic novel version of pages 10–13.
3. Incorporate both text and visual elements into your graphic novel page.
4. Bring your completed template to class to share at the start of our next lesson.

A large rectangular frame containing three smaller rounded rectangular panels. One panel is on the left, and two are stacked vertically on the right. The panels are intended for drawing and text.



Graphic Novel Template B

Name: _____

Date: _____

Directions:

1. Reread pages 10–13 of *The Boy Who Invented TV*.
2. Use the frames/panels below to create a graphic novel version of pages 10–13.
3. Incorporate both text and visual elements into your graphic novel page.
4. Bring your completed template to class to share at the start of our next lesson.



Graphic Novel Template C

Name: _____

Date: _____

Directions:

1. Reread pages 10–13 of *The Boy Who Invented TV*.
2. Use the frames/panels below to create a graphic novel version of pages 10–13.
3. Incorporate both text and visual elements into your graphic novel page.
4. Bring your completed template to class to share at the start of our next lesson.

A large rectangular frame containing two smaller rectangular panels. The panel on the left is horizontal and the panel on the right is vertical, both intended for drawing and text.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 4

Making Inferences and Summarizing: Philo Farnsworth's Idea for "Capturing Light in a Bottle"



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1)
I can determine the meaning of general academic and domain-specific words. (RI.5.4)
I can determine two or more main ideas from a text and explain how they are supported by key details. (RI.5.2)
I can summarize the text. (RI.5.2)

Supporting Learning Targets

- I can make inferences using quotes and paraphrased details from *The Boy Who Invented TV*.
- I can determine the meaning of academic and scientific words using a variety of strategies.
- I can write a summary paragraph explaining the multiple main ideas in pages 2–17 of *The Boy Who Invented TV*.

Ongoing Assessment

- Graphic novel templates (from homework)
- Making Inferences graphic organizer: Developing a Solution
- Vocabulary, four-column chart (in journal)
- Summary of pages 2–17 (in journal)



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Homework Review and Engaging the Reader: Starting the Graphic Organizer (5 minutes)Work Time<ol style="list-style-type: none">Reading for Gist: <i>The Boy Who Invented TV</i> Pages 14–17 (10 minutes)Second Read: Making Inferences and Exploring Vocabulary (20 minutes)Writing a Summary Paragraph: <i>The Boy Who Invented TV</i> Pages 2–17 (20 minutes)Closing and Assessment<ol style="list-style-type: none">Debrief and Review Learning Targets (5 minutes)Homework<ol style="list-style-type: none">Read independently for at least 30 minutes and respond to one question on your new Independent Reading Choice Board for this unit.If needed, complete the four-column chart in your journal glossary.	<ul style="list-style-type: none">This lesson follows a similar format to Lesson 3. Students make an inference using their knowledge base during the Opening of this lesson. After reading pages 14–17, they are asked to revise the inference using relevant details from the text and their knowledge base as well as new ideas the text inspired.The vocabulary discussion in this lesson fits within Work Time B to encourage students to use their understanding of key terms to support their inferences. Because vocabulary time is more limited during this lesson, students should be encouraged to record a definition or synonym for each term and complete the remaining parts of the four-column chart only if time allows.Students revisit their work from Lessons 2–4 to develop a summary paragraph of pages 2–17 of <i>The Boy Who Invented TV</i>. This activity builds on the summary work from Lessons 1 and 2. Students write using a similar paragraph structure but are required to summarize a larger section of text with more main ideas. Students work in groups to complete a graphic organizer that provides scaffolding for their summary paragraph and serves as a first draft. The graphic organizer intentionally provides space for only five main idea sentences to encourage students to identify the most important ideas expressed in this section of the text.In advance:<ul style="list-style-type: none">Review Popcorn Read protocol (see Appendix).Consider displaying directions for group work to save time in Work Times B and C.Familiarize yourself with the Summary Paragraph graphic organizer (answers, for teacher reference).Post: Learning targets.



Lesson Vocabulary	Materials
inferences, quotes, paraphrased, summary, explaining, multiple, main ideas; stimulated, devices, doubted, harness, parallel, fused, transmitting, reassembling	<ul style="list-style-type: none">• Journals (begun in Unit 1, Lesson 1; one per student)• <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> (book; one per student)• Making Inferences anchor chart (from Lesson 3)• Making Inferences graphic organizer: Developing a Solution (one per student)• Making Inferences graphic organizer: Developing a Solution (answers, for teacher reference)• Inferences and Key Terms task card (one per student)• Main Ideas and Summary anchor chart (from Lesson 1)• Summary Paragraph graphic organizer (one per student)• Document camera• Main Ideas and Summary graphic organizer: Philo's Childhood (from Lesson 2)• Summary Paragraph graphic organizer (answers, for teacher reference)• Independent Reading Choice Board (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader: Starting the Graphic Organizer (5 minutes)</p> <ul style="list-style-type: none"> • Direct students to bring their completed graphic novel templates, journals, and text, <i>The Boy Who Invented TV</i>, and sit in their discussion groups. • Ask students to share their graphic novel templates with a partner from their group. Encourage them to discuss the visual elements and specific details that help communicate the main ideas from pages 10–13 of <i>The Boy Who Invented TV</i> that they expressed in their graphic page. • After 1 or 2 minutes, invite several students to share out whole class about some of the visual elements and details their partner included that helped communicate the main ideas. Answers will vary. • Praise the students for their ability to use details from the text to express ideas in new ways. Explain that today they again have the opportunity to use details from the text to support their thinking, as they work to make inferences and summarize main ideas. • Refer to the Making Inferences anchor chart. Cold call students to read aloud the definitions for <i>infer</i> and <i>inference</i>: <ul style="list-style-type: none"> * “<i>Infer</i> is to draw conclusions based on evidence from the text, your thoughts, and your knowledge base.” * “An <i>inference</i> is a conclusion drawn from evidence from the text, your thoughts, and your knowledge base.” • Invite a few students to restate the definitions in their own words. • Explain that similarly to the last lesson, students will make an inference about <i>The Boy Who Invented TV</i> and then revise their inference after collecting more information from the text during today's lesson. • Distribute the Making Inferences graphic organizer: Developing a Solution. Read the focusing question aloud or invite a student to read it aloud: <ul style="list-style-type: none"> * “Why do you think Philo Farnsworth, a 14-year-old boy, was able to develop an idea for the TV when other scientists were still struggling to make it work?” • Ask students to discuss the focusing question in their groups and complete the first half of the graphic organizer. Remind them to refer to relevant details from their notes and what they have already read in <i>The Boy Who Invented TV</i> to answer the question. Explain that even within a single group, inferences may differ from one student to the next. Their inference does not need to be identical to their group members' inferences. 	<ul style="list-style-type: none"> • Offer a sentence starter to give all students access to the discussion around the focus question (“I think Philo was able to make the TV work, even though scientists were struggling to make it work, because ...”).



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 2 or 3 minutes, cold call several students to share their inferences with the whole class. Refer to the Making Inferences graphic organizer: Developing a Solution (answers, for teacher reference) for possible student responses.• Tell students they will complete the graphic organizer after they collect more information during Work Time B.	
Work Time	Meeting Students' Needs
<p>A. Determining the Gist: <i>The Boy Who Invented TV</i> Pages 14–17 (10 minutes)</p> <ul style="list-style-type: none">• Ask students to work collaboratively as they read pages 14–17 of <i>The Boy Who Invented TV</i> to determine the gist. Remind them that they should consider both the images and text in their discussion.• After 3 or 4 minutes, cold call several students to share their gist statements. Listen for responses such as:<ul style="list-style-type: none">– “Philo figured out a way to make the TV work by thinking about it in a different way.”– “Philo didn’t think that spinning machines would work, so he tried to devise a TV based on electricity.”– “Philo had an idea to use electrons to transmit images from one place to another.”• Give students 1 minute to record their gist statement on the same page as previous gist statements from <i>The Boy Who Invented TV</i>.	<ul style="list-style-type: none">• To support struggling readers, consider abbreviating the amount of text they read to determine the gist. Be sure to choose the selection wisely so that students can still contribute meaningfully to the group discussion about the gist.• Consider guiding students through the process of determining gist in a small group.• Encourage struggling readers to find the gist in “baby steps” by reading a little at a time, collecting the gist as they go.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Making Inferences and Exploring Vocabulary (20 minutes)</p> <ul style="list-style-type: none">• Say something like:<ul style="list-style-type: none">* "Now that you have the gist of pages 14–17, let's read a little more closely so you can collect evidence to use as you revise your inferences from earlier."• Read the first learning target aloud or invite a student to read it aloud:<ul style="list-style-type: none">* "I can make inferences using quotes and paraphrased details from <i>The Boy Who Invented TV</i>."• Draw students' attention to the terms <i>inferences</i>, <i>quotes</i>, and <i>paraphrased</i>. Ask them to consider these terms as they think about how to restate the learning target in their own words. Cold call a few students to paraphrase the learning target.• Review the Popcorn Read protocol and clarify any directions as needed. Refer to the Making Inferences anchor chart and ask one student to start the Popcorn Read by reading aloud one suggestion for making inferences that was particularly helpful in Lesson 3.• Once the Popcorn Read has reached a natural conclusion, invite a few students to share out any patterns they noticed, such as strategies that were helpful for many students. Probe students' thinking by asking questions such as:<ul style="list-style-type: none">* "In what ways are these strategies useful?"* "What other strategy could you try to use to support your thinking in this lesson?"• Student answers will vary, but listen for them to make specific references to the strategies they find most helpful and explain how the strategies supported their ability to make inferences.• Remind students to refer to the anchor chart and try to use more than one strategy as they work to make and revise their inferences about today's reading. Read the second learning target aloud or invite a student to read it aloud:<ul style="list-style-type: none">* "I can determine the meaning of key words using a variety of strategies."• Explain that today students will determine the meaning of vocabulary words while they are rereading to make inferences.• Ask them to consider and discuss:<ul style="list-style-type: none">* "Why might it be helpful to consider the meaning of key terms while you are working on making inferences?"• After 1 or 2 minutes, invite several students to share their thinking whole class. Listen for ideas similar to these:<ul style="list-style-type: none">– "If you understand the meaning of the key terms, you will have a better idea of what the author is trying to say, so it will be easier to make inferences."	<ul style="list-style-type: none">• To support synthesis of new vocabulary, consider writing student-generated synonyms above or below key terms in the target.• To support visual learners, invite a student with a proficient inference to display the inference under the document camera as they read it aloud.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “It will be easier to collect evidence from the text if you have a strong understanding of the key terms.”• Direct students to look at the top of their Making Inferences graphic organizers and read the key vocabulary aloud: <i>stimulated, devices, doubted, harness, parallel, fused, transmitting, reassembling.</i>• Then, distribute and display the Inferences and Key Terms task card directions. Clarify as needed then ask students to begin.• Circulate to provide support to students. Consider assisting them with vocabulary work by pointing out that one of the key terms was listed in the glossary from Lesson 3, that the image on pages 16 and 17 shows parallel rows of overturned earth, that the prefix <i>trans-</i> means “across” or “through,” and that the prefix <i>re-</i> means “again.”• After about 15 minutes, refocus students whole class.• Cold call several students to share definitions for the key vocabulary terms. Listen for suggestions such as:<ul style="list-style-type: none">– “<i>Stimulated</i> means excited or interested.”– “<i>Devices</i> are pieces of equipment designed to serve a specific purpose.”– “<i>Doubted</i> means ‘did not believe.’”– “To <i>harness</i> something is to control it so it can be used for a specific purpose.”– “<i>Parallel</i> lines are straight, coplanar lines that never intersect.”– “<i>Fused</i> means ‘came together.’”– “<i>Transmitting</i> means ‘sending from one part or place to another.’”– “<i>Reassembling</i> means ‘assembling again’ or ‘putting together again.’”• Invite students to use their understanding of these terms to revise the inferences on their graphic organizer.• After 1 or 2 minutes, cold call several students to share the inferences they wrote in response to the focusing question. Refer to the Making Inferences graphic organizer: Developing a Solution (answers, for teacher reference) for possible student responses.• Ask students to consider and discuss how reading pages 14–17 altered their initial inference in response to the focusing question.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> After 1 or 2 minutes, cold call several students to share out whole class. Encourage them to cite specific details from the text to help them explain their thinking. Praise students for their ability to identify relevant details in the text that support, expand, or alter their thinking. 	
<p>C. Writing a Summary Paragraph: <i>The Boy Who Invented TV</i> Pages 2–17 (20 minutes)</p> <ul style="list-style-type: none"> Review students' work in Lessons 1–4, saying something like: <ul style="list-style-type: none"> * "Over the past several lessons, you have practiced reading to determine main ideas, make inferences, explore new vocabulary and summarize sections of the text. This complex thinking has helped you develop a deeper understanding of the text, <i>The Boy Who Invented TV</i>. To help synthesize all of your thinking, you are going to take some time today to look back over your work, identify the most important ideas from pages 2–17, and write a summary paragraph." Refocus the class before you read aloud, or invite a student to read aloud, the third learning target: <ul style="list-style-type: none"> * "I can write a summary paragraph explaining the multiple main ideas in pages 2–17 of <i>The Boy Who Invented TV</i>." Draw students' attention to the terms <i>summary</i>, <i>explaining</i>, <i>multiple</i>, and <i>main ideas</i>. Ask them to consider and discuss the meaning of each term. After 1 to 2 minutes, cold call several students to share possible definitions. Listen for suggestions like these: <ul style="list-style-type: none"> – "A <i>summary</i> is a brief explanation of the main ideas presented in a text." – "<i>Explaining</i> is 'describing with details' or 'teaching others.'" – "<i>Multiple</i> means 'more than one.'" – "<i>Main ideas</i> are the most important or central thoughts of a paragraph or larger section of text." Invite several students to paraphrase the learning target. Refer to the Main Ideas and Summary anchor chart and explain to students that today they are using the same skills they have used in previous lessons to write summaries, however because they are reviewing ideas from more than one section of text their paragraphs will be longer. Therefore, a new graphic organizer will be provided to help students plan their paragraph. Distribute the Summary Paragraph graphic organizer and display a copy on the document camera. Tell students that as they review their work from Lessons 2–4, they should record main ideas from each section on their graphic organizer. 	<p>When directing students to discuss the Main Ideas and Summary graphic organizer from Lesson 1, display the three discussion questions so students can talk about them at their own pace.</p> <ul style="list-style-type: none"> Offer access to word processing or a scribe to support students who struggle with the physical act of writing when recording their summary in their journal.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Direct students to look back at the Main Ideas and Summary graphic organizer: Philo's Childhood from Lesson 2. Cold call a student to share the first and second main idea recorded on the graphic organizer. Ask students to consider and discuss: <ul style="list-style-type: none"> * "Are each of these main ideas relevant to the larger section of text we are summarizing today?" * "Is one of the ideas more important to pages 2–17 than the other?" * "Should one or both of these ideas be included in the summary of pages 2–17? Explain your thinking." • After 2 or 3 minutes, invite several students to share their thinking whole class. Answers will vary, but possible student responses could include: <ul style="list-style-type: none"> – "I think both main ideas are important to pages 2–17 because they help you understand the character traits that made Philo a good inventor." – "I think both ideas are important, but the first one is more related to the rest of the story." • Using the displayed organizer, demonstrate how students might record one main idea in the box labeled Main Idea 1. • Point out where students will record additional main ideas. Ask them to consider and discuss: <ul style="list-style-type: none"> * "If today's summary paragraph follows a similar format to the paragraphs from Lessons 1 and 2, describe the purpose of the boxes labeled Introductory Sentence and Concluding Sentence." • After 1 or 2 minutes, cold call a few students to share their thoughts whole class. Listen for: <ul style="list-style-type: none"> – "The first box is where we write an overarching statement that is related to all main ideas." – "The conclusion is where we restate the introductory sentence in a new way." • Give groups these instructions: <ul style="list-style-type: none"> * Review the text, the work in your journal, and your completed graphic organizers. * Determine and record the four or five most important main ideas from pages 2–17. • Remind students that their group members are there to support their thinking, but their work does not need to be identical. Circulate to assist as needed. Encourage students to refer to the Main Ideas and Summary anchor chart to support their thinking. • After 8 to 10 minutes, refocus students whole class. Cold call several students to share main ideas they identified from the text. Refer to the Summary Paragraph graphic organizer (answers, for teacher reference) for possible responses. 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Direct students to work in their groups to:<ul style="list-style-type: none">– Develop and record an introductory sentence that synthesizes all of the main ideas they recorded.– Generate and record a concluding sentence that restates the introduction in a different way.• Remind students that once again, their work does not need to be identical to that of their group mates. Circulate to provide support as needed.• After 2 or 3 minutes, cold call several students to share the introductory sentences they recorded. Refer to the Summary Paragraph graphic organizer (answers, for teacher reference) for possible responses.• Give students 2 minutes to make final revisions to their thinking on their graphic organizers and record their complete summary paragraph on a clean page in their journals.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Direct students to collect their journals and find a partner who is not in their discussion group.• Ask partners to share their summary paragraphs and discuss the similarities and differences they notice.• After 1 or 2 minutes, invite a few students to share out about the points they discussed.• Display the learning targets and ask students to consider and discuss with their partner:<ul style="list-style-type: none">* "Describe how the work you have done in today's lesson has helped you work toward these learning targets."• After 1-2 minutes, cold call several students to share.• Explain to students that in the next lesson, they will have the opportunity to demonstrate their mastery toward each of these targets when they take the mid-unit assessment.• Distribute a new Independent Reading Choice Board to each student.	<ul style="list-style-type: none">• Offer a sentence starter to support all students in accessing the debrief question ("The work I did in today's lesson helped me work toward these learning targets by ...").
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read independently for at least 30 minutes and respond to a new question on your Independent Reading Choice Board.• If needed, complete the four-column chart in your journal glossary.	<ul style="list-style-type: none">• For students who need additional processing or writing time, consider reducing the number of words to enter into their glossary by providing a four-column note for one or more of the words or one for each word with key elements missing for students to fill in as homework and glue into their journal.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 4

Supporting Materials



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Making Inferences graphic organizer:
Developing a Solution

Name:

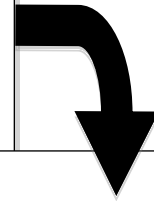
Date:

Key vocabulary: stimulated, devices, doubted, harness, parallel, fused, transmitting, reassembling

Focusing question: Why do you think Philo Farnsworth, a 14-year-old boy, was able to develop an idea for the TV when other scientists were still struggling to make it work?

Knowledge Base:

Details about the focusing question from previous reading and images viewed



Inference:

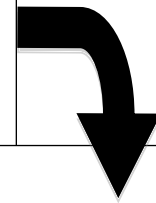
Response to focusing question



Making Inferences graphic organizer:
Developing a Solution

New Information from the Text:

Paraphrased details, quoted text, and observations from images



Revised Inference:

Revised response to focusing question



Making Inferences graphic organizer:

Developing a Solution
(Answers, for Teacher Reference)

(Some possible student responses)

Focusing question: Why do you think Philo Farnsworth, a 14-year-old boy, was able to develop an idea for the TV when other scientists were still struggling to make it work?

Knowledge Base:

Details about the focusing question from previous reading and images viewed

- *Philo was always asking lots of questions.*
- *Philo had lots of jobs and chores. He was very hard-working.*
- *Philo figured out how to fix things around his house all on his own.*

Inference:

Response to focusing question

Philo Farnsworth was always asking a lot of questions, so I think he was a good critical thinker. He was also a very hard worker, and he taught himself how to fix machines at his house. His critical thinking and hard work probably helped him invent the TV.



Making Inferences graphic organizer:

Developing a Solution
(Answers, for Teacher Reference)

New Information from the Text:

Paraphrased details, quoted text, and observations from images about Philo Farnsworth's motivations

- *Philo wasn't trying to solve the problem with spinning disks and mirrors like everyone else. He tried to think about it in a new way, using electricity.*
- *He didn't just think about machines. He was learning about all different kinds of science. He understood about how electricity and electrons worked.*
- *He got an idea from looking at the lines in his fields.*

Revised Inference:

Revised response to focusing question

Philo Farnsworth was able to create an idea for the TV even when other scientists struggled because he was a creative thinker. Instead of thinking about machines with moving parts, he thought about electrons and light.



Inferences and Key Terms task card

1. Reread pages 14–17.
 - A. Identify and record relevant quotes and paraphrased details from the text on your Making Inferences graphic organizer.
 - B. Determine the meaning of key vocabulary and add each term to your journal glossary. Record either a definition or a synonym for each term.
 - C. Complete your Making Inferences graphic organizer using:
 - Details from the text and images on pages 14–17
 - Your knowledge base
 - Relevant ideas you developed while reading pages 14–17
2. As time allows, complete all parts of the four-column chart in your journal glossary.



Summary Paragraph graphic organizer

Name: _____

Date: _____

Introductory Sentence

Main Idea 1

Main Idea 2

Main Idea 3

Main Idea 4

Main Idea 5

Concluding Sentence



Summary Paragraph graphic organizer
(Answers, for Teacher Reference)

Introductory Sentence

Philo Farnsworth's early interest in science and invention influenced many of his actions and encouraged him to start inventing machines.

Main Idea 1

Philo Farnsworth was a curious boy who was interested in the way machines, like the phonograph and telephone, worked.

Main Idea 2

Philo lived on a farm and had many chores and responsibilities, but he still tried to make time to read about machines.

Main Idea 3

When his family moved from Utah to Idaho, Philo had the opportunity to read magazines about science and learn about the electrical machines in his new house.

Main Idea 4

Philo started inventing his own machines to make his chores easier so he could spend more time learning about science and thinking about inventions.

Main Idea 5

When he was plowing his fields, Philo developed the idea for an electrical TV that would break images into parallel rows of light, transmit them as electrons, and put them back together for the viewer.

Concluding Sentence

As a boy, Philo Farnsworth's interest in science and invention influenced his actions and led him to devise a plan for an electrical TV.



Independent Reading Choice Board

Name: _____

Date: _____

Title of Independent Reading Book/Author's Name: _____

After reading independently (silently and/or aloud) for at least 30 minutes, write a response to any ONE question from the board *except* the center square. Complete the center square once you have answered each of the other eight questions. If you need more space, you may continue your answers on the back.

<p>MAIN IDEAS</p> <p>What is <i>one</i> of the main ideas presented in your book?</p> <p>List at least two details that support the main idea you identified.</p>	<p>CONNECTIONS</p> <p>What connections were you able to make between your independent reading book and other texts, topics explored, or experiences you have had?</p>	<p>STRUCTURE</p> <p>How is this book structured?</p> <p>How does the structure support your understanding of the text?</p>
<p>GENRE</p> <p>What genre is this book? Do you enjoy this genre? Explain.</p>	<p><i>*Complete this square last</i></p> <p>What qualities will you look for in the next book you read? (e.g., same author, same or different genre, more or less visual elements, etc.)</p>	<p>RECOMMENDATION</p> <p>Would you recommend this book and/or this author to someone else? Explain.</p>
<p>WORDS</p> <p>List at least two words from your book that have the same <i>prefix</i>.</p> <p>What does the prefix in these words mean?</p>	<p>READABILITY</p> <p>Is your independent reading book too hard, just right, or too easy? Explain.</p>	<p>INTEREST</p> <p>Do you find this book interesting? Explain.</p>



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 5

Mid-Unit Assessment: Text-Dependent Questions about “The TV Guy”



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)

I can summarize a text. (RI.5.1)

I can determine two or more main ideas of a text and explain how they are supported by key details. (RI.5.2)

I can determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area. (RI.5.4)

I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4)

Supporting Learning Targets

- I can quote accurately from the text when making an inference about why Philo Farnsworth was named one of the most important people of the 20th century by *Time* magazine.
- I can write a statement to summarize what the article “The TV Guy” is mostly about using key details that support the main idea(s).
- I can use a variety of strategies to determine the meaning of unknown words.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- Mid-Unit 2 Assessment
- Tracking My Progress, Mid-Unit 2 recording form



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Reviewing Homework and Engaging the Reader (10 minutes)Introducing Learning Targets (5 minutes)Work Time<ol style="list-style-type: none">Mid-Unit 2 Assessment: Text-Dependent Questions about “The TV Guy” (30 minutes)Tracking My Progress (10 minutes)Closing and Assessment<ol style="list-style-type: none">Share Self-Assessment (5 minutes)Homework<ol style="list-style-type: none">Reread the article “The TV Guy” to self-assess fluency.Read independently for at least 15 to 20 minutes; respond to one question on your Independent Reading Choice Board (from Lesson 4).Fluency Self-Assessment and Goal	<ul style="list-style-type: none">In this lesson, students read a new article about Philo Farnsworth, the inventor of the television, and answer a series of text-dependent questions.Post: Learning targets.Students are asked to practice fluency skills as part of their homework assignment. Refer to the Foundational Reading and Language Skills Resource Package for further details.

Lesson Vocabulary	Materials
accurately, inference, century, statement, summarize, variety, strategies, determine	<ul style="list-style-type: none">“The TV Guy” (assessment text; one per student)Mid-Unit Assessment: Text-Dependent Questions: “The TV Guy” (one per student)Mid-Unit Assessment: Text-Dependent Questions: “The TV Guy” (answers, for teacher reference)Tracking My Progress, Mid-Unit 2 recording form (one per student)Fluency Self-Assessment (one per student; see standalone Foundational Reading and Language Skills Resource Package)



Opening	Meeting Students’ Needs
<p>A. Reviewing Homework and Engaging the Reader (10 minutes)</p> <ul style="list-style-type: none"> • Direct students to quickly locate their Independent Reading Choice Board and find a partner not in their discussion group. • Ask students to share the following with their partner: <ol style="list-style-type: none"> 1. The title of their independent reading text 2. The section of the choice board they selected to complete for homework 3. Their response to the choice board prompt • After 1 or 2 minutes, cold call several students to share responses they heard from their partners. 	
<p>B. Introducing Learning Targets (5 minutes)</p> <ul style="list-style-type: none"> • Invite volunteers to read the learning targets aloud. Tell students you have identified eight important words from these targets that are worth reviewing or important to be successful on the assessment. • Challenge them to take a minute to discuss with their groups to identify at least eight important words from the targets. • Invite a member from each group to share out one or two words identified by the group. Ask them to briefly explain how they selected their words. Reveal your selection to students and ask them to provide synonyms or brief definitions. Listen for: <ul style="list-style-type: none"> – <i>accurately</i> – exactly or correctly – <i>inference</i> – assumption or conclusion – <i>century</i> – a period of 100 years (20th century marks the 1900s) – <i>statement</i> – account or report – <i>summarize</i> – recap – <i>variety</i> – range or assortment – <i>strategies</i> – plans for reaching a goal – <i>determine</i> – find out • Before moving on, ask for volunteers to restate the learning targets in their own words to reflect their understanding of key terms. 	<ul style="list-style-type: none"> • Consider providing a copy of the learning targets for students to have in front of them. This will allow them to highlight or underline words to help them determine important vocabulary. • Write the synonyms to key terms from the targets above or below where they appear to help students paraphrase targets into even more kid-friendly language. • To support ELLs, be particular about synonyms you will accept to replace key terms in the target. Make sure synonyms match the part of speech of the word they are replacing. Ask students to offer correct solutions when mistakes are made or provide them yourself.



Work Time	Meeting Students’ Needs
<p>A. Mid-Unit 2 Assessment: Text-Dependent Questions about “The TV Guy” (30 minutes)</p> <ul style="list-style-type: none">• Distribute the assessment text, “The TV Guy,” and the Mid-Unit 2 Assessment: Text-Dependent Questions: “The TV Guy.” Ask students to quickly scan the assessment.• Tell them they will have 30 minutes to read the article and complete the questions. Clarify any instructions as necessary.• Invite students to begin. Circulate to supervise. Because this is an on-demand assessment, do not provide support other than formally approved accommodations.• Post these options for students who finish the assessment early:<ul style="list-style-type: none">– Read your independent reading book.– Finish adding vocabulary words to your glossaries.– Revise your graphic organizers by rereading the sections of <i>The Boy Who Invented TV</i> from Lessons 1–4.	<ul style="list-style-type: none">• Display the assessment under a document camera to point out all of its parts and instructions. As you answer questions, refer to that part of the assessment.• Extended time is a recognized accommodation for ELLs during formal assessments in NYS.• For students who struggle with the physical act of writing, consider allowing them to type their short-answer responses as well as their Tracking My Progress statements. If technology is not available, you, a classroom aide, or another student can act as a scribe.• Consider providing smaller chunks of text (sometimes just a few sentences) and a modified assessment with fewer questions for struggling students.
<p>B. Tracking My Progress (10 minutes)</p> <ul style="list-style-type: none">• Distribute the Tracking My Progress, Mid-Unit 2 recording form. Explain that this is a self-assessment, exactly like the Progress Trackers they did in Unit 1. They will reflect on their progress toward the learning targets. Read through the form and provide clarification as needed.• Ask students to independently complete their recording form. Ask them to hold on to this sheet to refer to during the lesson debrief.	



Closing and Assessment	Meeting Students’ Needs
<p>A. Share Self-Assessment (5 minutes)</p> <ul style="list-style-type: none">• Pair students up. Ask them to share the reflections on their Tracking My Progress recording form.• Invite several students to share out with the whole group.• Collect students’ Mid-Unit 2 Assessments and recording forms to review.	<ul style="list-style-type: none">• Provide a sentence starter to give all students access to the conversation with a peer: “On the first target, I circled.... The evidence I have to support that is....”
Homework	Meeting Students’ Needs
<ul style="list-style-type: none">• Reread the article “The TV Guy” and use the Fluency Self-Assessment to self-assess your fluency skills and set a personal goal for improving your fluent reading skills.• Read independently for at least 15 to 20 minutes; respond to one question on your Independent Reading Choice Board. <p><i>Note: Be sure to score and return students’ Mid-Unit 2 Assessments before Lesson 6, so they are able to review strengths and areas for refinement, as well as seek further clarification regarding targets they are still working toward mastery of.</i></p>	<ul style="list-style-type: none">• Provide a recording of the text for struggling readers.• Allow students to dictate their choice board response to someone at home to act as scribe.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 5

Supporting Materials



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“The TV Guy”
(Assessment Text)

In short:

It may sound hard to believe, but a farm boy from Utah invented the television! Think how that has changed the world. Philo T. Farnsworth, who came from a little community outside of Beaver, built on the work of others. But he was the one who made the image dissector camera tube that put the first images on a television screen. His invention opened up entirely new avenues for entertainment, information, and exploration—and landed him on a postage stamp in 1983!

More of the story:

He changed the world!

Philo T. Farnsworth changed the way people all over the world talk to each other, learn about things, and entertain themselves. His invention made *Sesame Street*, news programs, sitcoms, dramas, and all the other television programs possible. How did community and family life change because of television?

Born into a very different world.

Philo Farnsworth came into a world just beginning to be electrified in 1906. His family’s first house, near Beaver, Utah, had no electricity. So when the family moved to a new house in Idaho, young Philo was fascinated! Lights that came on when you flipped a switch and electric tools for the farm intrigued him.

By the age of 13 he had won his first national contest, sponsored by *Science and Invention* magazine, for a thief-proof lock.

In 1922 he drew a design for his high school chemistry teacher, Justin Tolman. The drawing had nothing to do with the class assignment, but Tolman kept it. Farnsworth believed that he could transform electricity into pictures by controlling the speed and direction of fast-flying electrons.

Philo did very well in high school and was excited to go to Brigham Young University. But before he could finish college, his father died and his family could no longer afford for him to be at school.

“The TV Guy”
(Assessment Text)

How to make a TV??

Philo was still thinking about how to send images through the air. But he had no money to work on his idea. Eventually, he met a pair of Californians who invested money in his idea. They gave him enough money that he could experiment with the device he had worked on in high school.

So he worked. And worked. Tried and tried.

Success!

He successfully transferred his first image in 1927—at age 21. So what was the first real television image? Just a simple line!

A challenge.

Other people had also been working on inventing a television. Another inventor, John Logie Baird, also had successful tests using his own methods that year and in 1928, so Philo spent several years after that fighting over the right to claim he invented the television.

He worked for several different companies in his life, and he never stopped inventing. His designs and ideas were the forerunners of many things in our lives, like radar, electron microscopes, and incubators.

But Farnsworth was sad and bitter that the public did not recognize his work to make television a reality. He died with little money or fame.

Finally, people noticed.

However, in 1985 students and teachers from Ridgmont Elementary School in Salt Lake City started working to give him the recognition he deserved. They lobbied the state legislature to choose Philo T. Farnsworth as the second of two statues Utah was allowed to place in the U.S. Capitol Building. (The first statue is Brigham Young.) So now a statue of Farnsworth stands in Statuary Hall in Washington in the U.S. Capitol.

What's more, *Time* magazine named Philo T. Farnsworth to its list of the 100 most important people of the 20th century!

"Utah State History." Philo Farnsworth. Utah Division of State History, Web. <http://www.ilovehistory.utah.gov/people/difference/farnsworth.html>.



Mid-Unit 2 Assessment: Text-Dependent Questions:
“The TV Guy”

Name:

Date:

Long-Term Learning Targets Assessed:

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)

I can summarize a text. (RI.5.1)

I can determine two or more main ideas of a text and explain how they are supported by key details. (RI.5.2)

I can determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area. (RI.5.4)

I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4)

Directions:

- Read the entire article “The TV Guy.”
 - Consider the gist of the article. What is it mostly about?
 - Skim the assessment questions below.
 - Reread the pages, thinking about the assessment questions.
 - Answer the questions in complete sentences.
 - Be sure to cite evidence from the text to support your answers.
1. Part A: The article states, “But Farnsworth was sad and bitter that the public did not **recognize** his work to make television a reality.”

What does the word *recognize* mean in the context of this article?

- a. know
- b. acknowledge
- c. accept
- d. understand

Mid-Unit 2 Assessment: Text-Dependent Questions:
“The TV Guy”

Part B: Which sentence from the article best helped you determine the meaning of the word *recognize*?

- a. Philo spent several years after that fighting over the right to claim he invented the television.
 - b. He died with little money or fame.
 - c. However, in 1985 students and teachers from Ridgemont Elementary School in Salt Lake City started working to give him the recognition he deserved.
 - d. What’s more, *Time* magazine named Philo T. Farnsworth to its list of the 100 most important people of the 20th century!
2. Part A: Read the two dictionary definitions for the word **avenues** below and determine which is correct based on how the word is used in the first paragraph of the article: “His invention opened up entirely new *avenues* for entertainment, information, and exploration.”
- a. avenues (n): streets, roads, paths
 - b. avenues (n): opportunities, possibilities
3. In the fourth paragraph of the article, it states, “Farnsworth believed that he could **transform** electricity into pictures.”

Part A: What does the word *transform* mean in this sentence?

- a. draw
- b. change
- c. place
- d. think

Part B: What part of the word *transform* helped you determine the meaning in Part A? Explain.

Mid-Unit 2 Assessment: Text-Dependent Questions:
“The TV Guy”

4. Part A: What is one of the main ideas of this article?

- a. Philo T. Farnsworth’s invention of the television changed the world.
- b. Television changed the world.
- c. The world was very different before television was invented.
- d. A farm boy invented television.

Part B: Which key detail from the article best supports your answer to Part A?

- a. It may sound hard to believe, but a farm boy from Utah invented the television!
- b. Think how that has changed the world.
- c. But he was the one who made the image dissector camera tube that put the first images on a television screen.
- d. Philo T. Farnsworth changed the way people all over the world talk to each other, learn about things, and entertain themselves.

5. Part A: What is another main idea of this article?

- a. Philo T. Farnsworth started inventing at a young age.
- b. Philo T. Farnsworth’s ideas influenced many of the inventions we use today.
- c. Electricity fascinated Philo T. Farnsworth.
- d. Philo T. Farnsworth worked hard.

Part B: Which key detail from the article best supports your answer to Part A?

- a. His invention made *Sesame Street*, news programs, sitcoms, dramas, and all the other television programs possible.
- b. Lights that came on when you flipped a switch and electric tools for the farm intrigued him.
- c. He successfully transferred his first image in 1927—at age 21.
- d. His designs and ideas were the forerunners of many things in our lives, like radar, electron microscopes, and incubators.



Mid-Unit 2 Assessment: Text-Dependent Questions:
“The TV Guy”

6. Why do you think Philo T. Farnsworth was named one of *Time* magazine’s most important people of the 20th century? Support your response with evidence from the text.

7. Write a three- to five-sentence paragraph to summarize what this article is mostly about. Make sure to include key details from the article in your summary.



Mid-Unit 2 Assessment: Text-Dependent Questions:

“The TV Guy”

(Answers, for Teacher Reference)

Long-Term Learning Targets Assessed:

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)

I can summarize a text. (RI.5.1)

I can determine two or more main ideas of a text and explain how they are supported by key details. (RI.5.2)

I can determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area. (RI.5.4)

I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4)

Directions:

- Read the entire article “The TV Guy.”
 - Consider the gist of the article. What is it mostly about?
 - Skim the assessment questions below.
 - Reread the pages, thinking about the assessment questions.
 - Answer the questions in complete sentences.
 - Be sure to cite evidence from the text to support your answers.
1. Part A: The article states, “But Farnsworth was sad and bitter that the public did not **recognize** his work to make television a reality.”

What does the word *recognize* mean in the context of this article?

- a. know
- b. acknowledge**
- c. accept
- d. understand

Mid-Unit 2 Assessment: Text-Dependent Questions:

“The TV Guy”

(Answers, for Teacher Reference)

Part B: Which sentence from the article best helped you determine the meaning of the word *recognize*?

- a. Philo spent several years after that fighting over the right to claim he invented the television.
 - b. He died with little money or fame.
 - c. However, in 1985 students and teachers from Ridgmont Elementary School in Salt Lake City started working to give him the recognition he deserved.
 - d. What’s more, *Time* magazine named Philo T. Farnsworth to its list of the 100 most important people of the 20th century!**
2. Part A: Read the two dictionary definitions for the word **avenues** below and determine which is correct based on how the word is used in the first paragraph of the article: “His invention opened up entirely new *avenues* for entertainment, information, and exploration.”
- a. avenues (n): streets, roads, paths
 - b. avenues (n): opportunities, possibilities**
3. In the fourth paragraph of the article, it states, “Farnsworth believed that he could **transform** electricity into pictures.”

Part A: What does the word *transform* mean in this sentence?

- a. draw
- b. change**
- c. place
- d. think

Part B: What part of the word *transform* helped you determine the meaning in Part A? Explain.

Trans – because it is a prefix that means change.

Mid-Unit 2 Assessment: Text-Dependent Questions:

“The TV Guy”

(Answers, for Teacher Reference)

4. Part A: What is one of the main ideas of this article?

- a. **Philo T. Farnsworth’s invention of the television changed the world.**
- b. Television changed the world.
- c. The world was very different before television was invented.
- d. A farm boy invented television.

Part B: Which key detail from the article best supports your answer to Part A?

- a. It may sound hard to believe, but a farm boy from Utah invented the television!
- b. Think how that has changed the world.
- c. But he was the one who made the image dissector camera tube that put the first images on a television screen.
- d. **Philo T. Farnsworth changed the way people all over the world talk to each other, learn about things, and entertain themselves.**

5. Part A: What is another main idea of this article?

- a. Philo T. Farnsworth started inventing at a young age.
- b. **Philo T. Farnsworth’s ideas influenced many of the inventions we use today.**
- c. Electricity fascinated Philo T. Farnsworth.
- d. Philo T. Farnsworth worked hard.

Part B: Which key detail from the article best supports your answer to Part A?

- a. His invention made *Sesame Street*, news programs, sitcoms, dramas, and all the other television programs possible.
- b. Lights that came on when you flipped a switch and electric tools for the farm intrigued him.
- c. He successfully transferred his first image in 1927—at age 21.
- d. **His designs and ideas were the forerunners of many things in our lives, like radar, electron microscopes, and incubators.**

Mid-Unit 2 Assessment: Text-Dependent Questions:

“The TV Guy”

(Answers, for Teacher Reference)

6. Why do you think Philo T. Farnsworth was named one of *Time* magazine’s most important people of the 20th century? Support your response with evidence from the text.

Philo T. Farnsworth was named one of the most important people of the 20th century because his invention of television changed the world. People were able to talk with each other, share information, and entertain themselves in a way they had never been able to before. His ideas also inspired inventions like radar, microscopes and incubators.

7. Write a three- to five-sentence paragraph to summarize what this article is mostly about. Make sure to include key details from the article in your summary.

***Answers will vary, but look for students to meet the following criteria:**

- 1. Summary includes a general statement about what the article “The TV Guy” is mostly about**
- 2. There are at least two key details (in the form of quotes or paraphrased evidence) from the article that are related to/support the general statement about what the article is mostly about.**

See example below.

This article is mostly about how Philo T. Farnsworth invented television. He began working on inventing television from a young age. Eventually he met people to invest money in his idea, which allowed him to continue to work hard and try until he successfully transferred his first image in 1927.



Tracking My Progress, Mid-Unit 2

Name: _____

Date: _____

Learning Target: I can quote accurately from the text when making an inference about why Philo Farnsworth was named one of the most important people of the 20th century by *Time* magazine.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to
learn this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, Mid-Unit 2

Name: _____

Date: _____

Learning Target: I can write a statement to summarize what the article “The TV Guy” is mostly about using key details that support the main idea(s).

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to
learn this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, Mid-Unit 2

Name: _____

Date: _____

Learning Target: I can use a variety of strategies to determine the meaning of unknown words.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to
learn this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 6

Using Quotes to Explain: Why Philo Farnsworth Invented Television



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can explain what a text says using quotes from the text. (RI.5.1)

I can determine the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4)

- a. I can use context as a clue to the meaning of a word or phrase.
- b. I can consult reference materials, both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

Supporting Learning Targets

- I can explain *why* Philo Farnsworth wanted to invent television.
- I can determine the meaning of unknown words and phrases using a variety of strategies.

Ongoing Assessment

- Fluency self-assessment (from homework)
- Independent Reading Choice Board response (from homework)
- Gist statement (in journal)
- The Invention of Television note-catcher
- Vocabulary defined (in journal)



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Reader (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining the Gist: <i>The Boy Who Invented TV</i> Pages 18–28 (15 minutes) B. Second Read: Explaining Why Philo Farnsworth Wanted to Invent Television (25 minutes) C. Vocabulary to Deepen Understanding (10 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Reread pages 18–28 of <i>The Boy Who Invented TV</i> aloud to self-assess fluency. B. Written response (see details below). C. Independent reading. 	<ul style="list-style-type: none"> • In this lesson, students read the final 10 pages of <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> to learn about and explain why Philo Farnsworth wanted to invent television. Students focus on specific passages and sentences from <i>The Boy Who Invented TV</i> to respond in The Invention of Television note-catcher to help them understand and explain why the invention came about. • This close reading provides a chance to model and clarify for students the strategies they can use for making meaning of a complex text by working together, step-by-step, to complete the note-catcher. This work also scaffolds students' ability to write a well-crafted essay during the end of unit assessment. • During the Opening of this lesson, students refer to the Fluency Self-Assessment they completed for homework in order to consider and review criteria for establishing individual fluency goals. Students should be familiar with the self-assessment criteria, from Unit 1 of this Module. (For more details, see the Unit 1 Overview and Foundational Reading and Language Skills Resource Package.) • Note that although the key vocabulary students work with during Work Time C may seem more basic than words they have worked with during previous lessons and modules, in fact each of these terms has many possible meanings and is categorized as more than one part of speech, based on context. Therefore, each word was chosen because it is a high-leverage academic term that students will see in a variety of contexts as they become ever more independent readers. Having students work with these high-leverage words to determine meaning both through the use of resources and context clues builds their ability to use multiple strategies to independently determine the accurate meaning of multiple-meaning words. • In this lesson you will display the results of an Internet search for the definition of the word 'fine.' If you do not have the technology available to display an active computer screen, consider printing off the results of a search to display on a document camera or to provide students with their own copies. • In advance: <ul style="list-style-type: none"> – Review the Popcorn Read protocol and Fist to Five in Checking for Understanding Techniques (see Appendix). – Review the context clues discussion and reference materials in Work Time C to prepare to listen for key concepts students may share and to offer them support as they analyze the word <i>fine</i> and determine the meaning of other key terms.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">– If technology is available, provide one computer per group for students to conduct an Internet search to define key terms. Otherwise, provide dictionaries.– Consider displaying key vocabulary from the text to save time during Work Time C.• Post: Learning targets.

Lesson Vocabulary	Materials
explain, invented, synthesize, determine, variety, strategies; captivated, phonograph (4), fine, even (20), share, lead (22)	<ul style="list-style-type: none">• Journals (begun in Unit 1, Lesson 1; one per student)• <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> (book; one per student)• The Invention of Television note-catcher (one per student)• The Invention of Television note-catcher (answers, for teacher reference)• Tape, glue, or staplers (enough for each student to have access)• Vocabulary Strategies anchor chart (from Unit 1, Lesson 2)• The results of an internet search (one to display)• Computer with Internet access or dictionaries (one per group)• Fluency self-assessment (from Unit 1; see stand alone Foundational Reading and Language Skills Resource Package; one per student)• Independent Reading Choice Board (from Lesson 4)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Give students specific positive feedback related to their completion of the mid-unit assessment and their ability to consider and respond to questions. Commend their ability to determine the meaning of unfamiliar words, identify the main ideas of a text, make inferences, and summarize.• Ask students to take out the fluency self-assessment goal they completed for homework and then join their regular small groups.• Review directions for the Popcorn Read protocol with students. Ask them to independently review the fluency goal at the bottom of their fluency self-assessment to prepare for the Popcorn Read. Explain to students that during the Popcorn Read, they should share out key words and phrases from their goal that emphasize which criteria from the self-assessment they are focused on to improve their reading fluency.• Begin. If necessary, start the popcorn with an example such as, "Read like I'm talking to a friend."• Conclude the popcorn once all students have had an opportunity to share out at least one idea. Then pose these questions for groups to quickly discuss:<ul style="list-style-type: none">* "What patterns did you notice?"* "What words and phrases were repeated by several students?"• Once group members have had a brief moment to confer, invite a few students to share the group's ideas aloud. Answers will vary, but listen for students to make specific references to the self-assessment criteria, such as:<ul style="list-style-type: none">– "I noticed many people mentioned read like I'm talking to a friend."– "Not too fast, not too slow."– "Questions sound like questions."– "Accuracy."• Focus students' attention whole group, then read the guiding question aloud:<ul style="list-style-type: none">* "How do new or improved technologies meet societal needs?"* Say: "During the first half of this unit, we read about what life was like before television was invented. We also read about Philo Farnsworth's interest in science and his ability to develop useful devices, as well as the experience he had in the potato field that led to his understanding of what he described as 'capturing light in a bottle.' As we read the final 10 pages of The Boy Who Invented TV today, we are going to focus on understanding why Philo wanted to invent television."	<ul style="list-style-type: none">• To encourage the balance of airtime in this Popcorn Read, consider circling students up and giving them each two beans or paper clips. Tell them they should contribute to the Popcorn Read at least once and no more than twice. Students lay their "token" in front of them when they share.



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: <i>The Boy Who Invented TV</i> Pages 18–28 (15 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their journals and the book <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i>.• Ask students to share out, all at once, what they typically do during the first read of new text. Listen for them to say:<ul style="list-style-type: none">– “Read to determine the gist.”• Then, direct students to turn to page 18. Ask them to complete the following in groups:<ul style="list-style-type: none">– Take turns reading each page aloud, starting on page 18 and ending at the bottom of page 28.– As you read aloud, use this as an opportunity to practice reaching the goal you set for homework to improve your ability to read with fluency.– After reading pages 18–28 aloud with group members, discuss the gist of these final pages.• After 10 minutes, cold call a member from each group to share out the gist. Listen for ideas such as:<ul style="list-style-type: none">– “Philo Farnsworth invented TV at the age of 22.”– “Philo’s wife, Pem, helped him build the first television.”– “It took Philo time to invent the TV.”– “Philo needed investors to give him money to invent television.”– “Philo was a real inventor, like his heroes.”• Ask students to record their gist statements on the same page in their journals where they recorded the gist during previous lessons in this unit.	<ul style="list-style-type: none">• Consider giving students the option of practicing fluency by reading aloud in their small groups or alone into a phonics phone. This will help reduce anxiety for those who are reluctant to read aloud in front of a group.• When reading for gist, consider modifying the amount of text assigned to struggling readers. Choose the selection carefully so students can still contribute meaningfully to the group discussion.• Remind students that it’s okay to find the gist in “baby steps.”• Some students may need support reading a modified version of the text and finding the gist in “baby steps” to be ready to contribute to the conversation with their group.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Explaining Why Philo Farnsworth Wanted to Invent Television (25 minutes)</p> <ul style="list-style-type: none"> Read the first learning target aloud: <ul style="list-style-type: none"> * "I can explain <i>why</i> Philo Farnsworth wanted to invent television." Underline key terms from the target students are familiar with from previous lessons: <i>explain</i> and <i>invented</i>. Then ask students to think about and briefly discuss in groups how they could restate the target in their own words. After 1 minute, invite a few students to share their ideas whole group. Then, say something like: <ul style="list-style-type: none"> * "In the following guided close reading, as we revisit passages from previous close reads and consider new information from the last 10 pages of <i>The Boy Who Invented TV</i>, think about the connection between our learning target and the guiding question: 'How do new or improved technologies meet societal needs?'" Distribute The Invention of Television note-catcher. Read the focus question at the top of the note-catcher aloud, then direct students' attention to the first row of the note-catcher. Ask them to turn to page 4 of <i>The Boy Who Invented TV</i>. Ask a student to read the directions then each of the three questions in the first row, aloud. Provide clarification as needed, then ask students to independently read Paragraphs 1 and 2 and work with group members to answer each question. After 3 or 4 minutes, invite someone from each group to share their responses whole group. See The Invention of Television note-catcher (answers, for teacher reference) for likely responses as you guide students through the note-catcher. Ask: <ul style="list-style-type: none"> * "What strategy did you use to determine the meaning of the word <i>captivated</i>?" * "Aside from using context clues, how could you look at parts of the word <i>phonograph</i> to help you determine its meaning?" Listen for students to share ideas such as these: <ul style="list-style-type: none"> – "I used context clues such as 'Philo got goose bumps' and 'It was almost impossible to believe' to figure out what <i>captivated</i> means." – "I know that <i>phono-</i> means 'sound,' so that helps me understand that a <i>phonograph</i> is something that makes sound. If people at that time listened to something that made sound while they danced, it was probably a record player." Next, focus students' attention on the second row of the note-catcher. Once again, ask them to read the prompt and the questions aloud. Provide clarification as necessary and ask students to begin. 	<ul style="list-style-type: none"> To continue to balance airtime in group discussions and encourage dominant voices to make room for reluctant voices, consider having students keep a group tally of the number of times they contribute to the discussion of questions posed during the guided close read. Encourage them not to share again until everyone in their group has shared the same number of times. <p>When reading aloud to students, consider displaying the text under the document camera. Although students have the text in front of them, struggling readers have a hard time tracking you if they lose their spot for any reason. Being able to track you onscreen as you read and point reduces anxiety and promotes fluency.</p>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 4 or 5 minutes, cold call students to share their thinking whole group. Ask:<ul style="list-style-type: none">* “Why would it ‘seem like magic’ to bring people together?”* “Why do you think Philo thought it was heroic to bring people together in these ways?”• Student responses will vary, but listen for suggestions like:<ul style="list-style-type: none">– “It would seem like magic because people lived so far away from each other that it was hard to understand how they were able to hear each other’s voices.”– “Music coming from a machine was new, and so it probably seemed magical.”– “I think Philo thought these inventors were heroic because they came up with new and clever devices that allowed people to talk to loved ones from far away or spend time together being entertained by music for the first time without needing to have a live musician.”• Focus attention on the third row of the note-catcher. Cold call students to read the text and question aloud. Clarify as needed, then ask students to begin.• After 2 minutes, cold call students to share out their thinking. Ask:<ul style="list-style-type: none">* “Why do you think Philo believed television would be a better way to bring people together than radio?”• Listen for ideas such as:<ul style="list-style-type: none">– “I think he believed that television would be better because people could not only listen to the same program, they could also see it.”– “If people could see as well as hear what was happening, they could talk about the same thing, share ideas about what they heard and saw.”• Direct students’ attention to the fourth row of the note-catcher. Again, cold call students to read the text and questions aloud. Point out that the second question is an “inference question.” Remind students of the inferences they made in Lessons 3 and 4, then say something like:<ul style="list-style-type: none">* “Remember that our initial inferences can be made using our background knowledge and then refined based on additional information. As you respond to the second question, make an inference based on what you know about Philo so far. You will have an opportunity to refine this response after you gather a little more information.”• Ask students to work with group members to answer the two questions in the fourth row.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • After 3 or 4 minutes, cold call several students to share their thinking whole group. Ask: <ul style="list-style-type: none"> * “How did the sentence structure, specifically the use of a dash in this sentence, help you determine the answer to the first question?” * “What background knowledge did you use to make an inference for the second question?” • Listen for students to share ideas such as: <ul style="list-style-type: none"> – “The dash broke apart the sentence and helped me see the connection between ideas.” – “I know Philo thought machines that brought people together were magical, and a machine that would allow people to share the same stories is one way to bring them together.” • Ask a couple of students to read aloud the text and question in the fifth row of the note-catcher. Clarify as needed, then ask students to work with their group members to determine and write a response to the question. • After 2 minutes, cold call a few students to share their thinking whole group. Ask: <ul style="list-style-type: none"> * “What do you think the word <i>ignorant</i> means?” * “How could being less ignorant of one another lead to world peace?” • Responses will vary, but listen for students to say <i>ignorant</i> means “a lack of knowledge; unaware.” • Then ask students to consider and discuss with group members: <ul style="list-style-type: none"> * “Based on the information from the fifth row of your note-catcher, how could you add to or revise your response to the inference question, ‘Why might Philo think it was important for people to ‘share the same stories?’” • Give students 1 or 2 minutes to discuss in groups, then invite a few to share their thinking aloud. Answers will vary, but all should be supported by the text. • Cold call students to read the text and questions from the bottom row of the note-catcher. Answer clarifying questions as needed, then ask students to work with group members to respond to each question. • Give students 3 or 4 minutes to answer the last three questions, then invite students from each group to share out their responses. Ask groups to discuss: <ul style="list-style-type: none"> * “In what ways did Philo believe he met people’s needs with his invention of television?” 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 minute, invite a few students to share out their thinking with the class. Answers will vary, but ideas should include bringing people together, sharing the same stories, learning new things, and fostering peace.• Focus students' attention on the final portion of the note-catcher, Synthesize! and the writing prompt: "Explain <i>why</i> Philo Farnsworth wanted to invent television." Invite a few students to share out their understanding of what <i>synthesize</i> means. Listen for or lead students to this definition:<ul style="list-style-type: none">– "<i>Synthesize</i> means to fuse together, blend, combine."• Then ask students to complete the following:<ul style="list-style-type: none">– With group members, read the prompt aloud and restate it in your own words.– Refer to your responses to the questions on your note-catcher to help you formulate a response to the prompt.– Discuss your thinking with group members.– Write a three- to five-sentence paragraph to answer the prompt. Include key words from the focus question at the top of your note-catcher.• Respond to clarifying questions as necessary, then ask students to begin. Circulate to offer guidance.• After 4 or 5 minutes, cold call a few students to share their paragraphs whole group. Refer to The Invention of Television note-catcher (answers, for teacher reference) to see a sample paragraph. Congratulate students on their ability to determine the meaning of complex terms from the text, to make and refine their inferences, and to synthesize key ideas to explain why Philo Farnsworth invented television.• Ask students to tape, glue, or staple their note-catchers onto the next blank page in their journals.• Tell students that next, they are going to zoom in on some additional key terms from <i>The Boy Who Invented TV</i> to deepen their understanding of why Philo invented television.	



Work Time (continued)	Meeting Students' Needs
<p>C. Vocabulary to Deepen Understanding (10 minutes)</p> <ul style="list-style-type: none"> Read the second learning target aloud: <ul style="list-style-type: none"> * "I can determine the meaning of unknown words and phrases using a variety of strategies." Draw students' attention to terms from the target they are already familiar with from previous lessons: <i>determine</i>, <i>variety</i>, and <i>strategies</i>. Ask students to discuss the meaning of these terms in their groups, then think about how they could restate the target in their own words. After 1 or 2 minutes, cold call a few students to paraphrase the learning target. Cold call students from each group to share out strategies they have used to determine the meaning of unfamiliar terms during previous lessons. Listen for them to mention roots and affixes, context clues, and reference materials. Refer to the Vocabulary Strategies anchor chart to affirm student responses and add any new strategies mentioned. Remind students that during previous lessons, they used reference materials, including dictionaries and online references, to help them determine the specific meaning of key and complex terms. Ask groups to discuss: <ul style="list-style-type: none"> * "Why would we choose to use reference materials to determine the meaning of a word?" After 1 or 2 minutes, invite a few students to share their thinking whole class. Listen for suggestions such as: <ul style="list-style-type: none"> – "We would want to use a reference material if the word has multiple meanings." – "We would use a reference material if we could not determine the meaning of the word from context clues, familiar prefixes, or common root words." – "If we can figure out what part of speech a word is, like a noun or verb, then a reference material can help us narrow down possible meanings because resources like the dictionary show the definition of words as they are used in each part of speech." List these key words from <i>The Boy Who Invented TV</i> where all students can see them: <i>fine</i>, <i>even</i> (page 20), <i>share</i>, <i>lead</i> (page 22). Explain that although these words are probably familiar to students, they are rather complex terms because each has multiple meanings and can be used in many different ways. Therefore, these words are "high-leverage," which means they are words students will encounter frequently in a variety of contexts. Working to determine the meaning of each high-leverage term further supports their ability to become strong independent readers. 	<ul style="list-style-type: none"> To support visual learners, display a poster of the term "high-leverage vocabulary" and a definition. To support students who have a difficult time tracking the discussion onscreen, invite them to help facilitate the discussion by navigating around the web page to demonstrate elements of the definition of <i>fine</i> as you talk about them.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Next, say something like:<ul style="list-style-type: none">* “Let’s take a moment to consult an Internet resource.”• Display the results of an internet search for ‘fine definition,’ then ask groups to discuss:<ul style="list-style-type: none">* “What do you notice about the meaning of the word <i>fine</i>?”• Cold call several students to share out. Listen for:<ul style="list-style-type: none">– “I notice it has a lot of different meanings.”– “I notice that <i>fine</i> can mean high-quality, good, thin, a fee you pay, an informal way of saying you are well.”– “I notice that <i>fine</i> can be used as an adjective, noun, and adverb.”– “I notice there are two different definitions under the adjective form.”– “There are examples of <i>fine</i> used in different sentences.”• Depending on your internet search resource, point out the gray arrow at the bottom of the reference box. Explain or demonstrate (if the necessary technology is available) that when this arrow is clicked, the definition box becomes larger to show a lot more information about the word:<ul style="list-style-type: none">– More definitions and examples in context– The word origins, the language(s) the word was derived from– The option to translate the word into many other languages, such as Spanish, French, German, Chinese, Russian, etc.– A graph that shows the use of the word over time• Tell students that this additional information can be helpful in trying to determine not only the meaning of a word, but also to build knowledge about root words they will encounter in other texts. This is also a valuable tool for ELLs, as it allows them to have the word translated into their first language as a way of accessing the word’s meaning.• Say something like:<ul style="list-style-type: none">* “Remember, sometimes words that seem simple can actually have many meanings, and determining what those words mean can be just as difficult as defining a seemingly more complex term. Using reference materials and context clues together can help you determine the correct meaning of a word with more than one definition. Let’s look at the way <i>fine</i> is used in <i>The Boy Who Invented TV</i>.”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to open their books to page 20. Instruct them to listen and follow along silently as you read the last paragraph aloud, starting with “Wasn’t it funny ...” and ending with “... would be even better.”• Ask groups to discuss:<ul style="list-style-type: none">* “What do you think the word <i>fine</i> means in the context of this paragraph?”• After 1 or 2 minutes, cold call several students to share their thoughts whole group. Encourage them to refer to specific details from the text to explain how they made their decision. Listen for:<ul style="list-style-type: none">– “I think <i>fine</i> means ‘good,’ because Philo describes how much he and Pem like to ‘watch’ the radio and how the radio is a fine way to bring people together, and television would be ‘even better’ than that.”• Recognize students for their ability to use multiple strategies to determine the meaning of <i>fine</i>. Encourage them to continue selecting and using appropriate vocabulary strategies as they complete their vocabulary task today. Distribute computers with Internet access or dictionaries for students to use.• Ask them to continue using a variety of strategies to determine the meaning of the remaining key terms and complete the four-column chart in their journal glossary for each word (if computers and Internet access are available, allow them to conduct an Internet search to help determine the meaning of each word.• After 7 or 8 minutes, cold call students to share out the meaning of each word. Encourage them to explain the vocabulary strategies they used to determine the meaning of each term. Listen for them to say that <i>even</i> is used to make a comparison (radio is good, but television is better); <i>lead</i> means “result in”; and <i>share</i> means “communicate, tell.”• If students are unable to define key terms, model how to locate and review possible definitions, then use context clues or other strategies to determine meaning.• Say something like:<ul style="list-style-type: none">* “Now that you have a deeper understanding about key vocabulary from the text, you are invited to go back to your note-catchers to revise your explanations from Work Time B about why Philo Farnsworth invented television.”• As time allows, invite students to share out and explain the revisions they made based on new understandings about key terms.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Bring students together whole group. Say:<ul style="list-style-type: none">* “Think about what you have learned about Philo Farnsworth and his invention of television from the book <i>The Boy Who Invented TV</i>. Then consider: What did Philo think was the most important reason for inventing television?”• Give students 1 or 2 minutes to think about their responses and refer back to their texts and notes as needed. Then ask them to turn to a nearby partner to share their thinking.• After 1 minute, invite a few students to share their thinking with the class. Answers will vary, but listen for students to support their ideas with direct references to the text and their notes.• Read both of the learning targets aloud and ask students to use Fist to Five to demonstrate their mastery toward each target. Note students who show three fingers or fewer, as they may need more support.• Distribute one index card to each student, as an admit ticket for the next lesson.	<ul style="list-style-type: none">• Offer a sentence starter to give all students access to the debrief question (“Philo thought the most important reason for inventing the television was ...”).
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread pages 18–28 of <i>The Boy Who Invented TV</i> aloud (in front of the mirror or to someone at home) to self-assess fluency, using your Fluency Self-Assessment from Lesson 5.• Written response: After reading all of <i>The Boy Who Invented TV</i>, consider and write a response to the question: How much do you think television changed the lives of people living in the 1920s?• Read independently for at least 15 or 20 minutes and complete one Independent Reading Choice Board response.	<ul style="list-style-type: none">• Consider providing an audio version of pages 18–28 to support struggling readers or promote fluency.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 6

Supporting Materials



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The Invention of Television Note-catcher

Name:

Date:

Focus question: *Why* did Philo Farnsworth want to invent television?

<p>Reread Paragraphs 1 and 2 on page 4 silently, then use details from the text to answer the questions on the right.</p>	<p>What two new machines “captivated” young Philo?</p> <p>What do you think <i>captivated</i> means?</p> <p>What is a phonograph? What words in the text make you think so?</p>
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The Invention of Television Note-catcher

Reread Paragraphs 3 and 4 on page 4 out loud with a partner. Together, use details from the text to answer the questions on the right.

Why did these machines “seem like magic” to Philo?

How might a telephone and a phonograph bring people together?

Who were Philo’s heroes?

Think carefully about what you have learned about Philo on this page. Why would Philo consider these men to be his heroes?



The Invention of Television Note-catcher

<p>“Radio was such a fine way to bring folks together. And television, he sensed, would be even better” (p. 20).</p>	<p>What did Philo believe television could do better than radio?</p>
<p>“That was the best thing about television, he said—it would let families and whole communities share the same stories” (p. 22).</p>	<p>What did Philo think the best thing about television was? How do you know?</p> <p>Why might Philo think it was important for people to “share the same stories”?</p>



The Invention of Television Note-catcher

<p>“By making people less ignorant of one another, he went on, it would teach and inspire. Maybe even lead to world peace” (p. 22).</p>	<p>According to Philo, how might the invention of television lead to world peace? Explain your reasoning using specific details from the story.</p>
<p>Reread page 4 silently, then use what you have read to better understand this quote:</p> <p>“He was a real inventor, like his heroes—someone who connected people, a shaper of the world to come” (p. 28).</p>	<p>Who, specifically, did Philo think he was like? Who were his heroes?</p> <p>How did Philo define a “real inventor”?</p> <p>Think about your responses to <i>all</i> of the questions above. Why did Philo think of himself as a “real inventor” after he invented television?</p>



The Invention of Television Note-catcher

Synthesize!

Explain *why* Philo Farnsworth wanted to invent television. Remember to use key words from the focus question in your response.



The Invention of Television Note-catcher
(Answers, for Teacher Reference)

Focus question: Why did Philo Farnsworth want to invent television?

<p>Reread Paragraphs 1 and 2 on page 4 silently, then use details from the text to answer the questions on the right.</p>	<p>What two new machines “captivated” young Philo?</p> <p>(hand-cranked) telephone and phonograph</p> <p>What do you think <i>captivated</i> means?</p> <p>interested, fascinated</p> <p>What is a phonograph? What words in the text make you think so?</p> <p>I think a phonograph is a record player because it says “music swirling out of a machine.”</p>
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The Invention of Television Note-catcher
(Answers, for Teacher Reference)

Reread Paragraphs 3 and 4 on page 4 out loud with a partner. Together, use details from the text to answer the questions on the right.

Why did these machines “seem like magic” to Philo?

They were “clever” and “brought people together in whole new ways.”

How might a telephone and a phonograph bring people together?

A telephone allowed people who lived far away from each other to talk; phonographs were played at dances, where people spent time together.

Who were Philo’s heroes?

Alexander Graham Bell and Thomas Edison

Think carefully about what you have learned about Philo on this page. Why would Philo consider these men to be his heroes?

Because they invented things that brought people together



The Invention of Television Note-catcher
(Answers, for Teacher Reference)

<p>“Radio was such a fine way to bring folks together. And television, he sensed, would be even better” (p. 20).</p>	<p>What did Philo believe television could do better than radio?</p> <p>He believed television would bring people together better than radio could.</p>
<p>“That was the best thing about television, he said—it would let families and whole communities share the same stories” (p. 22).</p>	<p>What did Philo think the best thing about television was? How do you know?</p> <p>Philo believed the best thing about television was that it would let families and whole communities share the same stories. I know this because after the words “he said,” there is a dash and then more details about what he said.</p> <p>Why might Philo think it was important for people to “share the same stories”?</p> <p>It might help bring them together.</p>
<p>“By making people less ignorant of one another, he went on, it would teach and inspire. Maybe even lead to world peace” (p. 22).</p>	<p>According to Philo, how might the invention of television lead to world peace? Explain your reasoning using specific details from the story.</p> <p>He believed that if television made people less ignorant of one another, it could be used to teach and inspire them.</p>



The Invention of Television Note-catcher
(Answers, for Teacher Reference)

“He was a real inventor, like his heroes—someone who connected people, a shaper of the world to come” (p. 28).

Who, specifically, did Philo think he was like? Who were his heroes?

He felt like one of his heroes, Alexander Graham Bell and Thomas Edison.

How did Philo define a “real inventor”?

Philo thought a real inventor was someone who connected people and shaped the world to come.

Think about your responses to the questions above. Why did Philo think of himself as a “real inventor” after he invented television?

He thought he was a real inventor because he believed his invention of television would bring people together, connect them, maybe lead to world peace.



The Invention of Television Note-catcher
(Answers, for Teacher Reference)

Synthesize!

Explain *why* Philo Farnsworth wanted to invent television. Remember to use key words from the focus question in your response.

Philo Farnsworth wanted to invent television because he thought it would bring people together like the invention of the telephone, the phonograph, and the radio. He believed television would allow families and communities to share the same stories, making people less ignorant of one another so they would be able to learn and become inspired by television. He thought TV could possibly lead to world peace. Philo wanted to be “real inventor,” a person who connected people and shaped the world to come, like his heroes Alexander Graham Bell and Thomas Edison.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 7

Using Quotes to Explain Relationships: How the Invention of Television Changed People's Lives



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can explain what a text says using quotes from the text. (RI.5.1)

I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text based on specific information in the text. (RI.5.3)

Supporting Learning Targets

- I can explain how television changed people's lives, using paraphrased details from the video and quotes from the text.
- I can identify the role of television in people's lives, based on information from the video and article.

Ongoing Assessment

- How Television Changed People's Lives note-catcher
- Text-Dependent Questions: The Role of Television in People's Lives
- Vocabulary defined (in journal)
- Fluency self-assessment
- Independent Reading Choice Board response
- Group Norms Checklist (teacher assessment)



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Reader (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining the Gist of a Video Clip and Article: "Television Takes the World by Storm" and "How Do Inventions Affect the Way We Live?" (15 minutes) B. Second View and Read: How Television Changed People's Lives (25 minutes) C. Text-Dependent Questions: The Role of Television in People's Lives (10 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review of Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Reread <i>The Boy Who Invented TV</i>, pages 1–28 and write a response to this question: "In what ways did Philo hope television would make people's lives better?" 	<ul style="list-style-type: none"> • In this lesson, students view and listen to a short excerpt from the video "Television Takes the World by Storm" and read an article titled "How Do Inventions Affect the Way We Live?" to build their understanding about how the invention of television changed people's lives. Note that the article is above grade-level with a Lexile level of 1130 (some students may need additional support to access ideas presented in the text.) • Consider conducting an informal assessment of students' fluency as they work together to read aloud the article "How Do Inventions Affect the Way We Live?" during Work Time A. Base the assessment on criteria described in the fluency self-assessment or on their ability to meet the criteria of standard SL.5.1 using the Group Norms Checklist. The self-assessment is part of the larger, stand-alone Fluency Packet resource. • During Work Time B, students are asked to paraphrase details from the video and quote information from the article, recording the information in separate charts on the How Television Changed People's Lives note-catcher. Asking students to use both strategies helps to reinforce their ability and eventual mastery of note-taking skills they have been working on in Unit 1 and in the first half of this unit. It also allows an opportunity for students to once again consider when it is best to paraphrase information versus using quotes directly from the text. As in Lesson 6, students complete their notes and write an explanation about how television changed people's lives. • As in Unit 1, Lesson 7, in the last part of this lesson's Work Time, students look back to the text, their notes, and key terms to answer three text-dependent questions about the relationship between people and television. To meet the demands of RI.5.3, students must be able to recognize the relationships between people and ideas. Therefore, for the first two questions, students are asked to identify more than one possible correct answer. This format is not typical of the question and response format students will encounter on state assessments. Rather, it gives them an opportunity to think about how they can locate more than one piece of information within a text that supports their understanding of the ideas presented.



	Teaching Notes (continued)
	<ul style="list-style-type: none">• In advance:<ul style="list-style-type: none">– Prepare technology to view and hear the video “Television Takes the World by Storm” (http://www.history.com/shows/modern-marvels/videos/television-takes-the-world-by-storm#television-takes-the-world-by-storm)– Display the Quote/Paraphrase anchor chart (from Unit 1, Lesson 2).– Review the Stretch-o-Meter protocol described in Work Time A (introduced in Unit 1, Lesson 2.) Briefly describe this protocol to any students who might be physically restricted and unable to participate. Preview the three options in the Meeting Students' Needs column and ask them to consider which they would prefer when it's time.– Consider displaying key vocabulary from the text to save time during Work Time B.– Review Glass, Bugs, Mud in Checking for Understanding Techniques (see Appendix).• Post: Learning targets.



Lesson Vocabulary	Materials
explain, changed, paraphrased, quotes, identify, information; compound; downside, regardless (video), inauguration, medium, commercial, networks, (social) fabric, address (article)	<ul style="list-style-type: none">• Journals (begun in Unit 1, Lesson 1; one per student)• Video: "Television Takes the World by Storm" (1:07-3:02)• Computer, LCD projector, and speakers (to play video)• "How Do Inventions Affect the Way We Live?" (one per student)• Fluency self-assessment (from Unit 1; see stand-alone Fluency Packet; one per student)• Group Norms Checklist (from Lesson 1; one per student for teacher use)• Explanation Task Card: How Television Changed People's Lives (one per student)• How Television Changed People's Lives note-catcher (one per student)• Document camera• How Television Changed People's Lives note-catcher (answers, for teacher reference)• Quote/Paraphrase anchor chart (from Unit 1, Lesson 2)• Vocabulary Strategies anchor chart (from Unit 1, Lesson 2)• Tape, glue or staplers (enough to allow each student access)• Text-Dependent Questions: The Role of Television in People's Lives (one per student)• Text-Dependent Questions: The Role of Television in People's Lives (answers, for teacher reference)• Independent Reading Choice Board (from Lesson 4)• Index cards (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their Written response from their Lesson 6 homework.• Tell students they will use the Stretch-o-Meter protocol to indicate how much they think the invention of television changed the lives of people living during the 1920s.• Clarify directions and model if needed. (You might stretch as tall as you can, fingers almost touching the sky, and explain that this would mean you think television changed people's lives a lot, or sit on the floor and explain this would mean they think television changed people's lives very little.)• Invite students to "stretch."• Once all students have "stretched," ask them to turn to a partner and discuss:<ul style="list-style-type: none">* "Why do you believe that television changed people's lives a little/somewhat/a lot?"• After 1 or 2 minutes, invite a few students to share their thinking whole group. Listen for students to share ideas such as:<ul style="list-style-type: none">– "I think television changed people's lives a lot in the 1920s because it provided a new type of entertainment."– "I think it changed people's lives somewhat because they were excited about a new invention, but Philo's invention didn't have much to show at first."– "I think it didn't change people's lives much at all because it seemed to take a long time for Philo and Pem to build one television, so I don't think many people were able to get them."• Invite a student to read the guiding question aloud:<ul style="list-style-type: none">* "How do new or improved technologies meet societal needs?"• Frame the lesson, telling students that they will watch a video clip and read an article about how the invention of television changed people's lives. Encourage them to keep this guiding question in mind.	<ul style="list-style-type: none">• Students who use a wheelchair or are otherwise physically restricted from participating in this protocol can stretch just their arms or use just their pointer finger, or you or an aide can be a proxy.



Work Time	Meeting Students' Needs
<p>A. Determining the Gist of a Video Clip and Article: “Television Takes the World by Storm” and “How Do Inventions Affect the Way We Live?” (15 minutes)</p> <ul style="list-style-type: none"> • Ask students to gather their journals and join their regular groups. • Tell them that they will watch just under 2 minutes of a video titled “Television Takes the World by Storm” to determine the gist. Start the video at 1:07 and run to the end at 3:02. • Once the video ends, ask students to think about, then discuss in groups: <ul style="list-style-type: none"> * “What is the gist of the video clip?” • After 2 minutes, cold call members from each group to share their gist statements aloud. Listen for ideas such as: <ul style="list-style-type: none"> – “This video is about how TV works.” – “The video is about how television allowed people to see things they had never seen before.” – “It’s about how sometimes people will just watch anything that’s on the television, which could be a downside.” • Direct students to record the gist of the video on a new page in their journals. • Distribute the article “How Do Inventions Affect the Way We Live?” and give students these instructions: <ul style="list-style-type: none"> – With group members, take turns reading each paragraph of the article aloud. – Think about, then discuss what you think is the gist of the article. – Record the gist of “How Do Inventions Affect the Way We Live?” on the same page in your journal where you recorded the gist of the video. • Give students 6 to 7 minutes to complete their work. Circulate to offer guidance and support as needed. Consider using this as an opportunity to informally assess individual students’ fluency based on criteria from the fluency self-assessment or the Group Norms Checklist. • After 6 or 7 minutes, invite students from each group to share out the gist of the article “How Do Inventions Affect the Way We Live?” Listen for: <ul style="list-style-type: none"> – “This article is about how people were able to see, not just listen, to events once the television was invented.” – “It’s about how people started to enjoy and watch television more than they listened to the radio.” – “The article is about how people in rural areas became connected with people in the cities, through TV,” and similar ideas. 	<ul style="list-style-type: none"> • Students who need more processing time may benefit from watching the video more than once to effectively determine the gist. Consider providing opportunities for students to see the clip as a center activity before this lesson to provide another exposure. • Offer a choice to read aloud in their small groups or read aloud into a phonics phone to reduce the anxiety of reluctant readers. • Consider modifying the amount of text assigned to struggling readers. Be sure to choose the selection carefully so they are still prepared to contribute meaningfully to the group discussion about the gist. • Remind students that it’s okay to find the gist in “baby steps” to make it easier to determine the gist at the end. • Some students may need guided support in determining the gist in “baby steps” to be ready to contribute to their group conversation.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> Tell students that during the next part of Work Time, they will be able to view and read each text more closely to better understand and explain how the invention of television changed people's lives. 	
<p>B. Second View and Read: How Television Changed People's Lives (25 minutes)</p> <ul style="list-style-type: none"> Ask a student to read the first learning target aloud: <ul style="list-style-type: none"> "I can explain how television changed people's lives, using paraphrased details from the video and quotes from the text." Point out the terms in this target students are familiar with from previous lessons: <i>explain</i>, <i>changed</i>, <i>paraphrased</i>, and <i>quotes</i>. Then ask them to think about and briefly discuss in groups how they could restate the target in their own words. Invite a few students to share out their ideas whole group. Distribute the Explanation Task Card: How Television Changed People's Lives and How Television Changed People's Lives note-catcher to each student. Using a document camera, display the task card then ask students to read along silently as you read each of the directions aloud. After reading Step 2, ask students to refer to the Quote/Paraphrase anchor chart as a reminder of the difference between paraphrased details and direct quotes. Say something like: <ul style="list-style-type: none"> "You will paraphrase details from the video on the first chart of your note-catcher to answer the focus question: 'How did the invention of television change people's lives?' It is oftentimes easier to paraphrase the ideas from a video because it can be difficult to catch every word the speaker says and quote accurately. Therefore, because we are able to understand mostly but perhaps not exactly what the speakers say, it is better to simply restate the ideas in our own words. You will have the opportunity to listen to an excerpt from the video multiple times." Play the clip "Television Takes the World by Storm" from 2:07–3:02 once, and then pause to allow students to discuss with group members the information they saw and heard that helped to answer the focus question. After 2 minutes, ask them to write their paraphrased ideas on the first chart of their note-catchers. Play the same segment of the video a second time. Once again, ask students to discuss in groups what they saw and heard that helped them to answer the focus question, then record additional paraphrased details on their note-catchers. Cold call students from each group to share a paraphrased detail they recorded. See How Television Changed People's Lives note-catcher (answers, for teacher reference) for possible responses. 	<ul style="list-style-type: none"> To support struggling readers and promote fluency, when reading aloud the directions for the Explanation Task Card: How Television Changed People's Lives, consider displaying the text under the document camera and tracking with your finger as you read. To promote a balance of airtime throughout this lesson, consider asking students to use "tokens" or tally marks to track the number of times they contribute to a discussion after a question is posed. Give students a target number to aim for (e.g., at least five times, no more than 10). Consider providing access to a word processor or a scribe for students who struggle with the physical act of writing to complete the How Television Changed People's Lives note catcher.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Before moving on to Part II of the task, focus students' attention on some key terms from the video: <i>downside</i>, and <i>regardless</i>. • Point out that the word <i>downside</i> is a compound word made up of two familiar words. Ask students to identify and share out the meaning of each part of the word <i>downside</i>. Listen for: <ul style="list-style-type: none"> – “<i>Down</i> is the first part of this word, and the way it's used it likely means 'low(er), negative.'” – “<i>Side</i> is the second part of this word, and as it's used it probably means 'part, quality, feature.'” • If students are unable to identify or define each part of the word <i>downside</i>, provide assistance. • Ask groups to discuss what they think the word <i>downside</i> means based on the meanings of parts of the word. After a moment, invite a few students to share their thinking whole group. Listen for suggestions like: <ul style="list-style-type: none"> – “A downside is a negative side, aspect, quality.” • Ask students to then discuss what they think the word <i>regard</i> means. • After 1 or 2 minutes, invite a few students to share out. Listen for: <ul style="list-style-type: none"> – “Regard means consider, think about.” • If students do not know the meaning of <i>regard</i>, define it for them. • Ask students to discuss what the suffix <i>-less</i> means and then to try to determine the meaning of <i>regardless</i>” • After 1 or 2 minutes, cold call a few students to share out whole group. Listen for ideas such as: <ul style="list-style-type: none"> – “<i>Less</i> means 'without,' so I think <i>regardless</i> means doing something without thinking about it.” • Play the video segment from 2:07–3:02 a third time and direct students to listen for these two key terms to help them add to or revise the paraphrased details in the first chart on their note-catchers. • Next, focus students on the Part II task card directions. Read each of the directions aloud as they follow along silently. Ask: <ul style="list-style-type: none"> * “What do you notice is the main difference between notes from the video and notes you will take about the article?” • Give students a moment to discuss, then invite one or two to share out. Listen for: <ul style="list-style-type: none"> – “We are supposed to record quotes from the article to answer the focus question, rather than paraphrasing details.” • Clarify any directions as necessary, and then ask students to begin their work. Circulate to support. • After 8 to 10 minutes, cold call students to share out the quotes they recorded on the second chart of their note-catchers to help them answer the focus question (see the teacher reference note-catcher for possible quotes). 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Display and focus students' attention on key words from the article: <i>inauguration</i>, <i>medium</i>, <i>commercial</i>, <i>networks</i>, <i>(social) fabric</i>, and <i>address</i>.• Give groups these directions:<ul style="list-style-type: none">– Independently, locate and circle each of the key terms in the article "How Do Inventions Affect the Way We Live?"– Refer to the Vocabulary Strategies anchor chart as needed to refresh your memory about various strategies you can use to determine the meaning of these words.– With group members, discuss your thinking about the meaning of each word.– Either above the word or in the margin of the article, write a synonym or short definition for each word.• After 4 or 5 minutes, cold call students to share out the synonym or definition they recorded for each term, as well as the strategy they used to determine the meaning. Strategies will vary, but definitions should include that an <i>inauguration</i> is a ceremony or event that takes place when there is a new American president, <i>medium</i> is a way of communicating, <i>commercial</i> refers to business, <i>networks</i> are television companies, <i>(social) fabric</i> in this context means something that connects people, and <i>address</i> means "speak to."• Give students 2 minutes to revise or add to the quotes on their note-catcher, based on new understandings about vocabulary from the article.• Invite a few students to share out their additions and revisions as well as explain how understanding key terms helped them refine their notes.• Focus students' attention on Part III of the task card directions. Read the directions aloud. Tell students this is similar to the work they did in Lesson 6 to synthesize thinking about why Philo Farnsworth wanted to invent television. Say:<ul style="list-style-type: none">* "Remember to refer to and synthesize the paraphrased details and quotes you recorded to craft a short paragraph that explains how television changed people's lives."• Provide clarification as needed, then circulate to offer support.• After 4 or 5 minutes, invite members from each group to share their paragraphs aloud. Recognize and point out those that restate the focus question and incorporate key details from both the video and the article.• Ask students to tape, glue, or staple their note-catchers on the next blank page in their journals.• Say that in Work Time C, they are going to revisit the paraphrased details, quotes, and paragraph they recorded on their note-catchers, as well as the video and article, to answer questions about the role of television in people's lives.	



Work Time (continued)	Meeting Students' Needs
<p>C. Text-Dependent Questions: The Role of Television in People's Lives (10 minutes)</p> <ul style="list-style-type: none"> Ask a student to read the second learning target aloud: <ul style="list-style-type: none"> * "I can identify the role of television in people's lives, based on information from the video and article." Focus students' attention on the word <i>role</i> in this target. Ask them to think about and then briefly discuss with group members what this word means in the context of the target. After 1 minute, invite a few students to share their thinking whole group. Listen for: <ul style="list-style-type: none"> – "<i>Role</i> in this context means 'the part television plays in people's lives,' 'function.'" Then, underline the key terms in this target that students are familiar with from previous lessons: <i>identify</i> and <i>information</i>. Ask them to think about the meaning of these familiar words as well as the meaning of the word <i>role</i> to help them restate the target in their own words. Invite a few students to share out their thinking. Next, display and distribute Text-Dependent Questions: The Role of Television in People's Lives. Read the directions and each question aloud to students. Reiterate that there can be more than one correct response to each question, so they should carefully review the article and their notes to help them identify all correct answers. Answer clarifying questions as necessary, then ask students to begin working with group members to complete the three text-dependent questions. Circulate to offer guidance and support as needed. After 6 or 7 minutes, cold call members from each group to share their responses to each question. See Text-Dependent Questions: The Role of Television in People's Lives (answers for teacher reference) for possible responses. Ask students to tape, glue, or staple the text-dependent questions on the next blank page in their journals. 	<ul style="list-style-type: none"> During this Work Time, you may want to pull a small group of students to model strategies for responding to text-dependent questions, such as restating the question in your own words to ensure you understand it; reading through each of the possible responses carefully to evaluate whether each is a possible/accurate response to the question; checking your thinking against the text (video and article) as well as notes; discussing ideas with peers by referring directly to quotes and paraphrased details from the text, etc. For students who have difficulty processing auditory information, consider replaying the video at least one or two more times.



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none"> • Gather students whole group. Recap the lesson, and then invite them to think about what they learned today from the video and article to revise their inference about how much television changed people's lives in the 1920s. • Ask students to briefly discuss their thinking with a nearby partner and then use the Stretch-o-Meter protocol to indicate to what degree they believe television changed the lives of people in the 1920s. • Once all students have "stretched," invite a few to share their thinking whole group. Listen for comments like: <ul style="list-style-type: none"> – "During the Opening, I stretched tall because I thought television probably changed people's lives in the 1920s a lot. But this time I sat on the ground because I read that many people didn't have access to television until the 1950s." • Read both learning targets aloud and ask students to use the Glass, Bugs, Mud Checking for Understanding technique to demonstrate their level of mastery toward each target. Note those who show bugs or mud, as they may need more support identifying, paraphrasing, or quoting key details that help them respond to a focus question. • Distribute one index card to each student for the homework assignment. 	<ul style="list-style-type: none"> • Students who use a wheelchair or are otherwise physically restricted from participating in this protocol can stretch just their arms or use just their pointer finger, or you or an aide can be a proxy.
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> • Reread <i>The Boy Who Invented TV</i>, pages 1–28. Think about and respond to this question on your index card, based on evidence from the text: "In what ways did Philo hope television would make people's lives better?" 	<ul style="list-style-type: none"> • Consider providing an audio version of pages 1–28 to support struggling readers or to promote fluency. • Allow struggling writers to dictate their response to someone at home who can write it on the index card for them.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 7

Supporting Materials



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“How Do Inventions Affect the Way We Live?”



It was calculated that almost 38 million people across the world watched the inauguration of President Obama on a television set in their homes in 2009. It's not easy for us in the 21st century to imagine, but there was a time when so many people would not have been able to see an historic event such as the swearing in of the first African American president in the United States. There was a time when there was no television, no medium that would allow people all over the world to experience the same event, at the same time.

What is common to us today was once new and magical. Not so long ago was the time when a comedy show was heard but not seen. In the 1800's and into the 1900's, the radio carried news and entertainment over a wire and into a box in your home. Families would gather around the radio and listen together. You could hear the action, hear the jokes, but there was no picture. When the Japanese bombed an American Navy base in Pearl Harbor, Hawaii, people all over the country listened in horror – but they couldn't see the event that would send the United States into World War II, only hear about it.

Then came television. In 1939 it was showcased at the World Fair in New York. In the 1940's, commercial television broadcasting—using the television as a medium to tell us things, show us things, and sell us things, had begun to take hold. The NBC, CBS, and ABC networks that we know today were building television stations to carry signals into homes in cities such as New York, Los Angeles, Chicago and Philadelphia. From its start in big cities, television quickly spread to the rest of the country.

The first people in a town that were able to get a television invited neighbors to watch with them. The television became the main news source above newspapers and radios, and part of the social fabric of communities. In 1947, President Harry Truman's State of the Union address was televised. People all over the United States could hear and see their president as he gave his message to the union—to them. In that same year, the World Series of baseball was also televised. Imagine the magic of having only heard things through the radio to watching something on the television screen, even if it was a small screen, even if it was black and white and terribly snowy.

Americans were hooked. And because we were hooked, buying televisions and buying the products advertised on the television, the stations were built in more and more parts of the United States. The numbers of people watching a television in their homes rose from 6,000 in 1946 to 12 million by 1951. One source says, “No new invention entered American homes faster than black and white television sets; by 1955 half of US homes had one (Stephens, no date).” The distance between cities and rural areas remained geographically, but because they both had televisions, the people of rural areas, farmers and cattle ranchers, knew what the peoples of cities knew and saw what the people of the cities saw. All parts of the country had that connection.

With so many people watching television, sharing in events, the world was becoming smaller as people grew together with shared experiences around the television set in the living room. Yes, everyone watched the same show, at the same time, in one room, together. Just like the internet we now know and on which we rely for our news, our entertainment, as a source of social connections, the television is one of those inventions that changed the world in its time.



Quinn, Susan. "How Do Inventions Affect the Way We Live." *American Reading Company*. 2014: Print.



Explanation Task Card:
How Television Changed People's Lives

Focus question: How has television changed people's lives?

Part I:

1. With group members, review the video "Television Takes the World by Storm" (2:07–3:02) to listen for two or three pieces of information that help you answer the focus question.
2. Record two or three **paraphrased** details on the first chart of your How Television Changed People's Lives note-catcher.

Part II:

1. With group members, reread the article "How Do Inventions Affect the Way We Live?" to locate two or three quotes that help you answer the focus question."
2. Record each of the **quotes** on the second chart of your note-catcher.

Part III:

1. Refer to the paraphrased details and quotes from both charts to help you think about how you could respond to the focus question, and then discuss your thinking with group members.
2. In the Explanation box of your note-catcher, synthesize the paraphrased details and quotes to explain in your own words how television changed people's lives. Remember to use key words from the focus question in your response.



How Television Changed People's Lives Note-catcher

Focus question: How has television changed people's lives?

Paraphrase and Quote Charts

<i>Paraphrased</i> details from the video "Television Takes the World by Storm"
<i>Detail 1:</i>
<i>Detail 2:</i>
<i>Detail 3:</i>
<i>Quotes</i> from the article "How Do Inventions Affect the Way We Live?"
<i>Quote 1:</i>
<i>Quote 2:</i>
<i>Quote 3:</i>

Synthesize!

Explain how television changed people's lives (use key words from the focus question in your response).



How Television Changed People's Lives Note-catcher (Answers, for Teacher Reference)

Focus question: How has television changed people's lives?

Paraphrase and Quote Charts

<i>Paraphrased details from the video "Television Takes the World by Storm"</i>
<i>Detail 1:</i> People could watch important events as they happened.
<i>Detail 2:</i> By the 1950s, more than 30 million homes had a TV.
<i>Detail 3:</i> We can see people land on the moon.
<i>Detail 4:</i> The downside is that people will sit in front of the TV without actually caring about what they watch.
<i>Quotes from the article "How Do Inventions Affect the Way We Live?"</i>
<i>Quote 1:</i> "...there was a time when so many people would not have been able to see an historic event such as the swearing in of the first African American president in the United States ."
<i>Quote 2:</i> "...using the television as a medium to tell us things, show us things, and sell us things..."
<i>Quote 3:</i> "The numbers of people watching a television in their homes rose from 6,000 in 1946 to 12 million by 1951."
<i>Quote 4:</i> "With so many people watching television, sharing in events, the world was becoming smaller as people grew together with shared experiences around the television set in the living room."

Synthesize!

Explain how television changed people's lives (use key words from the focus question in your response.)

Television affected people's lives in many ways. The invention of TV allowed people to watch important events as they happened, and by the 1950s more than 30 million people had a television in their home. TV was used to tell people things, show them things, and sell them things. It also allowed people to share important events and become connected.

Text-Dependent Questions:
The Role of Television in People's Lives

Name:

Date:

Refer to the video “Television Takes the World by Storm,” the article “How Do Inventions Affect the Way We Live?” and the details and quotes you recorded on your note-catcher to help you respond to these questions.

1. According to the article and video, what did the invention of television allow people to do that they could not do before? Circle all correct responses.

- Witness historic events as they happened.
- Learn about local events taking place.
- Watch the president’s State of the Union address and sporting events such as the World Series.
- See people land on the moon.

2. How are people’s needs met through television? Circle all correct responses.

- They are able to sit around and watch shows all day.
- Television connects people living in rural areas to cities and the rest of the world.
- Television serves as a communications medium.
- Television provides opportunities for people to socialize, allowing friends and family to watch programs together.

3. According to the video, what is a possible downside to television? Choose one.

- a. It uses a lot of electricity.
- b. Televisions cost a lot of money.
- c. Televisions are difficult to build.
- d. People watch television regardless of what is on.

Text-Dependent Questions:
The Role of Television in People's Lives
(Answers, for Teacher Reference)

Answers are in **bold**.

1. According to the article and video, what did the invention of television allow people to do that they could not do before? Circle all correct responses.

- **Witness historic events as they happened.**
- Learn about local events taking place.
- **Watch the president's State of the Union address and sporting events such as the World Series.**
- See people land on the moon.

2. How are people's needs met through television? Circle all correct responses.

- They are able to sit around and watch shows all day.
- **Television connects people living in rural areas to cities and the rest of the world.**
- **Television serves as a communications medium.**
- **Television provides opportunities for people to socialize, allowing friends and family to watch programs together.**

3. According to the video, what is a possible downside to television? Choose one.

- a. It uses a lot of electricity.
- b. Televisions cost a lot of money.
- c. Televisions are difficult to build.
- d. **People watch television regardless of what is on.**



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 8

Analysis, Reflection, and Introduction to the Painted Essay: The Invention of Television



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)
I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2)

Supporting Learning Targets

- I can analyze evidence from the texts I have read and viewed in order to explain if television changed people's lives in the ways Philo Farnsworth hoped it would.
- I can describe the Painted Essay structure for writing an essay.

Ongoing Assessment

- Analyze and Explain task
- Painted Essay template, color-coded



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Analysis and Reflection: Did Television Change People's Lives in the Way Philo Farnsworth Hoped It Would? (20 minutes) B. Informational Writing: The Painted Essay® (30 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review of Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Independent reading. 	<ul style="list-style-type: none"> • The work students complete in this lesson is a scaffold toward the end-of-unit assessment essay students will write to explain why Philo Farnsworth invented television and the ways in which television changed people's lives. Based on the needs of your class, this lesson may take longer than 60 minutes. Consider extending the time or stretching it across two days. • In this lesson, students synthesize their learning about the invention of television and how it changed people's lives, then move on to learning the Painted Essay® structure for informational writing in preparation for the End of Unit 2 Assessment, Parts I and II (in Lessons 12 and 13). • Students are introduced to the Painted Essay® structure as a means for developing their understanding of the parts of an essay and their purposes. The Painting an Essay lesson plan and Painted Essay® template (in the supporting materials) were developed by Diana Leddy and the Vermont Writing Collaborative and are used with permission. • Review the Painting an Essay lesson plan in the supporting materials. Become familiar with the terminology related to parts of a Painted Essay® as well as their purposes. Get a general sense of the flow of the lesson and the ways students will use the various materials they need to complete the Painted Essay® activity. • If your district has printed lessons for you in black and white, it may be helpful to view this lesson in color, and print colored some copies. Go to EngageNY.org or commoncoresuccess.elschools.org and search for 5th grade, Module 2B, Unit 2 lessons. • Note that the term “thesis” is introduced in this lesson as part of the introductory paragraph of an informational essay. This word may seem advanced for elementary students, but they need to become familiar with this term as they work toward mastery of informational writing, since they will encounter it often in secondary school. • Review Back-to-Back, Face-to-Face protocol and Thumb-O-Meter in Checking for Understanding Techniques (see Appendix). • Post: Learning targets.



Lesson Vocabulary	Materials
analyze, evidence, explain, structure, essay; worthwhile, envisioned, introductory paragraph, introduction, thesis, points, focus, proof paragraphs, conclusion	<ul style="list-style-type: none">• Journals (begun in Unit 1, Lesson 1; one per student)• <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> (book; one per student)• Analyze and Explain task card (one per student)• Analyze and Explain task card (answers, for teacher reference)• The Invention of Television note-catcher (from Lesson 6; one per student)• Evidence strips (one set per student)• Scissors (one pair per student)• Tape, glue, or staplers (enough to provide access for each student)• Group Norms Checklist (from Lesson 1; for teacher use)• Painting an Essay lesson plan (for teacher reference)• The Painted Essay® template (one per student and one to display)• Paintbrushes (one per student)• Watercolor paints (red, yellow, blue, green; one set per pair of students)• Cups of water (one per pair of students)• The Painted Essay® colored (for teacher reference; see Teaching notes re colored version)• Printed poem or song lyrics (one for display)• Overhead markers (red, yellow, blue, green; for teacher use)• Index cards (one per student)• Independent Reading Choice Board (from Lesson 4)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their homework.• Remind students of the Back-to-Back, Face-to-Face protocol and provide clarification as needed.• Give students 1 minute to find a partner who is <i>not</i> a member of their regular group and turn back-to-back.• Read the question from the Lesson 7 homework aloud to students:<ul style="list-style-type: none">* “In what ways did Philo hope television would make people’s lives better?”• Allow students a brief moment to review their responses, then ask them to turn face-to-face to share their ideas.• After 1 or 2 minutes, ask students to find a second partner who is <i>not</i> a member of their regular group and once again turn back-to-back.• Then ask them to turn face-to-face to share their thinking with the new partner.• After 1 or 2 minutes, focus students’ attention whole group. Invite a few to share their responses whole group. Listen for ideas such as these:<ul style="list-style-type: none">– “Philo hoped television would allow people to connect with one another.”– “Philo believed television would be a tool to help people learn and become inspired.”– “Philo thought if people shared the same stories and became less ignorant of each other through television, it could lead to world peace.”• Collect students’ homework to review. Then, ask students to take out their journals and books, <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> to prepare for work time.	<ul style="list-style-type: none">• Consider strategically partnering students so that those who speak the same home language are together.• For students who struggle with sharing aloud, consider allowing them to exchange and silently read one another’s homework responses.



Work Time	Meeting Students' Needs
<p>A. Analysis and Reflection: Did Television Change People's Lives in the Way Philo Farnsworth Hoped It Would? (20 minutes)</p> <ul style="list-style-type: none"> • Ask students to join their regular groups and turn to page 30 of <i>The Boy Who Invented TV</i>, the author's note. • Explain that often authors write a note in the front or the back of the book to give readers with further details and information. The types of information authors share in their notes vary. Sometimes, authors explain how they got the idea for the book, the type of research they conducted, their purpose for writing the book and/or additional information about the topic that was not fully addressed in the main sections of the text. Tell students that as you read the author's note aloud, you'd like them to follow along and think about these questions: <ul style="list-style-type: none"> * "What is the gist of Kathleen Krull's author's note?" * "What was Kathleen Krull's purpose for writing the author's note about <i>The Boy Who Invented TV</i>?" • Read the full author's note aloud to students as they follow along silently. • Then ask students to take 2 minutes to consider and discuss the two questions above. • Cold call several students to share their thinking whole group. Listen for suggestions supported by the text, such as these: <ul style="list-style-type: none"> – "I think her purpose for the note was to explain what happened to Philo after his invention was announced." – "I think her purpose was to give the reader more details about how Philo felt about television years after he invented it." • Ask students to turn to the page in their journals where they recorded the gist of each section of <i>The Boy Who Invented TV</i> to write a gist statement about the author's note. • Have the class read the first learning target together aloud: <ul style="list-style-type: none"> * "I can analyze evidence from the texts I have read and viewed in order to explain if television changed people's lives in the ways Philo Farnsworth hoped it would." • Underline the words in this target that students are familiar with from previous lessons: <i>analyze</i>, <i>evidence</i>, and <i>explain</i>. Direct students to briefly discuss in groups how they could restate the target in their own words based on their understanding of these key terms. • After 1 or 2 minutes, cold call a few students to share out whole group. Reinforce their use of synonyms/synonymous phrases for key terms in the target: "closely examine," "study," or "evaluate" for <i>analyze</i>; "quotes," "paraphrased details," "facts" for <i>evidence</i>; "describe," "give details about," "make clear" for <i>explain</i>, for example. 	<ul style="list-style-type: none"> • To support visual learners and struggling readers, display the Author's Note on the document camera and point to the text as you read. • Consider providing students with a note-catcher to record thoughts about the gist and author's purpose as the Author's Note is read aloud. Pause a few times while reading to allow students to collect and record their thoughts. • Encourage students to briefly review the meaning of each key term from the learning target in their discussion groups before attempting to paraphrase the learning target. • Consider displaying questions for group discussion.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Tell students they will now review the book, articles and video they have read throughout this unit to locate specific details that help them determine whether or not television changed people's lives in the ways Philo hoped it would. • Display and distribute the Analyze and Explain task card. Focus students on the Analysis Focus at the top and ask a volunteer to read it aloud: <ul style="list-style-type: none"> * "Philo Farnsworth hoped television would change people's lives for the better." • Say: <ul style="list-style-type: none"> * "In order to refresh your memories about the ways that Philo hoped television would make people's lives better, please take a look back at your responses to the questions and the explanation you wrote on The Invention of Television note-catcher during Lesson 6." • Give students 2 or 3 minutes to review their note-catchers and discuss in groups: <ul style="list-style-type: none"> * "In what ways did Philo hope television would make people's lives better?" • After 2 or 3 minutes, invite members from each group to share out details from their note-catchers that explain the ways Philo thought television could make people's lives better. • Next, distribute the evidence strips. Ask several students to read the evidence aloud, pausing after the second piece of evidence: "In 1969, with the televised landing of an American spacecraft on the moon, (Philo) and just about every American watched this historic event at the same time. Only then did he feel that TV was becoming the worthwhile machine he'd envisioned." • Circle the words <i>worthwhile</i> and <i>envisioned</i>. Ask students to think about and then discuss with group members: <ul style="list-style-type: none"> * "Are there any parts of these words that are familiar to you? How can they help you determine the meaning of the word?" * "What context clues help you determine the meaning of each word?" • Allow 2 minutes for groups to discuss. Then, invite a few students to share their thinking aloud. Listen for ideas such as these: <ul style="list-style-type: none"> – "I know <i>worth</i> means 'value' and <i>while</i> is related to time, so I think <i>worthwhile</i> means 'a valuable way to spend your time.'" – "<i>Vision</i> means 'sight,' so <i>envision</i> might refer to what Philo saw happening with television." 	<ul style="list-style-type: none"> • Consider providing struggling writers with a blank outline to help structure their reflection paragraph. <ul style="list-style-type: none"> – Topic sentence, responds to reflection question, uses key words from the question – Two or three supporting sentences, use paraphrased details from the text to support the topic sentence – Conclusion sentence, restates introduction in a new way



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Resume reading the evidence strips. Once each piece of evidence has been read aloud, read the directions on the task card aloud and answer any clarifying questions. Distribute scissors and tape, glue, or staplers to each student.• Give students 7 or 8 minutes to complete the Analysis and Explanation task, circulating to offer guidance as needed. Also consider using this time to informally assess students' progression toward ELA Standard SL.5.1 with the Group Norms Checklist.• When time is up, cold call students to share out how they sorted their evidence strips, and then their response to the reflection question. See the Analyze and Explain task card (answers, for teacher reference) for a sample response.• Ask students to add their Analyze and Explain task card to the next blank page in their journals, using tape, glue, or staples.	



Work Time (continued)	Meeting Students' Needs
<p>B. Informational Writing: The Painted Essay® (30 minutes)</p> <ul style="list-style-type: none">• Note: Be sure to have previewed the Painting an Essay lesson plan carefully in advance. Use it to guide this portion of the lesson. Students will need their paintbrushes, watercolors, water, and index cards.• Read the second learning target aloud:<ul style="list-style-type: none">* “I can describe the Painted Essay structure for writing an essay.”• Ask groups to discuss what they know about the meanings of the words <i>structure</i> and <i>essay</i>.• After 1 or 2 minutes, cold call a few students to share their thinking with the class. Listen for ideas such as:<ul style="list-style-type: none">– “<i>Structure</i> is how something is organized, arranged, or put together.”– “An <i>essay</i> is a paper, several paragraphs long, about a certain topic.”• If students are not able to define these terms, offer the definitions yourself.• Tell students, that today they will learn about the Painted Essay structure for writing a clear and concise informational piece. Ask students that as they ‘paint their essays’ today, they should pay close attention to the parts of a Painted Essay, their purposes, and how they work together to form a well-organized written piece.”• Distribute materials for the Painting an Essay activity: Painted Essay® template, paintbrushes, watercolor paints (red, yellow, blue, green), cups of water.• As students organize their materials, collect and display the items you need for instruction of the Painted Essay template, printed poem or song lyrics and overhead markers (red, yellow, blue, green).• Follow the Painting an Essay lesson plan to help students understand the Painted Essay writing structure.• Once students have painted their templates and added them to the next blank page in their journals (or templates are left to dry in another area of the room), ask students to gather again whole group.	<ul style="list-style-type: none">• For students who struggle with fine motor skills, consider making watercolor pencils available.• For students who are colorblind, provide the option to use a variety of underlining techniques, straight lines, squiggles, dashes, etc., instead of paints.



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to think about, then turn and talk with a partner:<ul style="list-style-type: none">* “Why is it important for writers to select and organize information that supports their thinking?”• Give them 2 minutes to discuss their ideas, then invite a few students to share whole group. Listen for:<ul style="list-style-type: none">– “When we select evidence that supports our ideas and organize the information in a clear way, it helps readers understand our thinking.”• Tell students that in the next lesson, they will begin working with a model Painted Essay and writing their own Painted Essays in preparation for the End of Unit 2 Assessment.• Read each of the learning targets aloud, asking students to use the Thumb-O-Meter to demonstrate their mastery toward each target. Note students who show middle to low, as they may need more support analyzing evidence to explain or understanding the structure of a Painted Essay.	<ul style="list-style-type: none">• To allow all students access to the discussion, consider providing a sentence starter (“It’s important for authors to select and organize information because ...”).
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read independently for at least 30 minutes; complete a question on your Independent Reading Choice Board.	<ul style="list-style-type: none">• Provide audiobooks, as available, for students who struggle with reading independently.• Allow students to dictate their choice board response to someone at home to act as scribe.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 8

Supporting Materials



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Analyze and Explain Task Card

***Analysis focus:** *Philo Farnsworth hoped television would change people's lives for the better.*

Directions

1. Cut your evidence strips apart along the lines so that you have eight strips total.
2. With group members, review your evidence strips to determine whether each detail or quote should be sorted into the box "TV accomplished Philo's goals" or the box "TV *did not* accomplish Philo's goals."
3. Tape, glue, or staple each evidence strip into the appropriate box.
4. With group members, read the reflection question aloud and restate it in your own words.
5. Review the evidence you sorted to determine an answer to the reflection question.
6. Write a short three- to five-sentence response to the reflection question that is supported by paraphrased evidence from your evidence strips. Be sure to write a concluding statement for your paragraph, to summarize your response to the reflection question.



Analyze and Explain Task Card

***Analysis focus:** *Philo Farnsworth hoped television would change people's lives for the better.*

TV accomplished Philo's goals.

TV *did not* accomplish Philo's goals.

***Reflection question:** Did television change people's lives in the ways Philo hoped it would?
(Remember to use key words from the question and paraphrased details from your evidence strips in your response.)



Analyze and Explain Task Card
(Answers, for Teacher Reference)

***Analysis focus:** *Philo Farnsworth hoped television would change people's lives for the better.*

TV accomplished Philo's goals.

For the first time in history, people could watch important events as they happened.

"In 1969, with the televised landing of an American spacecraft on the moon, (Philo) and just about every American watched this historic event at the same time. Only then did he feel that TV was becoming the worthwhile machine he'd envisioned."

"The new medium turned on the lives of rural residents, connecting them to the rest of the world even more than newspapers or radio."

"The first family in the neighborhood to get a TV would invite friends and neighbors to come over and watch."

Philo Farnsworth's "invention opened up entirely new avenues for entertainment, information, and exploration."

Philo Farnsworth's "invention made *Sesame Street*, news programs, sitcoms, dramas, and all the other television programs possible."

TV *did not* accomplish Philo's goals.

The downside of television is that people will sit in front of the television without actually caring about what they watch.

"Ill and bitter, (Philo) rarely watched TV and wouldn't let his sons watch. 'Too many cowboy movies,' he said."



Analyze and Explain Task Card
(Answers, for Teacher Reference)

***Reflection question:** Did television change people's lives in the ways Philo hoped it would?

Television changed people's lives in many of the ways Philo Farnsworth hoped it would. Television connected people by allowing them to watch important events like the moon landing at the same time. Shows like *Sesame Street* and news programs provide ways for people to learn from TV. Television also allowed people living in rural areas access to information better than radio or newspapers ever did. Overall, television accomplished what Philo wanted it to.



Evidence Strips

For the first time in history, people could watch important events as they happened.

“In 1969, with the televised landing of an American spacecraft on the moon, (Philo) and just about every American watched this historic event at the same time. Only then did he feel that TV was becoming the worthwhile machine he’d envisioned.”

The downside of television is that people will sit in front of the television without actually caring about what they watch.

“The new medium turned on the lives of rural residents, connecting them to the rest of the world even more than newspapers or radio.”

“The first family in the neighborhood to get a TV would invite friends and neighbors to come over and watch.”

Philo Farnsworth’s “invention opened up entirely new avenues for entertainment, information, and exploration.”

Philo Farnsworth’s “invention made *Sesame Street*, news programs, sitcoms, dramas, and all the other television programs possible.”

“Ill and bitter, (Philo) rarely watched TV and wouldn’t let his sons watch. ‘Too many cowboy movies,’ he said.”



Painted Essay template

Diana Leddy everywritetvt@aol.com

The Painted Essay[®]
A tool for teaching basic essay form

Introduction

*Catches the readers' attention
Gives some background information*

THESIS

Point 1

Point 2

Proof Paragraph 1

Gives evidence and reasons to support point 1

Transition

Proof Paragraph 2

Gives evidence and reasons to support point 2

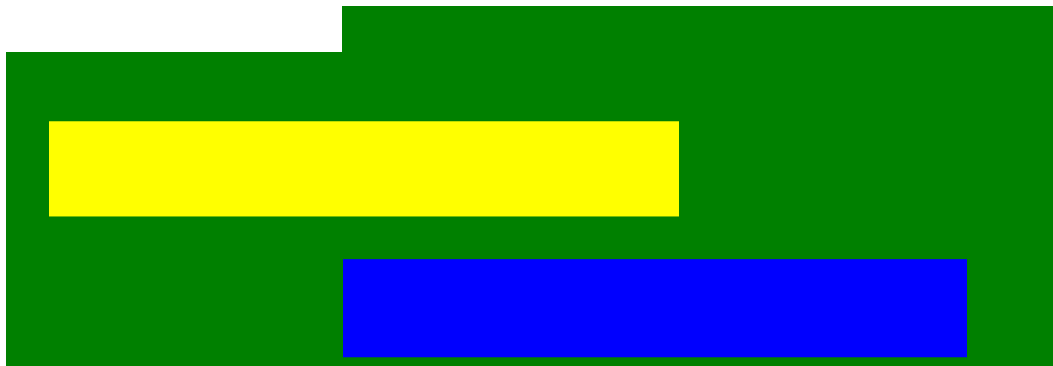
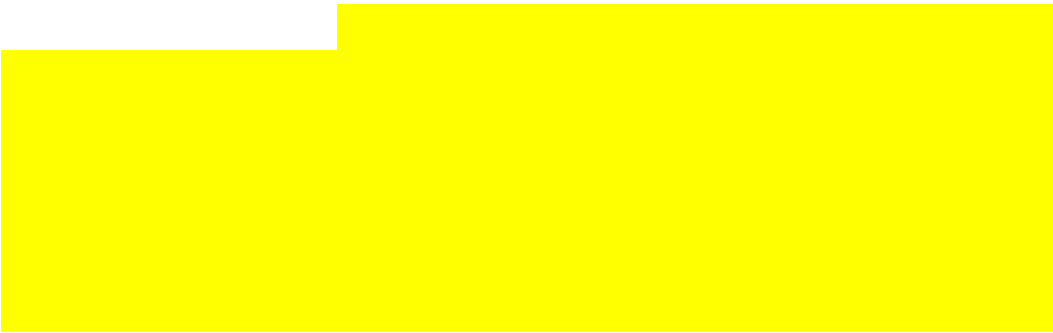
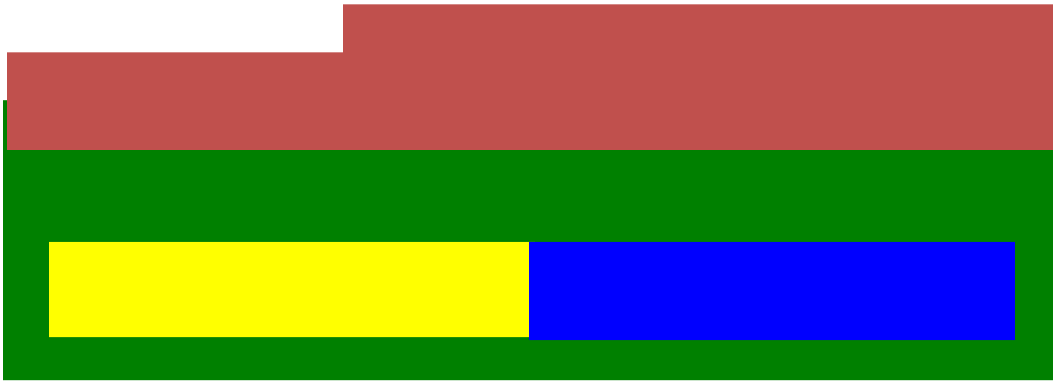
Conclusion

*What?
So What?*

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The Painted Essay: Color Template
(For Teacher Reference)





Painting an Essay Lesson Plan (For Teacher Reference)

Big Idea:

To show understanding, writers select and organize evidence to support a big idea.

Students need to know:

The parts of an essay and their purposes.

Materials:

- 1 copy of *The Painted Essay®* (preferably on heavy white stock) for each student
- 1 brush for each student
- 1 set of watercolor paints (red, yellow, blue, green) and a cup of water for each pair of students
- Projected image of the *The Painted Essay®* (using an overhead projector, interactive whiteboard, etc.)
- Overhead projector and colored pens (red, yellow, blue, green)
- A poem or song lyrics

Lesson Overview:

In this introductory lesson, you will use a projected image and colored pens or markers to introduce the form and content of a basic essay. With the help of color, you will explain the parts of the Painted Essay® one paragraph at a time, filling in each section with the appropriate color as you go. Instruct your students to paint each paragraph immediately after you have explained and modeled adding color. The lesson plan includes dialogue to help you in your explanation of each part.

Keep in mind that this lesson is only an introduction. The focus of this first lesson is simply on associating a name and color with each paragraph in an essay. This will give your class a common language of craft, which will provide a solid base for writing instruction. Later lessons in this sequence will help your students develop a deeper understanding of these important concepts.

Painting an Essay:

A Colorful Approach to Teaching Basic Essay Form
lesson plan

Note:
Sample
teacher
dialogue
is in
italics.

Before you begin:

- Give each student a copy of the blank Painted Essay®.
- Set up the watercolor paint sets so that each student has his/her own brush and easy access to paints and water.
- Display the transparency of the Painted Essay® using a projector and have red, blue, yellow and green markers ready.



Painting an Essay Lesson Plan
(For Teacher Reference)

Introducing the Lesson

To start, hold up a poem or song lyrics. Lead a discussion similar to the one below.

What type of writing is this? How do you know? Some kinds of writing, like poems, can have special shapes or forms. Today we are going to learn about the form of a basic essay.

Look at the Painted Essay sheet on your desk. How many paragraphs are there? Each of the four paragraphs has a name and a special job or function. We will give each paragraph its own color to help us remember its name and job in the essay.

Painting an Essay

- Have the students color code the essay template as you explain the name and function of each paragraph. Follow the directions below to introduce each paragraph.

Introduction and Focus:

- Point to the first paragraph on the overhead.

*Your first paragraph is called the Introductory Paragraph, and the first part of that paragraph is called the INTRODUCTION. The job of the introduction is to give some background information, or context, so that the reader can understand the piece. The introduction must also catch your readers' attention, so that they will want to read more! Red is a "catchy" color, so let's paint this paragraph red. Watch how I color the first part of this paragraph, stopping at the line over the word *thesis*, be careful-do not color the thesis yet.*

- Use the red marker to model this process. When most have finished, instruct students to put their brushes down (Follow this same general procedure for each paragraph).
- Continue your explanation by pointing to the thesis toward the end of the introduction.

At the end of this paragraph is a very important sentence called the THESIS. Your THESIS tells the main idea of your piece. The thesis is the most important sentence in the piece; it steers the piece the way a steering wheel steers a car. Paint your thesis green.

Use the green marker to model this process, then continue.

In this essay, the thesis has two points. The thesis and the points together make up the "focus " of your piece. The focus tells the reader, in more detail, what you will be writing about. Paint "point one" yellow and paint "point two" blue. Put your brushes down when you have finished to show me you are ready to move on to the next step.

- Use the blue and yellow markers to model this process.



Painting an Essay Lesson Plan
(For Teacher Reference)

Proof Paragraph One:

- Briefly check all student work before moving on to the next step.

The next paragraph is called PROOF PARAGRAPH ONE. Its job is to give evidence and reasons to prove the first point of your focus. What color is point one of your focus? Paint proof paragraph one yellow, like point one of your focus. Put your brushes down when you have finished.

- Use the yellow marker to model this process.

Proof Paragraph Two and Transition:

- Skip the line labeled “transition” and point to Proof Paragraph 2 on the overhead.

The next paragraph is called PROOF PARAGRAPH TWO. Its job is to give evidence and reasons to prove the second point of your focus. Skip the sentence labeled transition for now. Place your brush right beneath it and paint a blue line.

- Model this with the blue marker.

Now, continue to paint proof paragraph two blue, like point two of your focus. Again, model this with a marker.

- Return to the transition; point to it on the projected image.

This line is called a TRANSITION. A transition is a sentence that moves you from one big point in your piece to the next. It is like a bridge between your two points. Why do you think it is yellow and blue? Paint your transition any pattern of yellow and blue you’d like (stripes, dots, etc.), but please don’t mix the two colors.

- Use the blue and yellow markers to model this process.

Conclusion:

- Point to the last paragraph on the projected essay.

*The final paragraph is called a CONCLUSION. Its job is to wrap up the piece. A conclusion has two parts: a *WHAT* and a *SO WHAT?*. In your conclusion, you need to repeat your thesis (what), but you also need to add some of your own thinking and tell us why what you said is important (So what?). To write your conclusion, you use the ideas in proof paragraph one (yellow) and the ideas in proof paragraph two (blue) to figure out something new. Please mix your yellow ideas and your blue ideas and see what you get.*



Painting an Essay Lesson Plan
(For Teacher Reference)

- Have students mix the blue and yellow paints in the watercolor tray or on a plastic plate.

What happened? When you mix blue and yellow you get a new color- green! The green shows that after you have considered all your facts, you arrive back at your green thesis. But, you'll notice that the color you mixed is a different shade of green than your original thesis- in fact, it's unique! Everyone has a slightly different shade of green. Take a minute to look around at all the different shades of green you've created.

The CONCLUSION is green because when you run the ideas in the yellow paragraph and the ideas in the blue paragraph through your own mind they come together to make something new -- your own thinking on the topic! Now, paint your conclusion with your own special shade of green.

Wrapping up:

- To finish the lesson, review all the colors and reasons for them.
- Then allow the essays to dry. Have your students put them in a folder or notebook for reference (laminate or use a plastic sheet protector if possible).
- Remember to refer to this model frequently throughout the year. Let the colors become part of your classroom language about writing. This first lesson will help students to acquire some basic vocabulary and develop a visual template that will lay the groundwork for a deeper understanding of writing concepts. The activities and games that follow, and practice in writing simple essays will help students to move from knowledge to real understanding.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 9

The Painted Essay: The Introductory Paragraph



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2)

- a. I can introduce a topic clearly.
- b. I can provide a general observation and focus.
- c. I can group related information logically.

Supporting Learning Targets

- I can identify and explain the purpose of the introduction, thesis, and points of an introductory paragraph about the invention of the electric motor.
- With peers, I can sort and color-code the introduction, focus, and points of an introductory paragraph about the invention of basketball.

Ongoing Assessment

- Independent Reading Choice Board responses
- Independent reading index card (completed during Opening A)
- The Electric Motor introductory paragraph, color-coded
- Basketball introductory paragraph, sorted and color-coded



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Writer (10 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining the Gist and Structure: Model Painted Essay “The Electric Motor” (10 minutes) B. The Painted Essay: Identifying and Explaining the Parts and Purposes of the Introductory Paragraph (20 minutes) C. The Painted Essay: Sorting and Color-Coding the Parts of an Introductory Paragraph about the Invention of Basketball (15 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review of Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Written response on index card. B. Read independently for at least 30 minutes; write a response to one of the questions on your Independent Reading Choice Board. 	<ul style="list-style-type: none"> • In this lesson, students analyze a model Painted Essay about the invention of the electric motor, then work with a scaffolded introductory paragraph for an essay they will write about the invention of basketball. This work supports students both in their understanding of the purpose of each part of a Painted Essay, as well as in their preparation for the End of Unit 2 Assessment in Lessons 12 and 13. • First, students read through the Model Painted Essay: “The Electric Motor” to get a sense of the flow of the essay, how all the parts work together to create a big picture for the reader, and the gist. • If your district has printed lessons for you in black and white, it may be helpful to view this lesson in color, and print colored some copies. Go to EngageNY.org or commoncoresuccess.elschools.org and search for 5th grade, Module 2B, Unit 2 lessons. • In Work Time B, students analyze how the pieces of the introductory paragraph in the model Painted Essay fit together and establish a foundation for crafting the proof and conclusion paragraphs. It is important to read through Work Time B carefully to reinforce your own understanding of each part and purpose of the introductory paragraph. This will prepare you to accurately explain and precisely model the use of the Painted Essay structure for students. • In Work Time C, students are given sentences or phrases for an introductory paragraph about the invention of basketball: <i>the introduction</i> (attention-getter, background information), <i>thesis</i>, <i>point 1</i>, and <i>point 2</i>. Students work in groups to sort and arrange each piece of their introductory paragraph, then compare their own arrangement against the Color-Coded Painted Essay Introductory Paragraph: Basketball that they will use in Lessons 10 and 11. Allowing students to physically manipulate and arrange each piece of the introductory paragraph provides a concrete way for them to gain a better understanding of its parts and purposes, as well as how those parts fit together to establish a plan for the rest of the essay. • In advance: <ul style="list-style-type: none"> – Create a new anchor chart titled Parts of a Painted Essay (see the supporting materials). – Cut the introductory paragraph pieces into five pieces per group. – Cut apart the paragraphs of the Color-Coded Painted Essay Introductory Paragraph: Basketball so each student will have one complete color-coded introductory paragraph to paste into his or her journal. • Post: Learning targets.



Lesson Vocabulary	Materials
focus, identify, explain, purpose, introduction, context, thesis, points, introductory paragraph, sort, color-code	<ul style="list-style-type: none">• Index cards (one per student)• Journals (begun in Unit 1, Lesson 1; one per student)• Model Painted Essay: “The Electric Motor” (one per student and one to display; see teaching Notes re colored version)• Document camera• Students’ completed Painted Essay templates (from Lesson 8)• Parts of a Painted Essay anchor chart (new; teacher created; see supporting materials; see Teaching Notes re colored version)• Crayons, colored pencils, or highlighters (one red, green, yellow, and blue, for each student)• Overhead markers (red, green, yellow, blue; for teacher use)• Color-Coded Model Painted Essay: “The Electric Motor” (for teacher reference; see Teaching Notes re colored version)• Tape, glue, or staplers (enough to provide access for each student)• Introductory paragraph pieces (cut apart; one set of five pieces for each group)• Group Norms Checklist (teacher assessment; from Lesson 1)• Color-Coded Painted Essay Introductory Paragraph: “Basketball” (one per student; see Teaching Notes re colored version)• Index cards (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (10 minutes)</p> <ul style="list-style-type: none"> Ask students to take out their Independent Reading Choice Boards, then focus their attention whole group. Say something like: <ul style="list-style-type: none"> * “Now that you have responded to many of the questions on your choice boards, it is time to pause and reflect on your responses to share what you have discovered about the types of texts and authors you prefer for reading independently.” Distribute one index card to each student and give these directions: <ol style="list-style-type: none"> Write your name in the upper right corner on one side of your index card. Review each response on your Independent Reading Choice Board. Think about, then write a response to these questions on <i>one</i> side of your index card: <ul style="list-style-type: none"> “Do I enjoy reading this book? Why or why not?” Think about, then write a response to these questions on the <i>other</i> side of your index card: <ul style="list-style-type: none"> “Would I read another book by this author? Why or why not?” “Would I read this genre again? Why or why not?” Give students 3 or 4 minutes to work, providing support as needed. Ask students to pair up with a peer who is not a member of their regular small group and share their thinking for a couple of minutes. After 2 minutes, focus students whole group. Invite several to share out interesting ideas they heard from their partner. Collect students' index cards. Review and schedule a meeting with each student to discuss independent reading selections during another part of the school day. Say: <ul style="list-style-type: none"> * “Remember the guiding question we have primarily focused on during this unit: ‘How do new or improved technologies meet societal needs?’” Continue by explaining that it is time for students to apply what they've learned about inventions and to become authors themselves. Therefore, this lesson will focus more on the second guiding question: <ul style="list-style-type: none"> * “How do authors structure text ... to engage and support readers' understanding of complex ideas?” 	<ul style="list-style-type: none"> Consider providing students with a prewritten task card that includes each of the reflection questions for the homework review. <p>Side One</p> <ul style="list-style-type: none"> * “Do I enjoy reading this book? Why or why not?” <p>Side Two</p> <ul style="list-style-type: none"> * “Would I read another book by this author? Why or why not?” * “Would I read this genre again? Why or why not?” To support ELLs, consider displaying an anchor chart with descriptions, including pictures, of different genres. Display the guiding question. Consider highlighting, circling, underlining, or otherwise drawing attention to key terms, such as <i>technologies</i>, <i>societal needs</i>, <i>structure</i>, <i>engage</i>, and <i>complex</i>. Consider locating images of puzzle pieces and a completed puzzle to visually demonstrate for students how smaller pieces fit together to create a bigger picture.



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">Tell students that in today's lesson, they will examine the introductory paragraph for a Painted Essay in order to understand each part and its purpose. They will consider how parts of the introductory paragraph fit together like pieces of a puzzle to engage readers, support their understanding of the text, and provide a "big picture" of the topic.	

Work Time	Meeting Students' Needs
<p>A. Determining the Gist and Structure: Model Painted Essay: "The Electric Motor" (10 minutes)</p> <ul style="list-style-type: none">Ask students to take out their journals and join their regular groups.Distribute the Model Painted Essay: "The Electric Motor" and display a copy using a document camera.Give groups these directions:<ul style="list-style-type: none">Each person takes a turn reading one paragraph aloud, starting with the first paragraph.After reading the model essay aloud, discuss what you think the gist of the essay is. Then, as a group, find and underline the sentence or sentences in the introductory paragraph that best describe what the whole essay is about (the gist).Write the gist of this essay on a new page in your own journal.Clarify directions as needed and ask students to begin. Circulate to offer support.After 5 minutes, cold call members from each group to share out their gist statements with the class. Listen for them to identify all or part of the <i>focus</i> (thesis, points 1 and 2) of the piece:<ul style="list-style-type: none">"The electric motor changed everything.""The invention of the electric motor solved a big problem for people living in the 1800s.""The electric motor improved people's lives in many ways."Next, ask students to open their journals to the page where they added their Painted Essay templates during Lesson 8.Tell them to refer to their templates and model essay to discuss these questions with their group:<ul style="list-style-type: none">* "What do you notice about the structure of the model essay in comparison to the Painted Essay template?"* "What do you wonder about the structure of the model essay?"	<ul style="list-style-type: none">Consider providing students with the option to read aloud in pairs, alternating paragraphs for each pair in their group.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 or 2 minutes, invite a few students to share their thinking whole group. Listen for:<ul style="list-style-type: none">– “I notice that both the template and the essay have four parts, or paragraphs.”– “I notice there are introduction sentences in the essay that catch the reader’s attention and provide background information.”– “I notice that the last sentences (the thesis, points 1 and 2) of the introductory paragraph tell you the gist or focus of the essay.”– “I notice that the proof paragraphs have information about the electric motor that is related to each point from the introductory paragraph.”– “I notice that the conclusion sounds similar to the introductory paragraph but doesn’t repeat it.”– “I wonder how all the parts of the introductory paragraph fit together like a puzzle to create a bigger picture for the reader.”• Tell students that next, they will analyze each part of a strong introductory paragraph and consider how its parts fit together.	



Work Time (continued)	Meeting Students' Needs
<p>B. The Painted Essay: Identifying and Explaining the Parts and Purposes of the Introductory Paragraph (20 minutes)</p> <ul style="list-style-type: none"> Ask students to read the first learning target together aloud: <ul style="list-style-type: none"> “I can identify and explain the purpose of the introduction, thesis, and points of an introductory paragraph about the invention of the electric motor.” Circle these terms in the target: <i>identify</i>, <i>explain</i>, and <i>purpose</i>. Focus students on the first two, <i>identify</i> and <i>explain</i>. Ask them to consider what they already know about the meaning of each of these familiar target words, and then discuss in groups: <ul style="list-style-type: none"> “What is the difference between ‘identifying’ something and ‘explaining’ something?” Give groups 1 or 2 minutes to discuss, then invite a few students to share out whole class. Listen for them to say that identifying something means recognizing it, naming it, or pointing it out, but explaining something involves giving a detailed description so that others can understand it. If students are not able to explain the difference between the two words, provide clarification. Next, focus students’ attention on the word <i>purpose</i> and ask them to think about and discuss: <ul style="list-style-type: none"> “In the context of this target, what does the word <i>purpose</i> mean?” “Explain how you used context clues to figure out the meaning of this word.” After 1 or 2 minutes, cold call a few students to share out whole group. Listen for responses such as: <ul style="list-style-type: none"> “In the context of this target, <i>purpose</i> means a goal, objective, or point. I figured out the meaning by replacing the word <i>purpose</i> in the target with words I thought meant the same thing, and these words made the most sense with the rest of the sentence.” Display the Parts of a Painted Essay anchor chart and draw students’ attention to the first row. Underline the next three key terms from the target: <i>introduction</i>, <i>thesis</i>, and <i>points</i>. Ask students to locate each of these words on their Painted Essay templates, then discuss: <ul style="list-style-type: none"> “What do you remember from the previous lesson about the purpose of each of these parts in the introductory paragraph?” 	<ul style="list-style-type: none"> To support visual learners and ELLs, consider displaying the learning targets on chart paper and adding pictures and words to help define key terms. Consider displaying directions for student reference. Consider providing students with color-coded sticky notes to use as note-catchers while they reflect on each structural element: introduction, focus, and two points. Have them place their sticky notes on the corresponding section of their essay.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 3 or 4 minutes, invite students from each group to share out with the class. Listen for:<ul style="list-style-type: none">– “The <i>introduction</i> catches the reader’s attention so she or he will want to read more, and it gives some background information about the topic.”– “The <i>thesis</i> is the most important part of the introductory paragraph. It tells the reader the main idea of the essay, and it ‘steers’ the writing the way a steering wheel steers a car.”– “The <i>points</i> are the parts of your <i>thesis</i> that are going to be described in the proof paragraphs of the essay. They are colored blue and yellow because when blue and yellow combine they make green, to show they are put together to create the thesis.”– “The thesis and points combine to create the focus of the essay, what the essay is mainly about.”• Ask students to reread the learning target with group members, consider their understandings about key terms, and then discuss what they think they will be doing to meet the target.• After 1 or 2 minutes, cold call a few students to share out their thinking with the class. Listen for ideas such as:<ul style="list-style-type: none">– “I think we will find each part of an introductory paragraph in our model electric motor essays and then explain how each part works, what its purpose is, and how the parts work together.”• Distribute crayons, colored pencils, or highlighters (red, green, yellow, blue) and lead the class in color-coding the introductory paragraph, stopping to check for accuracy and address misunderstandings after each step. As you work, use your overhead markers (red, green, yellow, blue) to underline each sentence and phrase on the displayed model essay. As you demonstrate and guide students through the following color-coding process, refer to the Color-Coded Model Painted Essay: “The Electric Motor” (for teacher reference) to inform your own understanding of how to color-code each part of the introductory paragraph.• Draw a red box around the whole introductory paragraph of your electric motor essay and ask students to do the same. Say:<ul style="list-style-type: none">* “We draw a red box around this entire paragraph to indicate that this section of the essay provides context (attention-getter and background information) and focuses readers on what the entire essay will be about. Which sentences in the introductory paragraph do you think are the <i>introduction</i> to the essay, the sentences that provide context by grabbing the reader’s attention and giving some background information?”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Invite a few students to share their thinking. Listen for: <ul style="list-style-type: none"> – “The first sentence grabs the reader’s attention by asking a question.” – “The second and third sentences provide background information and provide context for the reader.” • Underline the first through third sentences with the red marker and ask students to do the same. Then write: “Gets the reader’s attention and gives background/provides context” in the Purposes box of the first row of the anchor chart, to the right of “introduction.” • Next, draw a green box around the <i>focus</i> (this will include the thesis and yellow and blue points). • Say: “The focus tells the reader what the essay is mostly about. Which sentence in the focus is the <i>thesis</i> (a general statement about what the essay will be about)? Locate the <i>thesis</i> of the electric motor essay. What will this essay be about?” • Invite a few students to share out. Listen for: <ul style="list-style-type: none"> – “‘The electric motor changed everything’ is the thesis.” • Model and ask students to lightly highlight the thesis in <i>green</i>. Tell them to be sure they color the thesis lightly so they can still read it. • Ask: <ul style="list-style-type: none"> * “What is the purpose of the <i>thesis</i>?” • After 1 minute, invite a few students to share out whole class. Listen for: <ul style="list-style-type: none"> – “The thesis gives a general statement about what the essay is about.” • Write “Tells what the essay is about” in the Purposes box of the first row of the anchor chart, to the right of “thesis.” • Say: “Each point helps to explain the focus. What do you think is the <i>first point</i> that the author will use in explaining how the invention of the electric motor changed everything?” • After a moment, ask a few students to share their thinking with the class. Listen for: <ul style="list-style-type: none"> – “The invention of the electric motor solved a big problem for people living in the 1800s.” • Model and ask students to lightly highlight the first point in <i>yellow</i>. Remind them to lightly color so they are still able to read all the words. • Say: “The <i>second point</i> also helps to explain the focus and provide more detail about the thesis. What is the <i>second point</i> that the author will use in explaining how the invention of the electric motor changed everything?” 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • After a moment, cold call a few students to share their ideas aloud with the class. Listen for: <ul style="list-style-type: none"> – “(The electric motor) improved people’s lives in many ways.” • Model and ask students to lightly highlight the second point in <i>blue</i>. Ask: <ul style="list-style-type: none"> * “What is the purpose of the first and second points of the focus and thesis of an informative essay?” • After a moment, invite a few students to share out whole group. Listen for: <ul style="list-style-type: none"> – “The first and second points provide more detail about the focus and break the thesis down into more specific parts.” • Write “Provide more details about the focus and break the thesis into more specific parts” in the Purposes box of the first row of the anchor chart, to the right of “Point 1 and Point 2.” • Then, pose these synthesizing questions for students to consider and discuss with their group: <ul style="list-style-type: none"> * “How did the introduction grab the reader’s attention?” * “What type of background information was provided in the introduction?” • After 1 or 2 minutes, cold call a few students to share out whole group. Listen for: <ul style="list-style-type: none"> – “It grabs the reader’s attention by asking a question.” – “The background information is about who invented the electric motor (Michael Faraday) and how it was refined by other inventors.” • Next, ask groups to discuss: <ul style="list-style-type: none"> * “How were you able to identify the <i>focus</i> of this essay?” * “How were you able to identify the <i>thesis</i>?” * “In what ways does the <i>thesis</i> ‘steer’ the essay?” • After a few minutes, cold call several students to share their thinking with the class. Listen for ideas such as: <ul style="list-style-type: none"> – “Knowing that the <i>focus</i> connects to the <i>context</i> (introduction) helped me locate and identify it.” – “The thesis is a big idea that kind of sums up and tells the reader what the whole essay is about.” • Ask groups to discuss: <ul style="list-style-type: none"> * “How were you able to identify the two <i>points</i> of the essay?” * “How do they BOTH connect to the focus and thesis of the essay?” 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 or 2 minutes, cold call several students to share out whole group. Listen for:<ul style="list-style-type: none">– “I noticed on my Painted Essay template that the points seem to be two parts of the same sentence, so I located the sentence in the introductory paragraph that provides more details about the focus and thesis of the essay.”– “Both points are about how the electric motor changed people’s lives, because one point states how the electric motor solved a problem for people and the second point says how the electric motor improved people’s lives.”• Ask students to tape, glue, or staple their model essays onto the next blank page in their journals.• Congratulate students on their growing understanding of the Painted Essay structure as well as their ability to explain the purpose of each part of the introductory paragraph.	



Work Time (continued)	Meeting Students' Needs
<p>C. The Painted Essay: Sorting and Color-Coding the Parts of an Introductory Paragraph about the Invention of Basketball (15 minutes)</p> <ul style="list-style-type: none">Ask students to read the second learning target aloud together:<ul style="list-style-type: none">* “I can sort and color-code the introduction, focus, and points of an introductory paragraph about the invention of basketball.”Circle the words <i>sort</i> and <i>color-code</i> in this target, then invite one or two students to share out their understanding of each term. Listen for:<ul style="list-style-type: none">– “<i>Sort</i> means to arrange in a particular way, to organize parts or pieces.”– “<i>Color-code</i> means to identify something by using colors.”Tell students that over the course of this and the next two lessons, they will practice writing a Painted Essay about the invention of basketball to help them prepare for the essays they will write about Philo Farnsworth’s invention of television for the end of unit assessment.Explain that because the Painted Essay is a new structure for them, they will be given an introductory paragraph about the invention of basketball to help focus their writing of the proof and conclusion paragraphs.Distribute the introductory paragraph pieces to each group and give these directions:<ul style="list-style-type: none">– Identify the <i>introduction</i>, <i>thesis</i>, and two <i>points</i> of the introductory paragraph about the invention of basketball.– Arrange each piece to create an introductory paragraph about the invention of basketball.– Read through your paragraph to check your thinking and rearrange as needed until you feel you have all the parts in the correct order.– Highlight the introduction (context) of the introductory paragraph in red; the thesis in green; the first point in yellow; and the second point in blue.– Refer to the Parts of a Painted Essay anchor chart, your color-coded model essay, and your Painted Essay template as needed for guidance.Clarify directions as necessary, then ask students to begin working. Circulate to support and use this time as an opportunity to informally assess groups’ mastery toward CCELA Standard SL.5.1 using the Group Norms Checklist.	<ul style="list-style-type: none">Consider displaying directions for student reference.To support ELLs, encourage groups to read each of the five pieces aloud, and briefly discuss any challenging words before identifying the <i>introduction</i>, <i>focus</i>, and <i>two points</i>.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 6 or 7 minutes, focus students' attention whole group. Ask one group to share out the sentences they identified as the <i>introduction</i> and ask other groups to show a thumbs-up if they identified the same sentences or a thumbs-down if they identified different sentences. Refer to the Color-Coded Painted Essay Introductory Paragraph: "Basketball" as needed during this discussion. If there is disagreement among groups, probe students' thinking by asking:<ul style="list-style-type: none">* "How does the first sentence grab the reader's attention?"* "What type of background information is that?"* "Does another one of your sentences grab the reader's attention better or provide clearer background information about the invention of basketball?"• Ask a different group to share the sentence they identified as the <i>thesis</i> and other groups to show a thumbs-up or thumbs-down to demonstrate agreement or disagreement. As needed, probe students' thinking by asking:<ul style="list-style-type: none">* "How does the sentence explain the general idea, or focus, of the piece?"• Ask another group to share out the two <i>points</i> they identified, and once again ask the rest of the class to show agreement or disagreement with a thumbs-up or thumbs-down. If there is disagreement, pose questions such as:<ul style="list-style-type: none">* "How do these two pieces fit together to express separate points about the thesis within the same sentence?"* "How does each point relate to the <i>thesis</i>?"• Display and distribute the Color-Coded Painted Essay Introductory Paragraph: "Basketball". Ask students to tape, glue, or staple their color-coded introductory paragraphs about basketball onto a new blank page in their journals. Then ask:<ul style="list-style-type: none">* "How is the color-coded paragraph about basketball similar to or different from the one you sorted and color-coded with your group members?"* "What strategies did you use to identify each part of the introductory paragraph about basketball?"* "How do the pieces of the introductory paragraph work together to both engage the reader and give her or him a sense of what the essay will be about?"• Give groups 2 or 3 minutes to discuss their thinking, then cold call a few students to share out with the class.• Once again, commend students on their developing understanding of the purpose of each part of the introductory paragraph in a Painted Essay and their ability to explain how these parts work together.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none"> • Focus students' attention on the top row, third column of the Parts of a Painted Essay anchor chart, titled Purposes. Point out that one of the purposes of the <i>introduction</i> is to grab the reader's attention. Ask students to refer back to the introductory paragraphs about the invention of the electric motor and basketball and discuss with group members: <ul style="list-style-type: none"> * "What two types of attention-getters were used in these introductions?" • Give students 1 or 2 minutes to share their ideas in groups, then invite one or two students to share out their thinking with the class. Listen for: <ul style="list-style-type: none"> – "The electric motor essay used a question to engage the reader." – "The basketball introduction used a quote from James Naismith, the inventor of basketball." • Write "Ask a question" and "Use a quote" in the top row, third column next to where you wrote "attention-getter" (or similar phrase) on the anchor chart during Work Time B. • Read each learning target aloud and ask students to use Fist to Five to demonstrate their level of mastery toward each target. Note students who show three to fist, as they may need more support identifying the parts of an introductory paragraph and the purpose of each part. 	<ul style="list-style-type: none"> • For students who struggle with verbalizing their ideas, consider providing a sentence starter ("One of the attention getters in the introduction is ...").
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> • On an index card, write a response to this question: <ul style="list-style-type: none"> * "In what ways do the pieces of the introductory paragraph form a plan for the rest of the essay?" • Read independently for at least 30 minutes; write a response to one of the questions on your Independent Reading Choice Board. 	<ul style="list-style-type: none"> • Consider providing students with a task card that includes the homework question, an image of puzzle pieces, and a picture of a complete puzzle.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 9

Supporting Materials



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Model Painted Essay:
“The Electric Motor”

Did you know that you probably use an electric motor every day? Michael Faraday invented this useful device in 1821. Over time, other inventors refined the electric motor to help make people's lives easier. The electric motor changed everything. The invention of the electric motor solved a big problem for people living in the 1800s and improved people's lives in many ways.

The main source of electricity in the early 1800s was batteries, but batteries were very expensive and did not actually work for very long. Therefore, most people did not have access to electricity. So scientists wanted to find other ways to create electricity. In 1821, when Michael Faraday hung a magnetic rock over a bowl of liquid, it began to spin and create energy. This experiment was the first example of an electric motor. Faraday's electric motor was able to generate electricity better and for less money than batteries. Other inventors developed new technologies based on Faraday's idea, and the new inventions changed people's lives.

After the electric motor was invented, people's lives improved. In 1882, Thomas Edison used Faraday's idea to construct the first power plant in New York City. This plant made it possible for most people in the area to have electricity in their homes for the very first time. Then, in the 1930s, the electric motor was used to make useful household items such as refrigerators, washing machines, and fans. Today, electric motors can also be found in computers, windshield wiper motors, and many other devices we use.

The invention of the electric motor has undoubtedly solved many people's problems over the last 200 years! Just try to imagine what life would be like without electricity, refrigerators, or computers. Thanks to Michael Faraday's invention of the electric motor, our lives have become much better.



Parts of a Painted Essay Anchor Chart
(Example)

	Parts	Purposes
Introductory Paragraph	1. Introduction 2. Thesis 3. Point 1 and Point 2	
Proof Paragraph 1 <hr/>	Reasons Evidence	
Proof Paragraph 2 <hr/>	Transition Reasons Evidence	
Conclusion Paragraph	What? So What?	



Color-Coded Model Painted Essay:
"The Electric Motor"
(For Teacher Reference)

Did you know that you probably use an electric motor every day? Michael Faraday invented this useful device in 1821. . Over time, other inventors refined the electric motor to help make people's lives easier. The electric motor changed everything. The invention of the electric motor solved a big problem for people living in the 1800s and improved people's lives in many ways.

The main source of electricity in the early 1800s was batteries, but batteries were very expensive and did not actually work for very long. Therefore, most people did not have access to electricity. So scientists wanted to find other ways to create electricity. In 1821, when Michael Faraday hung a magnetic rock over a bowl of liquid, it began to spin and create energy. This experiment was the first example of an electric motor. Faraday's electric motor was able to generate electricity better and for less money than batteries.

Other inventors developed new technologies based on Faraday's idea, and the new inventions changed people's lives. In 1882, Thomas Edison used Faraday's idea to construct the first power plant in New York City. This plant made it possible for most people in the area to have electricity in their homes for the very first time. Then, in the 1930s, the electric motor was used to make useful household items such as refrigerators, washing machines, and fans. Today, electric motors can also be found in computers, windshield wiper motors, and many other devices we use.

The invention of the electric motor has undoubtedly solved many people's problems over the last 200 years! Just try to imagine what life would be like without electricity, refrigerators, or computers. Thanks to Michael Faraday's invention of the electric motor, our lives have become much better.

Introductory Paragraph Pieces

James Naismith, the inventor of basketball, once said, “The invention of basketball was not an accident. It was developed to meet a need.”

Basketball has become a big part of people’s lives.

What began as a game for students to play indoors during the winter quickly became a popular form of entertainment for fans across the country.

James Naismith created the game of basketball in 1891, based on a game he played as a child called “duck-on-a-rock.”



Color-Coded Painted Essay Introductory Paragraph:
“Basketball”
(For Teacher Reference)

James Naismith, the inventor of basketball, once said, “The invention of basketball was not an accident. It was developed to meet a need.” James Naismith created the game of basketball in 1891, based on a game he played as a child called “duck-on-a-rock.” Basketball has become a big part of people’s lives. What began as a game for students to play indoors during the winter quickly became a popular form of entertainment for fans across the country.

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EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 10

The Painted Essay: Writing Proof Paragraphs



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2)

a. I can develop the topic with facts, definitions, details, and quotations.

I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)

Supporting Learning Targets

- I can determine reasons and evidence related to the first and second points of an essay about the invention of basketball.
- I can write two proof paragraphs for an essay about the invention of basketball by using reasons and evidence related to each point in my introductory paragraph.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- Proof Paragraphs graphic organizer
- Written proof paragraphs



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Determining Related Ideas: Reasons and Evidence for the Body Paragraphs of a Painted Essay (15 minutes) B. Determining Related Reasons and Evidence: The Invention of Basketball (15 minutes) C. Writing proof paragraphs: The Invention of Basketball (20 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review of Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Read your basketball essay aloud; self-evaluate fluency. 	<ul style="list-style-type: none"> • This lesson follows a similar pattern to Lesson 9. In this lesson, students focus on analyzing and writing the proof paragraphs of a Painted Essay. • If your district has printed lessons for you in black and white, it may be helpful to view this lesson in color, and print colored some copies. Go to EngageNY.org or commoncoresuccess.elschools.org and search for 5th grade, Module 2B, Unit 2 lessons. • First, students closely review the parts and purposes of the proof paragraphs in the Model Painted Essay: “The Electric Motor” in order to build their understanding of how the proof paragraphs use reasons and evidence to support the points presented in the introductory paragraph. • Then, students are given reasons and evidence, in the form of notes, that could be used to support the two points from their introductory paragraphs about basketball from Lesson 9. Before writing, students work with their groups to physically sort their Reasons and Evidence strips onto a Proof Paragraph graphic organizer to help them see the connection between reasons and evidence and each point made in the introductory paragraph. • During the final part of Work Time, students use the reasons and evidence they sort during Work Time B to write complete sentences and craft two proof paragraphs to support each point made in the introductory paragraph about the invention of basketball. Note that linking words will be introduced in the next lesson; therefore, do not focus on having students use linking/transitional words in their proof paragraphs at this point. Students’ work during this lesson supports their understanding of the connection between the proof paragraphs and the points presented in the introductory paragraph, as well as their ability to write proof paragraphs for the end of unit assessment. • In advance: <ul style="list-style-type: none"> – Display the Parts of a Painted Essay anchor chart (from Lesson 9). – Closely review Work Times A, B, and C so that you are prepared to accurately explain and precisely model the use of the Painted Essay structure for students. – Review Milling to Music and Glass, Bugs, Mud in Checking for Understanding Techniques (see Appendix). • Post: Learning targets.



Lesson Vocabulary	Materials
determine, reasons, evidence, related, points, essay, proof paragraphs, revise, feedback	<ul style="list-style-type: none">• Journals (begun in Unit 1, Lesson 1; one per student)• Painted Essay templates (from Lesson 8)• Model Painted Essay: “The Electric Motor” (from Lesson 9)• Highlighters (one yellow and one blue per student)• Parts of a Painted Essay anchor chart (begun in Lesson 9)• Color-Coded Painted Essay Introductory Paragraph: Basketball (from Lesson 9)• Proof Paragraph graphic organizer (one per student and one to display; see Teaching Notes re colored copies)• Reasons and evidence strips (cut apart; one set per student)• Proof Paragraph graphic organizer (answers, for teacher reference; one for display; see Teaching Notes re colored copies)• Tape, glue, or staplers (enough for each student to have access)• Document camera• Proof paragraphs (example, for teacher reference)• Fluency self-assessment (from Lesson 5; see standalone Foundational Reading and Language Skills Resource Package)• Independent Reading Choice Board (from Lesson 4)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their homework.• Review the directions for Milling to Music and clarify as needed.• Give students 1 or 2 minutes to “mill” and find a partner who is not a member of their regular small group.• Ask students to share their homework responses with partners:<ul style="list-style-type: none">* “In what ways do the pieces of the introductory paragraph form a plan for the rest of the essay?”• After 2 minutes, invite a few students to share out interesting ideas they heard from their partner. Answers will vary, but listen for ideas such as:<ul style="list-style-type: none">– “The introductory paragraph provides a focus for the essay.”– “The points represent the information that will be explained in the proof paragraphs of the essay.”• Focus students whole group and help frame the purpose of today’s lesson, saying something like: “During the previous lesson, we analyzed the introductory paragraph of a model essay. Then you pieced together an introductory paragraph about the invention of basketball. Today, we are going to take a closer look at the two points presented in the introductory paragraph to help focus your writing of the proof paragraphs of an essay about the invention of basketball.”	<ul style="list-style-type: none">• To give all students access to the Milling to Music prompt, offer a sentence starter (“The pieces of the introductory paragraph form a plan for the rest of the essay by ...”)



Work Time	Meeting Students' Needs
<p>A. Determining Related Ideas: Reasons and Evidence for the Body Paragraphs of a Painted Essay (15 minutes)</p> <ul style="list-style-type: none"> Ask students to locate their journals, Painted Essay templates and Model Painted Essay: “The Electric Motor” and join their group. Distribute highlighters (yellow, blue). Tell students that today they will start by reexamining their Painted Essay templates and model Painted Essays about the electric motor to further develop their understanding of the parts and purposes of the proof paragraphs and how they relate to the points presented in the introductory paragraph. Ask students to refer to the introductory paragraph of their model essays and locate the thesis. Ask: <ul style="list-style-type: none"> * “According to the thesis, what is the main idea of this essay? What will this essay be mostly about?” Listen for students to repeat or paraphrase the thesis: “The electric motor changed everything.” Ask students to point to the part of the introductory paragraph that tells the reader the first point the author will make in explaining how the electric motor “changed everything.” Help them locate point 1 that they highlighted in yellow during Lesson 9. Then direct students to read point 1 together aloud: <ul style="list-style-type: none"> * “The invention of the electric motor solved a big problem for people living in the 1800s.” Draw students’ attention to the Parts of a Painted Essay anchor chart, then write: “The invention of the electric motor solved a big problem for people living in the 1800s” on the line below Proof Paragraph 1 in the first box of the second row of the anchor chart. Next, ask students to refer to their Painted Essay templates to determine which paragraph of the model essay should be color-coded yellow (the same as point 1 in the introductory paragraph). Tell students that once they determine which paragraph relates to point 1, they need to hold up their model essays and point to the paragraph they believe should be color-coded yellow. Look for students to point to the second paragraph of the model essay, and then ask them to highlight the entire second paragraph in yellow. Direct students to once again refer to the introductory paragraph of their model essays. Ask them to point to the part of the introductory paragraph that tells the reader the second point the author will make in explaining how the electric motor “changed everything.” Help students to locate point 2, which they highlighted in blue during Lesson 9. Ask them to read point 2 aloud together: “... and improved people’s lives in many ways.” 	<ul style="list-style-type: none"> To support students who struggle with organization or the management of a lot of materials at once, consider holding the highlighters and distributing the color they need as they are ready. Offer a sentence starter to provide all students access to the discussion question (“In Unit 1, we learned that reasons ... and evidence ...”). Strategically group students who have a strong handle on reasons and evidence to support the points of an essay with students who are still struggling to identify reasons and evidence and understand the purpose of each. Offer a sentence starter to provide all students access to the discussion question (“The purpose of the transition sentence is ...”). Consider providing a neat version of the correctly color-coded essay for students who make mistakes.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Draw students' attention to the fact that the second point is a sentence fragment, or incomplete sentence, and ask them to complete this sentence by thinking about:<ul style="list-style-type: none">* "What improved people's lives in many ways? What is the topic of the essay?"• Cold call 1 or 2 students to share out. Listen for: "The electric motor is the topic of this essay, so the second point is 'the electric motor improved people's lives in many ways.'"• Write "The electric motor improved people's lives in many ways" on the line below Proof Paragraph 2 in the first box of the third row of the anchor chart.• Ask students to look to their Painted Essay templates to help them determine which paragraph of the model essay should be color-coded blue, the same as point 2 in the introductory paragraph. Tell them that once they determine which paragraph relates to point 2, they should hold up their model essays and point to the paragraph. Look for students to point to the third paragraph of the model essay, and then ask them to highlight the entire third paragraph in blue.• Next, focus students' attention on the boxes of the anchor chart in the second and third rows that say Reasons and Evidence (tell them they will come back to Transition a little later). Ask them to think about and discuss in groups:<ul style="list-style-type: none">* "What do you recall from Unit 1 about using reasons and evidence to support an opinion?"• After 2 minutes, invite a few students to share out whole group. Listen for ideas such as:<ul style="list-style-type: none">– "When we wrote opinion paragraphs in Unit 1, we learned that reasons explain why you believe the opinion."– "We learned that evidence is information, facts, and direct quotes from reliable sources that support the reason and opinion."– "Evidence from reliable sources makes our opinion more credible, or trustworthy and believable."• If students cannot recall information about reasons and evidence from Unit 1, briefly refresh their memories.• Tell students they will reread Proof Paragraph 1 of the model essay (highlighted in yellow) to help them think about how reasons and evidence are used to support point 1 of the introductory paragraph.• Give students directions:<ul style="list-style-type: none">– Independently reread Proof Paragraph 1 (the second paragraph) of the model electric motor essay.– With group members, identify and discuss how the reason(s) and evidence relate to point 1.• Clarify directions as needed, then ask students to begin working. Circulate to offer support.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 4 or 5 minutes, cold call students from each group to share their thinking about reasons(s) and evidence with the class. Listen for ideas such as:<ul style="list-style-type: none">– “People’s problem was that batteries were expensive and didn’t work, so most people didn’t have electricity;– “Scientists wanted to find other ways to create electricity, so more people could have access to electricity;”– “Faraday’s electric motor was able to generate electricity better and for less money than batteries, which helped to solve people’s problem,” Etc.• Focus students on the second row, third column, Purposes, and ask groups to discuss:<ul style="list-style-type: none">* “What is the purpose (goal, objective) of the reasons and evidence you identified in Proof Paragraph 1?”• After 1 or 2 minutes, cold call a few students to share out whole group. Listen for:<ul style="list-style-type: none">– “The purpose of the reasons and evidence is to explain and support point 1 and give more information to readers so they will find the piece credible.”• Record students’ ideas in the Purposes box of the second row of the anchor chart.• Ask students to now look at point 2, “The electric motor improved people’s lives in many ways,” and Proof Paragraph 2 to complete these steps:<ul style="list-style-type: none">– Independently reread Proof Paragraph 2 (the third paragraph) of the model electric motor essay.– With group members, identify and discuss how the reason(s) and evidence relate to point 2.• Provide clarification as needed, and then ask students to begin. Circulate to offer guidance and support.• After 4 or 5 minutes, cold call students from each group to share their thinking about reasons(s) and evidence that support point 2. Listen for ideas such as:<ul style="list-style-type: none">– “The reasons and evidence in Proof Paragraph 2 are ‘Other inventors developed new technologies based on Faraday’s idea, and the new inventions changed people’s lives.’ This sentence explains that people’s lives were improved by new technologies.”– “In 1882, Thomas Edison used Faraday’s idea to construct the first power plant in New York City. This plant made it possible for most people in the area to have electricity in their homes.... Then, in the 1930s, the electric motor was used to make useful household items.... Today, electric motors can also be found in ... many other devices we use.”– “These reasons and evidence support point 2 because they give more information and facts, along with specific examples of other inventions that were developed based on the electric motor.”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Focus students on the third row, third column Purposes and ask groups to discuss: <ul style="list-style-type: none"> * “What is the purpose (goal, objective) of the reasons and evidence you identified in Proof Paragraph 2?” • After 1 or 2 minutes, cold call a few students to share out whole group. Listen for: <ul style="list-style-type: none"> – “The purpose of the reasons and evidence is to explain and support point 2 so the reader will understand the topic better, learn more facts and information about the topic.” • Record students’ ideas in the Purposes box of the third row of the anchor chart. • Focus students’ attention on the word Transition in the second box of the third row of the anchor chart. Ask them to look back to their Painted Essay templates and locate the area called “transition,” colored with yellow and blue. Ask groups to discuss: <ul style="list-style-type: none"> * “What do you recall about the purpose of the transition sentence?” • After 1 or 2 minutes, invite a few students to share out whole group. Listen for: <ul style="list-style-type: none"> – “The transition moves the reader from one point to the next.” – “The transition is a ‘bridge’ between the first point and the second point.” • Record students’ thinking in the Purposes box of the third row. If students are not able to remember and share out the role of the transition sentence, explain it to them and add a description of the purpose to the anchor chart. • Ask students to look back at their templates for help in locating where the transition sentence can be found in the model essay. Cold call a few students to share out which sentence they believe is the transition and explain their reasons. Listen for a response such as: <ul style="list-style-type: none"> – “The first sentence of Proof Paragraph 2, ‘Other inventors developed new technologies based on Faraday’s idea, and the new inventions changed people’s lives,’ is the transition. I think this because it combines the ideas of Proof Paragraph 1 and Proof Paragraph 2.” • Give students specific positive feedback for their ability to identify the reasons and evidence that support the points made in the introductory paragraph, as well as locate and explain how the transition sentence connects the two proof paragraphs. • Tell students that during the next part of Work Time they will look back to their color-coded introductory paragraphs about the invention of basketball (from Lesson 9) to further refine their understanding of how the introductory and proof paragraphs work together. 	



Work Time (continued)	Meeting Students' Needs
<p>B. Determining Related Reasons and Evidence: The Invention of Basketball (15 minutes)</p> <ul style="list-style-type: none"> Ask students to read the first learning target aloud together: <ul style="list-style-type: none"> * “I can determine reasons and evidence related to the first and second points of an essay about the invention of basketball.” Underline words students are familiar with from previous lessons and Work Time A: <i>determine, reasons, evidence, related, points, and essay</i>. Ask students to discuss in groups how they could restate the target based on their understanding of key terms. After 1 or 2 minutes, cold call a few students to share out their ideas whole group. Ask students to turn to the page in their journals where they pasted (taped or stapled) the Color-Coded Painted Essay Introductory Paragraph: Basketball during Lesson 9. Distribute the Proof Paragraph graphic organizer. Ask students to locate and share out all at once what the <i>thesis</i> (green) of the basketball essay is. Listen for: <ul style="list-style-type: none"> – “Basketball has become a big part of people’s lives.” Ask students to locate point 1 of the focus in the color-coded essay. Cold call one or two students to share aloud. Listen for: <ul style="list-style-type: none"> – “What began as a game for students to play indoors during the winter ...” Point out that this is another example of a sentence fragment. Ask groups to discuss: <ul style="list-style-type: none"> * “<i>What</i> began as a game for students to play indoors during the winter? What is the topic of the essay?” After 1 minute, cold call a few students to share out whole group. Listen for: <ul style="list-style-type: none"> – “Basketball is the topic, so the first point is: ‘Basketball began as a game for students to play indoors during the winter.’” Ask students to write a complete sentence to express the first point of this essay on the line below Point 1 on their graphic organizers. Ask students to locate point 2 of the focus in the color-coded essay. Cold call one or two students to share aloud. Listen for: <ul style="list-style-type: none"> “... quickly became a popular form of entertainment for fans across the country.” Ask students to briefly think about and discuss with group members: <ul style="list-style-type: none"> * “<i>What</i> quickly became a popular form of entertainment for fans across the country? What is the topic of the essay?” 	<ul style="list-style-type: none"> Record the restated target under the original version for student reference. Consider displaying an anchor chart of Sentence Fragments and examples to support all students in distinguishing between sentence fragments and complete sentences. To support visual learners and students who struggle with multistep directions, display the four-step directions for student reference.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 minute, cold call a few students to share out whole group. Listen for:<ul style="list-style-type: none">– “Basketball is the topic, so the second point is ‘Basketball quickly became a popular form of entertainment for fans across the country.’”• Ask students to write a complete sentence to express the second point of the essay on the line below Point 2 on their graphic organizers.• Next, distribute the reasons and evidence strips. Read each strip aloud as students follow along silently. Then ask groups to discuss:<ul style="list-style-type: none">* “What do you notice about how these reasons and evidence strips are written?”• After 1 or 2 minutes, invite a few students to share their thinking aloud with the class. Listen for suggestions like:<ul style="list-style-type: none">– “I notice they’re written like notes, not complete sentences.”– “I notice there is a direct quote from a text.”– “They are written like paraphrased evidence from a text.”• Explain that before authors begin to write an informational piece, they must first conduct research and collect information related to the focus (thesis and points) of their essay. Remind students that when authors provide clear and credible information to support their ideas, their readers are better able to understand and learn from the text, which is the primary purpose of informational writing: to inform others.• Draw students’ attention to the second column of the graphic organizer and the boxes labeled “Proof Paragraph 1: reasons and evidence related to point 1” and “Proof Paragraph 2: reasons and evidence related to point 2.” Give them these directions:<ul style="list-style-type: none">– Independently reread each reasons and evidence strip.– With group members, review and discuss each strip to determine if it is more closely related to Point 1 or Point 2.– Sort the strips by placing each one into the proof paragraph box it belongs in.– Be prepared to discuss your thinking whole class.• Provide clarification as needed, and then ask students to begin. Circulate to provide support and guidance.• After 5 minutes, cold call members from each group to share out how they sorted the reasons and evidence strips and explain why they think each reason or piece of evidence is related to one point more than the other. Refer to Proof Paragraph graphic organizer (answers, for teacher reference) as needed for guidance.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">Once all reasons and evidence have been discussed and students have them sorted correctly, ask them to quickly tape, glue, or staple each strip into either the yellow Proof 1 box or the blue Proof 2 box.Have students look at all of the evidence in both columns and reflect:<ul style="list-style-type: none">* "What single main idea does all of this evidence help the reader understand?"Be sure students understand that all of the evidence gathered under these two points is designed to explain the thesis, that basketball has become a big part of people's lives. Tell them that during the next part of Work Time, they will write their proof paragraphs using the reasons and evidence they added to each box of their graphic organizer.	



Work Time (continued)	Meeting Students' Needs
<p>C. Writing Proof Paragraphs: The Invention of Basketball (20 minutes)</p> <ul style="list-style-type: none"> Ask students to read the second learning target aloud together: <ul style="list-style-type: none"> * “I can write two proof paragraphs for an essay about the invention of basketball by using reasons and evidence related to each point in my introductory paragraph.” Invite a few students to restate the target in their own words based on their understanding of key terms such as <i>proof paragraphs</i>, <i>essay</i>, <i>reasons</i>, <i>evidence</i>, <i>related</i>, <i>points</i>, and <i>introductory paragraph</i>. Explain that in order to write their proof paragraphs, they must first determine the order in which they will present their reasons and evidence in each paragraph. Model for students by doing a think-aloud. Display the Proof Paragraph graphic organizer (answers, for teacher reference) via a document camera. Say something like: <ul style="list-style-type: none"> * “First I am going to reread point 1, ‘Basketball began as a game for students to play indoors during the winter.’ Then I am going to reread each of the reason and evidence strips I pasted onto my graphic organizer and ask myself: Which strip, or strips, best explains why students needed a game that could be played indoors during the winter?” Read each strip aloud, then go on to say something like: <ul style="list-style-type: none"> * “I think the strip that says ‘problem—needed an indoor winter sport’ could be turned into a sentence to support the first point because it uses the words ‘problem’ and ‘needed,’ which are words that indicate a reason ‘why’ basketball was invented. I also notice the phrase ‘indoor winter sport’ somewhat mirrors language from the first point, ‘a game for students to play indoors during the winter,’ indicating that it is related to the first point.” Ask groups to discuss how they could change the reasons and evidence strip “problem—needed an indoor winter sport” into a complete sentence for the start of the first proof paragraph. After 2 minutes, invite a few students to share their thinking whole group. Listen for suggestions like: <ul style="list-style-type: none"> – “The problem was that students needed a sport they could play indoors during the winter.” Synthesize students’ thinking to model writing a complete sentence to begin Proof Paragraph 1 on the board or some other area where all students can see. Ask them to record the sentence below the Color-Coded Painted Essay Introductory Paragraph: Basketball they pasted into their journals during the previous lesson. 	<ul style="list-style-type: none"> Record the student-restated target near the original target for student reference. Consider displaying the incomplete sentences from the “strips” next to the complete-sentence versions generated by students to serve as a reminder of the thinking that occurred during this discussion. Consider displaying the text under the document camera as you read aloud and point to the text. Although students have a version of the text in front of them, struggling readers will benefit from this resource if they lose their place for any reason. To support students who struggle with the physical act of writing, provide assistive technology, a computer with word processing, or a scribe to help them capture their ideas on paper.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Read through each piece of evidence, then ask groups to discuss:<ul style="list-style-type: none">* “Which strip do you think should be written as the second sentence for Proof Paragraph 1? Why?”• After 1 or 2 minutes, invite a few students to share their thinking aloud. Listen for:<ul style="list-style-type: none">– “‘Could be played inside, fairly small space’ because it is information that is closely related to the first sentence, which is about the need for a game that could be played indoors.”– “‘Could be played inside, fairly small space’ because it provides factual information to support the first point.”• Ask groups to discuss:<ul style="list-style-type: none">* “How could you write a complete sentence from this reasons and evidence strip?”• After 1 or 2 minutes, cold call a few students to share their thinking with the class. Listen for ideas such as:<ul style="list-style-type: none">– “Students needed a game that could be played inside within a fairly small space.”• Synthesize students’ thinking to once again model writing a complete second sentence for Proof Paragraph 1 and ask students to skip a line on their paper and record it after the first sentence they recorded, below their color-coded introductory paragraphs. (Note: Do not instruct students on the use of linking words at this point, as they will receive instruction on adding linking words to their essays in the next lesson.)• Continue to model as needed for students. See proof paragraphs (example, for teacher reference) for ideas students may share about the remaining order of evidence and types of sentences that could be included in Proof Paragraph 1. Consider “releasing” students who seem able to continue crafting the first proof paragraph independently while you work with a small group(s) of students who are in need of additional modeling and support with writing.• After 4 or 5 minutes, have students share one or more of the paragraphs orally with the full class.• Direct them to move on to writing Proof Paragraph 2, using the same strategies that were modeled. Once again, consider working with a small group(s) of students who need more support with writing and “releasing” students who are capable of writing with greater independence.• Give students 8 to 10 minutes to write the second proof paragraph. When not working with small groups, circulate to offer guidance and positive praise to those who are working independently about specific elements of their second proof paragraph (e.g., the order of reasons and evidence, the use of complete sentences, etc.).• Once students have written their second proof paragraphs, invite a few of them to read their paragraphs aloud and share out strategies they used to determine what order to write the reasons and evidence.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Focus students whole group. Ask them to turn and talk with a partner:<ul style="list-style-type: none">* “How do the proof paragraphs connect to the points of the introductory paragraph to create a big picture for the reader?”• After 1 or 2 minutes, invite a few students to share out their thinking whole group.• Read each of the learning targets aloud and ask students to use Glass, Bugs, Mud to demonstrate their level of mastery toward each target. Note students who show “bugs” or “mud,” as they may need more support determining and writing reasons and evidence related to the focus and points presented in an informational essay.	<ul style="list-style-type: none">• Offer a sentence starter to give all students access to the debrief prompt (“The proof paragraphs create a big picture for the reader by ...”).
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read the first three paragraphs of your essay about basketball to someone at home or aloud to yourself in front of the mirror. Use the fluency self-assessment to determine one area of fluency that is a strength for you and one area you want to improve.• Read independently for at least 15 or 20 minutes and respond to another question on your Independent Reading Choice Board.	<ul style="list-style-type: none">• Consider loaning students a phonics phone to practice reading with at home. This will allow them to hear themselves more clearly to more accurately self-assess.



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LEARNING

Grade 5: Module 2B: Unit 2: Lesson 10

Supporting Materials



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Proof Paragraph Graphic Organizer

<p>Point 1:</p> <hr/>	<p>Proof Paragraph 1: reasons and evidence related to point 1</p>
<p>Point 2:</p> <hr/>	<p>Proof Paragraph 2: reasons and evidence related to point 2</p>



Reasons and Evidence Strips

January 1896 (five years after being invented), first college game played for a live audience

Naismith “... wanted to create a game of skill for the students instead of one that relied solely on strength”

Still popular neighborhood sport—great way to stay active/spend time with friends

Could be played inside, fairly small space

By 1963, college games on national television; fans could watch from their living rooms

problem—needed an indoor winter sport

1891, first game of basketball played, used a soccer ball and two peach baskets as goals

1980s, basketball as popular as football and baseball



Proof Paragraph Graphic Organizer
(Answers, for Teacher Reference)

Point 1:

Basketball began as a game for students to play indoors during the winter.

Proof Paragraph 1: reasons and evidence related to point 1

- Problem—needed an indoor winter sport
- Naismith “... wanted to create a game of skill for the students instead of one that relied solely on strength”
- Could be played inside, fairly small space
- 1891, first game of basketball played, used a soccer ball and two peach baskets as goals

Point 2:

Basketball quickly became a popular form of entertainment for fans across the country.

Proof Paragraph 2: reasons and evidence related to point 2

- January 1896 (five years after being invented), first college game played for a live audience
- By 1963, college games on national television; fans could watch from their living rooms
- 1980s, basketball as popular as football and baseball
- Still popular neighborhood sport—great way to stay active/spend time with friends



Proof Paragraphs

(Example, for Teacher Reference)

A problem for students was that they needed a game that could be played indoors during the winter. Students needed a sport that could be played in a fairly small space inside. Dr. Naismith “wanted to create a game of skill for students instead of one that relied solely on strength.” The first game of basketball was played in 1891, using a soccer ball and two peach baskets as goals.

Five years after basketball was invented, the first college game was played for a live audience in January of 1896. By 1963, college basketball was on national television, so fans could watch the games from their living rooms. In the 1980s, basketball had become as popular as football and baseball. Basketball is still a popular neighborhood sport and a great way to stay active and spend time with friends.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 11

The Painted Essay: Developing a Conclusion and Adding Linking Words



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2)

- a. I can use linking words and phrases to connect ideas within categories of information.
- b. I can use specific language and key vocabulary to explain the topic.
- c. I can construct a concluding statement or section of an informative/explanatory text.

I can effectively engage in a range of collaborative discussions with diverse partners on grade 5 topics and texts, building on others' ideas and expressing my own ideas clearly. (SL.5.1)

Supporting Learning Targets

- I can write a conclusion for my essay about the invention of basketball, using specific language and key vocabulary.
- I can identify the types of linking words used to connect ideas in a model essay about the invention of the electric motor.
- I can connect the ideas in my essay about the invention of basketball by using linking words.

Ongoing Assessment

- Written conclusion paragraph that includes specific language and key terms
- Linking words coded on model electric motor essay
- Linking words added to proof paragraphs and conclusion of basketball essay



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Writer (5 minutes)2. Work Time<ol style="list-style-type: none">A. The Painted Essay: Analyzing and Writing a Conclusion Paragraph (20 minutes)B. Using Linking Words to Connect Ideas (25 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Review of Learning Targets (10 minutes)4. Homework<ol style="list-style-type: none">A. Independent reading/fluency practice and self-assessment.	<ul style="list-style-type: none">• This lesson follows a similar pattern to Lessons 9 and 10. Today, students' focus is on analyzing and writing a conclusion paragraph and recognizing the types of linking words and how they are used in writing to show the relationship between ideas.• If your district has printed lessons for you in black and white, it may be helpful to view this lesson in color, and print colored some copies. Go to EngageNY.org or commoncoresuccess.elschools.org and search for 5th grade, Module 2B, Unit 2 lessons.• Review the example Linking Words anchor chart (in supporting materials) to become familiar with the four types of linking words, as well as the descriptions and examples for each type, to support students' understanding of them during Work Time B.• Note that during the Opening of this lesson, students participate in a Four Corners activity to discuss a current area of fluency strength, based on the fluency skills practice and reflection they completed for homework.• In advance:<ul style="list-style-type: none">– Post the Four Corners sheets (see supporting materials).– Post the Parts of a Painted Essay anchor chart for student reference.– Create a new anchor chart titled Linking Words (see example in the supporting materials).– Cut construction or other type of paper into strips for students to use as idea strips during Work Time A. Make sure the strips are large enough to hold a complete sentence. Each student will need five idea strips.– Review the Four Corners and Back-to-Back, Face-to-Face protocols, as well as Thumb-O-Meter in Checking for Understanding Techniques (see Appendix).• Post: Learning targets.



Lesson Vocabulary	Materials
conclusion, essay, specific language, key vocabulary, identify, types, linking words, connect, ideas	<ul style="list-style-type: none">• Four Corners sheets (one of each, displayed in different areas of the room)• Journals (begun in Unit 1, Lesson 1; one per student)• Painted Essay template (from Lesson 8)• Document camera• Parts of a Painted Essay anchor chart (begun in Lesson 9)• Model Painted Essay: “The Electric Motor” (from Lesson 9)• Highlighters (one green, one yellow, and one blue per student)• Color-Coded Introductory Paragraph: Basketball (from Lesson 9)• Conclusion Paragraph task card (one per student)• Idea strips (five per student; teacher-created; see Teaching Notes)• Linking Words anchor chart (new; teacher-created)• Linking Words handout (one per student)• Tape, glue, or staplers (enough to give access to all students)• Coded Model Essay (answers, for teacher reference; see Teaching Notes re colored copies)• Coding for Linking Words task card (one per student)• Index cards (one per student)• Independent Reading Choice Board (students' own)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out the fluency self-assessment they completed for homework.• Briefly review directions for the Four Corners protocol. Clarify as needed.• Point out and read aloud each of the Four Corners sheets: Accuracy, Rate & Flow, Phrasing & Punctuation, and Expression & Volume.• Give students a moment to move to the option they feel is their greatest fluency strength.• Once all students have chosen their strength area, ask those at the same “corners” to discuss:<ul style="list-style-type: none">* “Why do you think this is an area of strength for you?”* “What strategies did you use to develop this area of fluency?”• After 2 or 3 minutes, invite several students to share their thinking, particularly strategies they have personally used to improve their fluent reading, with the class.• Ask students to read aloud the guiding question that has focused their work over the last several lessons:<ul style="list-style-type: none">* How do authors structure text to engage and support readers’ understanding of complex ideas?• Briefly remind students they have been learning about the parts of the Painted Essay and how they all fit together like pieces of a puzzle to create a ‘big picture’ for the reader. Then explain that in today’s lesson, they will analyze the final piece of the Painted Essay, the conclusion paragraph then you will write a conclusion for their own essay about the invention of basketball.”	<ul style="list-style-type: none">• Consider posting directions for the Four Corners protocol for student reference.• Consider posting the group discussion questions for student reference.• Display the guiding question.



Work Time	Meeting Students' Needs
<p>A. The Painted Essay: Analyzing and Writing a Conclusion Paragraph (20 minutes)</p> <ul style="list-style-type: none"> • Ask students to collect their journals and join their regular group. • Ask them to locate the Painted Essay template and display a copy using a document camera. Focus their attention on the bottom row of the Parts of a Painted Essay anchor chart, Conclusion Paragraph. • Give students 1 or 2 minutes to discuss what they recall from Lesson 8 about the “What?” part of the conclusion. Invite a few students to share their thinking whole group. Listen for: <ul style="list-style-type: none"> – “The ‘What?’ is a restatement of the thesis.” • Give students another minute or two to discuss what they remember about the “So What?” part of the conclusion. Invite a few to share out with the class. Listen for responses such as: <ul style="list-style-type: none"> – “The ‘So What?’ is your own thinking about the thesis or focus of the piece.” – “You explain why the points presented in the essay are important.” • Ask students to take out their Model Painted Essay: “The Electric Motor.” Give groups these instructions: <ul style="list-style-type: none"> – Independently read the conclusion (fourth paragraph) of the model essay. – With group members, review the conclusion of the model essay to identify the “What?” <ul style="list-style-type: none"> * “Which sentence in the conclusion is a new way to restate the thesis from the introductory paragraph?” * “How did you identify the ‘What?’” – With group members, review the conclusion of the model essay to identify the “So What?” <ul style="list-style-type: none"> * “Which sentences explain the author’s own thinking about each point, how it solved a problem and improved people’s lives? Why was the invention of the electric motor important?” • Clarify directions as necessary. 	<ul style="list-style-type: none"> • For struggling readers, consider reading the conclusion paragraph aloud to them. • Provide sentence starters for students as needed (“The sentences in the conclusion that are an original way to restate the thesis are ...” or “The sentences that explain the author’s own thinking are ...”). • To support students who struggle with organization or the management of a lot of materials at once, consider holding the highlighters and distributing the color they need as they are ready. <p>Consider allowing struggling writers to dictate their ideas for you or a volunteer to scribe onto the idea strips.</p>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 3-4 minutes, cold call several students to share out the “What?” and “So What?” from the conclusion of the model essay. Listen for responses similar to these:<ul style="list-style-type: none">– “The second sentence of the conclusion, ‘Just try to imagine what life would be like without electricity, refrigerators, or computers’ is the ‘What?’—a new, interesting way to restate the thesis of the essay.”– “We figured out which sentence related to the thesis by restating the thesis first in our own words.”– “The sentences that explain the author’s own thinking about the importance of the electric motor (the ‘So What?’) are ‘The invention of the electric motor has undoubtedly solved many people’s problems over the last 200 years!’ and ‘Thanks to Michael Faraday’s invention of the electric motor, our lives have become much better.’”– “We figured this out by checking to see if the sentences would answer the question, ‘Why was the electric motor important?’” Both of these sentences sound like the author’s opinion because she or he used words like ‘undoubtedly’ and ‘better,’ which are words that express judgment, a personal point of view.”• If students are unable to arrive at these conclusions or clearly explain their thinking, consider modeling with a think-aloud using the examples above.• Ask groups to discuss:<ul style="list-style-type: none">* “What is the purpose of the conclusion paragraph?”• Give them 1 or 2 minutes to discuss their thinking, then cold call members from each group to share out. Listen for them to say the conclusion paragraph is a way to bring readers back to the focus of the essay and why it’s important; can present the thesis in a new way; sums up the focus, etc.• Record students’ ideas in the third box of the Conclusion row on the anchor chart. If students do not mention these ideas, bring them up yourself and add them to the anchor chart.• Distribute the green, yellow, and blue highlighters. Model and ask students to draw a green box around the entire last paragraph of their electric motor essays. Continue to model and ask students to use the green, yellow, and blue highlighters to put dots of each color mixed together inside the green box as a way to visualize how each piece of the focus (thesis, points) and the proof paragraphs fit together to create a cohesive conclusion for the essay and complete the “big picture” for the reader.• Next, focus students on the first learning target and ask them read it aloud together:<ul style="list-style-type: none">* “I can write a conclusion for my essay about the invention of basketball, using specific language and key vocabulary.”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to think about how they could restate the first part of this target, "I can write a conclusion for my essay about the invention of basketball," based on their understanding of the key terms <i>conclusion</i> and <i>essay</i>.• After a moment, invite a few students to share out. Listen for:<ul style="list-style-type: none">– "I can write the last paragraph of my essay to restate the focus (thesis, points) and explain my own thinking about why basketball is a big part of people's lives, why it was invented, why it's popular."• Focus students on the second half of the target, "... using specific language and key vocabulary." Ask groups to discuss what it means to use <i>specific language</i> and <i>key vocabulary</i> in their conclusions.• After 1 or 2 minutes, cold call a few students to share out with the class. Listen for:<ul style="list-style-type: none">– "I think it means we should try to add important language from our thesis, points, and proof paragraphs into our conclusion."– Students may suggest using specific words to help explain important people or ideas; examples of how basketball has become a big part of people's lives; why it was invented; how it became so popular, etc.• Tell students that now they will write a conclusion paragraph for their essays about the invention of basketball by restating the thesis and points from the introductory paragraph. Remind students they need to restate the thesis and points in a new way to express their own thinking about the topic and include specific language and key terms to support readers' understanding of ideas.• Direct students to turn to the page in their journals where they added the Color-Coded Introductory Paragraph: Basketball and wrote their two proof paragraphs.• Distribute the Conclusion Paragraph task card and four idea strips to each student. Read the directions aloud as students follow along silently. Answer any clarifying questions, then ask them to begin. Circulate to offer guidance and support as needed.• After 7-8 minutes, invite a few students to share their paragraphs whole group.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• As time allows, pose the following questions for students to consider and discuss:<ul style="list-style-type: none">* “How did you use specific language or key vocabulary to restate the thesis of the essay in a new or interesting way?”* “How were you able to incorporate specific language and key vocabulary to explain the ‘So What?’ and express your own thinking about the importance of the invention of basketball and the reason it has become a big part of people’s lives?”* “How did you determine the order of your ideas?”• Students’ responses will vary. Congratulate students on their ability to put all the pieces of their Painted Essays together to create a picture for the reader about how basketball has become a big part of people’s lives. Explain that during the next part of Work Time, they will learn how to use linking words to connect the ideas in their essays in such a way as to support readers’ understanding of how the ideas are interrelated and create a “flow” for the piece.	



Work Time (continued)	Meeting Students' Needs
<p>B. Using Linking Words to Connect Ideas (25 minutes)</p> <ul style="list-style-type: none"> Ask students to read aloud the second learning target as a class: <ul style="list-style-type: none"> * "I can identify the types of linking words used to connect ideas in a model essay about the invention of the electric motor." Display the Linking Words anchor chart, then distribute the Linking Words handout and tape, glue, or staples. Ask students to add their handouts to the next blank page in their journals. Ask students to look to the anchor chart and their handouts to determine how many types of linking words there are and then hold up their fingers to show the answer. Look for them to hold up four fingers. Invite them to chorally read aloud the name for each type of linking word (Addition, Contrast, Cause, Time). Focus students' attention on the first row of the chart and handout: Addition. Read the description of Addition aloud to students, then each of the linking words that are listed. Read the two sentences aloud. Then read the new sentence made by linking the two original sentences. Point out that the linking word "and" is bolded in the new sentence. Ask groups to discuss: <ul style="list-style-type: none"> * "How was the Addition linking word 'and' used to combine the two ideas?" * "How are the two ideas similar? How does one build upon the other?" * "How does combining the sentences improve the flow or readability of the ideas?" After 2 minutes, invite a few students to share out whole group. Listen for suggestions such as: <ul style="list-style-type: none"> – "The Addition linking word 'and' was used to make the two original sentences into one sentence." – "These ideas are both about dancing. The new sentence builds on the idea that the person likes to dance for more than one reason." – "When the sentences were separated, they read more like a list. The connection between ideas wasn't as clear as it is with the linking word." Continue reading through each type of linking word, description, and examples. Pause after reading the Contrast row to ask groups to discuss: <ul style="list-style-type: none"> * "How was the Contrast linking word 'but' used to combine these sentences?" * "How are the two ideas different? How does one subtract from the other?" * "How does combining the sentences improve the flow or readability of the ideas?" 	<ul style="list-style-type: none"> Locate and display an image of two chain links hooked together to visually demonstrate how two things link, or connect. Provide sentence starters to support students during group discussions ("The addition linking word 'and' combined the ideas by ..."). During this Work Time, you may want to pull individual or small group(s) of students to offer support with identifying the relationships between ideas and adding linking words to essays.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 2 minutes, invite members from a couple of groups to share out. Listen for:<ul style="list-style-type: none">– “These ideas are different because it seems that if you love cherries, you might like cherry pie too. It subtracts from her love of cherries to not like cherry pie.”– “When the sentences were separated, they sounded unrelated. Using a linking word made the connection between the ideas clearer.”• Continue and pause after reading the Cause row. Ask groups to discuss:<ul style="list-style-type: none">* “How does the Cause linking word ‘because’ help you identify what idea ‘caused’ the other?”* “How does combining the sentences improve the flow or readability of the ideas?”• After 1 or 2 minutes, cold call a few students to share their thinking. Listen for:<ul style="list-style-type: none">– “Using the linking word ‘because’ between the two ideas makes it clear that leaving the tap running cause the sink to overflow.”– “Linking the two ideas into one sentence helped them flow together more clearly. It sounds less like a list or report of facts. It’s less robotic-sounding.”• Read the final row aloud and then ask groups to discuss:<ul style="list-style-type: none">* “How does the Time linking word ‘after’ help you understand the order of events?”* “How does the new sentence improve the flow or readability of the ideas?”• After 1 or 2 minutes, cold call a few students to share out with the class. Listen for ideas such as:<ul style="list-style-type: none">– “The linking word ‘after’ helps me understand the order he did things in - that he baked the cake after going grocery shopping.”– “The original sentences sound really similar and seem to repeat a similar idea.”• Tell students they are now going to work with their model Painted Essays about the electric motor to identify the types of linking words used and explain how they connect ideas and help make the piece flow from one idea to the next.• Display the Model Painted Essay: “The Electric Motor” and ask students to look at their model essays. Focus their attention on the introductory paragraph.• Tell students this paragraph will be read aloud. Students should follow along silently and look for examples of the four types of linking words. To support students, point out or remind them that linking words are oftentimes found at the beginning or in the middle of a sentence.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Read the entire introductory paragraph aloud. Then pause to ask:<ul style="list-style-type: none">* “What linking words were you able to locate?”* “What type(s) of linking words are they?”* “How do they help to connect ideas or show how ideas are related?”• After 2 or 3 minutes, invite a few students to share their thinking aloud. Listen for suggestions such as:<ul style="list-style-type: none">– “I found the linking words ‘over time’ and ‘and.’”– “‘Over time’ is a Time type of linking word, and ‘and’ is an Addition type of linking word.”– “The linking words ‘over time’ make it clear that first the electric motor was invented, and then other scientists changed it as time went by.”– “The linking word ‘and’ builds onto the idea that the electric motor solved problems by indicating that it also improved people’s lives; these ideas are similar.”• Ask students to notice the symbol below the name of each type of linking word (plus sign, minus sign, arrow, circle) on the anchor chart and their handouts. Explain that they will use these symbols to code the types of linking words they identify in the essay. Model by drawing a circle above the words ‘over time’ (in the third sentence of the introduction) and a plus sign over the word ‘and’ in the last sentence of the introduction.• Clarify as needed, and then ask students to draw these symbols above the same linking words in the introductory paragraph of their own model essays. See Coded Model Essay (answers, for teacher reference) for an example.• Distribute the Coding for Linking Words task card. Read the directions aloud and address clarifying questions.• Give students 7 or 8 minutes to complete the steps on their task cards, circulating to provide support.• Cold call members from each group to share out a linking word they found in the second, third, and last paragraphs of the model essay and how they coded each one. As students share out, record their thinking on the displayed model essay.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• If there is disagreement about how a word should be coded, pose probing questions that will help students develop critical thinking skills about how linking words are used to show a specific type of relationship between ideas:<ul style="list-style-type: none">* “Are the ideas in that sentence similar? How so?”* “Are the ideas different? Does one take away from the other? Explain your thinking.”* “Did one idea occur before, during, or after the other? Is that an important order of events to convey to the reader? Explain.”• Once students have shared out and discussed how they coded the model essay, ask them to look over it again and discuss in groups:<ul style="list-style-type: none">* “What do you notice about how the various types of linking words are used within the paragraphs of this model essay?”• After 2 minutes, invite a few students to share their thinking whole group. Listen for suggestions such as:<ul style="list-style-type: none">– “I notice that in the second paragraph, two different types of linking words are used in the same sentence.”– “The second paragraph has a big mix of linking word types.”– “I notice Time and Addition types of linking words are found near each other pretty often, which makes me think those types of words may work well together to show how things that happen over time are often related, building on each other.”• Draw students' attention to the third learning target:<ul style="list-style-type: none">* “I can connect the ideas in my essay about the invention of basketball by using linking words.”• Underline the words from this target that students should now be familiar with from the work they just completed: <i>connect, ideas, linking words</i>. Ask groups to discuss how they could restate the target in their own words.• After 1 minute, cold call a few students to share their thinking whole group.• Explain that students will use their new understandings about linking words to make a final revision to their essays about basketball. They will go back through the proof and conclusion paragraphs they wrote and add linking words to show the relationships between their ideas as well as improve how the piece flows.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to turn to the page in their journals where they wrote their basketball essays and to follow these directions:<ul style="list-style-type: none">– Independently read through your Proof Paragraph 1 (second paragraph). Think about:<ul style="list-style-type: none">* “Are there any ideas or sentences I could combine to make this piece flow more clearly?”* “Are the ideas similar or different? Did one cause the other? Are they connected over time?”* “How could I use linking words to show the relationship between these ideas more clearly?”– Discuss your thinking with group members.– Cross out the old sentence(s) and write a new sentence in the space above the original.– Repeat Steps 1–3 for Proof Paragraph 2 (third paragraph) and your conclusion (last paragraph).– If time allows, read your revised essay aloud to group members and ask them to provide feedback on its flow.• Provide clarification as needed, and then ask students to begin their work. Circulate to offer guidance and support.• After 8 to 10 minutes, focus students whole group and ask:<ul style="list-style-type: none">* “How did adding linking words to your essay make the relationships between ideas clearer?”* “In what ways did adding linking words improve the flow of your essay?”• Students’ answers will vary, but listen for them to make specific references back to the descriptions for each type of linking word as they explain how the words they used made the relationships between ideas clearer.• Ask students to keep their basketball essays out, as they will be sharing them with a partner during the Closing.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (10 minutes)</p> <ul style="list-style-type: none">• Remind students of the Back-to-Back, Face-to-Face protocol. Ask them to locate a partner who is not a member of their regular group to exchange essays.• Once all students have exchanged essays with a partner, ask them to turn back-to-back and complete the following:<ul style="list-style-type: none">– Read your partner's essay.– Think about: How does my partner's use of linking words show a clear connection between ideas and improve the readability of this essay?• Give students 4 or 5 minutes to complete Steps 1 and 2, then ask them to turn face-to-face to share their thinking about each other's essays. Remind them that when offering peer critique, they must remember to be both kind and specific.• After 2 minutes, invite a few students to share out a compliment about their partner's use of linking words to connect ideas or improve the flow of the essay.• Reread each of the learning targets aloud and ask students to use Thumb-O-Meter to show their level of mastery toward each of them. Note students who show mid to low on their meters, as they may need more support writing a conclusion paragraph or using linking words to connect ideas and provide flow.• Tell students they will begin the End of Unit 2 Assessment in the next lesson.• Distribute an index card for students to record their homework responses.	<ul style="list-style-type: none">• For struggling readers, consider asking partners to take turns reading their essays aloud to one another.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read your completed basketball essay aloud to someone at home or by yourself in front of the mirror, at least three times. Pause after each read to ask yourself:<ul style="list-style-type: none">* "Does the order of ideas make sense?"* "Does each piece of the essay (introduction, thesis, points, proof paragraphs, conclusion) fit together to create a big picture for the reader?"* "Are there any additional revisions I would make? How would those changes improve my essay?"• Write your responses on an index card to share during the Opening of the next lesson.• Read your independent reading book for at least 15 minutes and then write a response to another question on your Independent Reading Choice Board.	<ul style="list-style-type: none">• Allow students to dictate their responses to someone at home to scribe for them.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 11

Supporting Materials



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Four Corners Sheets

Accuracy

Rate & Flow



Phrasing & Punctuation

Expression & Volume



Conclusion Paragraph Task Card

1. Independently reread your color-coded introductory paragraph about the invention of basketball.
2. With group members, chorally reread the thesis of the introductory paragraph, then think about:
 - * “How can I restate the thesis in a new and interesting way to convey the ‘What?’ of my conclusion?”
 - * “How can I use specific language and key terms from the thesis in my conclusion?”
3. Discuss your thinking about the ‘What?’ of your conclusion with group members, then record a sentence that restates the thesis on one of your idea strips.
4. Independently reread the points of your introductory paragraph as well as both proof paragraphs to help you think about:
 - * “How can I express my own thinking about how or why basketball was developed in the winter?”
 - * “How can I express my own thinking about why basketball became a popular sport with fans all over the country?”
 - * “How can I explain why I think the invention of basketball was important—‘So What?’”
 - * “How can I use specific language and key terms to emphasize important details about the invention of basketball?”
5. Discuss your thinking about the “So What?” of your conclusion with group members, then record sentences on two or three of your idea strips.
6. Once you have recorded the “What?” and “So What?” of your conclusion on idea strips, move the strips around to place sentences in the order you think makes the most sense.
7. Independently read through your sentences in the order you placed them, as if you are reading your complete conclusion paragraph. Ask yourself:
 - * “Does this make sense?”
 - * “Does it sound right?”
 - * “Do these sentences clearly connect back to my thesis, points, and proof paragraphs in a sequence that makes sense?”
8. Continue to move your idea strips around until you feel you can answer “yes” to each of the questions from Step 7.



Conclusion Paragraph Task Card

9. Once you have your idea strips in order, read them aloud to group members in the order you placed them. Ask your group:
- * “Do the sentences for my conclusion convey the ‘What?’ and ‘So What?’ in a clear way for the reader?”
 - * “Does the order of ideas make sense?”



Linking Words Anchor Chart

Types	Linking Words	Examples
<p>ADDITION</p> <p>+</p> <p><i>One idea adds to another / Ideas are similar / Ideas agree with each other.</i></p>	<p><i>and</i> <i>like</i> <i>in fact</i> <i>example</i> <i>in all</i> <i>too</i> <i>as</i></p>	<p>1. "I dance to keep fit." 2. "I dance for enjoyment."</p> <p>↓</p> <p>"I dance to keep fit and for enjoyment."</p>
<p>CONTRAST</p> <p>—</p> <p><i>Ideas do not match / one idea subtracts from the other.</i></p>	<p><i>but</i> <i>either</i> <i>comparison</i> <i>nonetheless</i></p>	<p>1. "She loves cherries!" 2. "I don't know why she doesn't like cherry pie."</p> <p>↓</p> <p>"She loves cherries but doesn't like cherry pie."</p>
<p>CAUSE</p> <p>→</p> <p><i>One idea is the cause of another.</i></p>	<p><i>by</i> <i>consequently</i> <i>because</i> <i>in which case</i> <i>unless</i></p>	<p>1. "He didn't turn off the tap." 2. "The sink overflowed."</p> <p>↓</p> <p>"The sink overflowed because he didn't turn off the tap."</p>
<p>TIME</p> <p>○</p> <p><i>Ideas are linked by time - one takes place before, during, or after another idea.</i></p>	<p><i>after</i> <i>afterward</i> <i>before</i> <i>while</i></p>	<p>1. "He went grocery shopping to buy ingredients." 2. "He baked a cake."</p> <p>↓</p> <p>"After going grocery shopping to buy ingredients, he baked a cake."</p>



Linking Words handout

Name: _____

Date: _____

Types	Linking Words	Examples
<p>ADDITION</p> <p>+</p> <p><i>One idea adds to another / Ideas are similar / Ideas agree with each other.</i></p>	<p><i>and</i> <i>like</i> <i>in fact</i> <i>example</i> <i>in all</i> <i>too</i> <i>as</i></p>	<p>1. "I dance to keep fit." 2. "I dance for enjoyment."</p> <p>↓</p> <p>"I dance to keep fit and for enjoyment."</p>
<p>CONTRAST</p> <p>—</p> <p><i>Ideas do not match / one idea subtracts from the other.</i></p>	<p><i>but</i> <i>either</i> <i>comparison</i> <i>nonetheless</i></p>	<p>1. "She loves cherries!" 2. "I don't know why she doesn't like cherry pie."</p> <p>↓</p> <p>"She loves cherries but doesn't like cherry pie."</p>
<p>CAUSE</p> <p>→</p> <p><i>One idea is the cause of another.</i></p>	<p><i>by</i> <i>consequently</i> <i>because</i> <i>in which case</i> <i>unless</i></p>	<p>1. "He didn't turn off the tap." 2. "The sink overflowed."</p> <p>↓</p> <p>"The sink overflowed because he didn't turn off the tap."</p>
<p>TIME</p> <p>○</p> <p><i>Ideas are linked by time - one takes place before, during, or after another idea.</i></p>	<p><i>after</i> <i>afterward</i> <i>before</i> <i>while</i></p>	<p>1. "He went grocery shopping to buy ingredients." 2. "He baked a cake."</p> <p>↓</p> <p>"After going grocery shopping to buy ingredients, he baked a cake."</p>



Coded Model Essay
(Answers, for Teacher Reference)

Did you know that you probably use an electric motor every day? Michael Faraday invented this useful device in 1821. Over time, other inventors refined the electric motor to help make people's lives easier. The electric motor changed everything. The invention of the electric motor solved a big problem for people living in the 1800s and improved people's lives in many ways.

The main source of electricity in the early 1800s was batteries, but batteries were very expensive and did not actually work for very long. Therefore, most people did not have access to electricity. So scientists wanted to find other ways to create electricity. In 1821, when Michael Faraday hung a magnetic rock over a bowl of liquid, it began to spin and create energy. This experiment was the first example of an electric motor. Faraday's electric motor was able to generate electricity better and for less money than batteries.

Other inventors developed new technologies based on Faraday's idea, and the new inventions changed people's lives. In 1882, Thomas Edison used Faraday's idea to construct the first power plant in New York City. This plant made it possible for most people in the area to have electricity in their homes for the very first time. Then, in the 1930s, the electric motor was used to make useful



Coded Model Essay
(Answers, for Teacher Reference)

household items such as refrigerators, washing machines, and fans. Today, electric motors can also be found in computers, windshield wiper motors, and many other devices we use.

The invention of the electric motor has undoubtedly solved many people's problems over the last 200 years! Just try to imagine what life would be like without electricity, refrigerators, or computers. Thanks to Michael Faraday's invention of the electric motor, our lives have become much better.



Coding for Linking Words Task Card

Directions:

1. Independently read through Proof Paragraph 1 (the second paragraph).
2. With your group members, look closely again at Proof Paragraph 1 to identify and code each linking word you find.
3. Repeat Steps 1 and 2 for Proof Paragraph 2 (the third paragraph) and the Conclusion (last paragraph).
4. After you have completed Steps 1–3, discuss with group members:
 - * “How did the author of the model essay use linking words to show the relationships between ideas?”
 - * “How does the use of linking words enhance the readability or flow of the essay?”



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 12

End of Unit Assessment: On-Demand

Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part I



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. (RI.5.3)

I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2)

- a. I can introduce a topic clearly, provide a general observation and focus, and group related information logically.

I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4)

Supporting Learning Targets

- I can explain the relationship between society and the invention of television.
- I can determine the meaning of unknown words using a variety of strategies.
- I can identify the parts of an introductory paragraph about the invention of television.

Ongoing Assessment

- Independent Reading Choice Board response
- End of Unit 2 Assessment, On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1

Agenda

1. Opening
 - A. Homework Review (5 minutes)
 - B. Reviewing Learning Targets and Engaging the Writer (5 minutes)
2. Work Time
 - A. End of Unit 3 Assessment, Part 1 (45 minutes)
3. Closing and Assessment
 - A. Debrief (5 minutes)
4. Homework
 - A. Independent reading and response.

Teaching Notes

- In this lesson, students complete Part 1 of the end of unit assessment by reading excerpts from the article, "Television," answering a series of text-dependent questions, and identifying the parts of an introductory paragraph about the invention of television.
- Part 1 of this assessment actually serves as a reading assessment. It is also preparation for Part 2 (in Lesson 13), during which students actually write their on-demand informational essay, (using the Painted Essay structure) about the invention of the television.
- In advance, read the article "Television" and review the end of unit 3 assessment.
- Post: Learning targets.



Lesson Vocabulary	Materials
explain, relationship, society, unknown, determine, meaning, variety, strategies, identify, introductory paragraph	<ul style="list-style-type: none">• Parts of a Painted Essay anchor chart (from Lesson 9)• "Television" article (one per student)• End of Unit 2 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1 (one per student)• End of Unit 2 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1 (answers, for teacher reference)• Journals (begun in Unit 1, Lesson 1)• Independent Reading Choice Board (from Lesson 4)

Opening	Meeting Students' Needs
<p>A. Homework Review (5 minutes)</p> <ul style="list-style-type: none">• Ask students to partner up with a peer who is not a member of their regular group, then briefly discuss:<ul style="list-style-type: none">* "What is one strength of the essay you wrote about the invention of basketball? Explain."* "What is one area of your essay that you would like to improve? Why?"• After 2 or 3 minutes, invite a few students to share out whole group. Answers will vary, but listen for them to make specific reference to parts of a Painted Essay and linking words.	<ul style="list-style-type: none">• Provide copies of the learning targets for students to underline and capture notes on to help provide access to peer discussions about the targets, especially when students are putting them into their own words.



Opening	Meeting Students' Needs
<p>B. Reviewing Learning Targets and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none"> • Introduce the learning targets by reading them aloud or asking volunteers to read them aloud. <ul style="list-style-type: none"> * "I can explain the relationship between society and the invention of television." * "I can determine the meaning of unknown words using a variety of strategies." * "I can identify the parts of an introductory paragraph about the invention of television." • Ask students to identify at least one word they think might be important or that is new to them. • Give them adequate time to review the targets and identify their words, and then have them turn to a neighbor to share their three words and why they chose them. • Invite partners to share out words. Ask them to generate short definitions or synonyms for these words and record them above or below the words in the target. Supplement the discussion as needed to draw students' attention to the following: <ul style="list-style-type: none"> <i>explain</i> – make clear <i>relationship</i> – connection <i>society</i> – the general public, civilization <i>determine</i> – decide, find out <i>meaning</i> – definition, what something means <i>unknown</i> – not known (prefix <i>-un</i> = not) <i>variety</i> – different <i>strategies</i> – ways to solve a problem; tools used to help determine meaning <i>identify</i> – locate and name <i>introductory paragraph</i> – the first paragraph of an essay; includes the introduction, thesis, and points • Tell students they will take the End of Unit 2 Assessment today to demonstrate their understanding of the relationships between people and ideas, how to determine the meaning of key terms using multiple strategies, and how the parts of the introductory paragraph fit together to establish a plan for the rest of the essay. 	



Work Time	Meeting Students' Needs
<p>A. End of Unit 2 Assessment, Part 1 (45 minutes)</p> <ul style="list-style-type: none">• Ensure that all students have located their book, articles, and note-catchers from previous lessons:<ul style="list-style-type: none">– The Boy Who Invented TV: The Story of Philo Farnsworth,– The Invention of Television note-catcher,– “TV Turns On” article, and– How Television Changed People's Lives note-catcher.• Direct students' attention to where the Parts of a Painted Essay anchor chart is, for reference during the assessment.• Distribute the “Television” article and End of Unit 2 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1.• Read the directions and questions on the assessment aloud, and then tell students they will have 40 minutes to read “How Television Changed the World” and complete the questions on the assessment.• Give students 40 minutes to work independently. Circulate to supervise, but because this is a formal, on-demand assessment, do not provide support other than formally approved accommodations.• If students finish their assessment early, they should read independently or complete the glossaries in their journals if they have not been able to fill in all four columns for each key term from previous lessons.• After 40 minutes, collect the assessments.	<ul style="list-style-type: none">• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.• ELLs receive extended time as an accommodation on New York State assessments.• Consider providing smaller chunks of text (sometimes just a few sentences) and a modified assessment with fewer questions for struggling students.



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief (5 minutes)</p> <ul style="list-style-type: none">• Ask students to turn and talk:<ul style="list-style-type: none">* "Explain one positive and one negative impact television has had on society, according to the article."• Cold call a few pairs to share their thoughts. Listen for them to notice that television has changed education and lifestyles.• Tell students they will take Part 2 of the assessment in the next lesson, during which they will write a complete four-paragraph essay about Philo Farnsworth's invention of television.	<ul style="list-style-type: none">• Offer and display sentence starters to allow all students to access the debrief response ("One positive impact television had was ..." and "One negative impact television had was ...").
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Continue reading your independent reading book for at least 30 minutes and respond to one of the questions on your Independent Reading Choice Board.	



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 12

Supporting Materials



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“Television” (excerpts)

Name:

Date:

Effects of television.

In many countries, television ranks as a major influence on life. It affects the way people spend their time and what and how they learn.

Effects on leisure time.

Throughout the industrialized world, watching television is one of the most time-consuming leisure activities among adults. Some critics say that television viewing takes time away from other activities, such as reading, conversation, social gatherings, and exercise.

Effects on learning and perception.

Television can contribute greatly to what viewers learn. It may benefit people by widening their experience. On the other hand, TV also may contribute to harmful impressions of the world.

Enriched experience.

No communication system has ever provided so many people with as wide a range of new experiences as television has. Without leaving their homes, TV viewers can watch government officials perform important functions. They can see how people in far-off lands look and live. Television takes viewers to deserts, jungles, and the ocean floor. A TV viewer can see how a famous actor performs the role of Hamlet, and how top comedians draw laughter. Television gives its viewers a glimpse of real-life tragedy, such as when it covers the victims of war, natural disasters, and poverty. It also captures moments of great triumph, such as when astronauts first set foot on the moon.



“Television” (excerpts)

Harmful impressions.

Many social scientists believe that people will likely form false impressions from watching a great deal of television. One of these impressions is that many people are better off than they are. Another is that the world is an unfriendly place, filled with untrustworthy people and risky circumstances.

Television programs often show people leading more glamorous lives and owning more material goods than most viewers. In addition, TV commercials constantly urge viewers to buy things. Many sociologists believe that as a result, the material expectations of TV viewers are raised, sometimes to an unrealistic level.

Some social scientists claim that television violence encourages some viewers to believe the world is a more violent place than it actually is. As a result, some people may become overly suspicious and fearful of others. But other scholars point out that storytelling throughout history has often featured tales of struggle, violence, and revenge.



End of Unit 2 Assessment: On-Demand Informational Writing:

Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1

Long-Term Learning Targets:

I can explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. (RI.5.3)

I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2)

a. I can introduce a topic clearly, provide a general observation and focus, and group related information logically.

I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4)

Directions

- Read the article "Television."
- Consider the gist of the article. What is it mostly about?
- Skim the assessment questions below.
- Reread the text in chunks to help you think about the answers to the assessment questions.
- Answer short-response questions in complete sentences.
- Be sure to cite evidence from the text to support your thinking.

1. In the second paragraph, the author states, "...watching television is one of the most time-consuming leisure activities among adults."

Part A: What does the term *time-consuming* mean in this sentence?

- A. Boring
- B. Takes up a lot of time
- C. Doesn't last very long

Part B: Which of these sentences from the article helped you determine the meaning of this word?

- A. "In many countries, television ranks as a major influence on life."
- B. "Some critics say that television viewing takes time away from other activities, such as reading, conversation, social gatherings, and exercise."
- C. "Television can contribute greatly to what viewers learn."



End of Unit 2 Assessment: On-Demand Informational Writing:

Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1

2. Read the dictionary definitions for the word *material* below and determine which is the correct definition based on how the word is used in the sixth paragraph of the article: "Television programs often show people leading more glamorous lives and owning more **material** goods than most viewers."
 - A. *material (adj)*: very important
 - B. *material (adj)*: describing things that people buy
 - C. *material (n)*: something used to make other things
3. In the sixth paragraph, the author states, "the material expectations of TV viewers are raised, sometimes to an **unrealistic** level."

Part A. Write a definition for the word *unrealistic*, on the line below.

Part B. What part(s) of the word *unrealistic* helped you determine the meaning of Part A? Explain.

4. According to the article, how has television improved people's lives?
 - A. Television gives people something to do in their free time.
 - B. Television contributes to what people are able to learn.
 - C. Television makes people think they are better off than they actually are.
 - D. Television encourages people to buy more material goods.



End of Unit 2 Assessment: On-Demand Informational Writing:

Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1

5. Planning for the on-demand essay: *Why Philo Farnsworth invented television, and how it changed people's lives*

Review each of the sentences below, then determine which part of the introductory paragraph about Philo Farnsworth's invention of TV each sentence is, and label it on the line next to each sentence. Use the codes below (in **bold**) to label each of the five sentences:

I/BGK - introduction/background knowledge (context) sentence

I/AG - introduction/attention-getter sentence

T - thesis sentence

Pts - points 1 and 2 sentence

_____ Television has been one of the greatest inventions of the 20th century!

_____ What started as an idea to connect people far and wide has become a piece of technology that we could hardly imagine living without.

_____ It was Philo Farnsworth who came up with a solution that he called an image dissector, which eventually became known as TV.

_____ In the early 1900s, many inventors were trying to develop some form of television.

_____ The invention of television has had a tremendous impact on the way we live.



End of Unit 2 Assessment: On-Demand Informational Writing:

Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part I
(Answers, for Teacher Reference)

Long-Term Learning Targets:

I can explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. (RI.5.3)
I can write informative/explanatory texts to examine a topic and convey ideas and information clearly. (W.5.2)

a. I can introduce a topic clearly, provide a general observation and focus, and group related information logically.

I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. (L.5.4)

Directions

- Read the article "Television."
 - Consider the gist of the article. What is it mostly about?
 - Skim the assessment questions below.
 - Reread the text in chunks to help you think about the answers to the assessment questions.
 - Answer short-response questions in complete sentences.
 - Be sure to cite evidence from the text to support your thinking.
1. In the second paragraph, the author states, "...watching television is one of the most ***time-consuming*** leisure activities among adults."

Part A: What does the term *time-consuming* mean in this sentence?

- A. Boring
- B. **Takes up a lot of time**
- C. Doesn't last very long

Part B: Which of these sentences from the article helped you determine the meaning of this word?

- A. "In many countries, television ranks as a major influence on life."
- B. **"Some critics say that television viewing takes time away from other activities, such as reading, conversation, social gatherings, and exercise."**
- C. "Television can contribute greatly to what viewers learn."



2. Read the dictionary definitions for the word *material* below and determine which is the correct definition based on how the word is used in the sixth paragraph of the article: “Television programs often show people leading more glamorous lives and owning more **material** goods than most viewers.”
- A. *material (adj)*: very important
- B. ***material (adj)*: describing things that people buy**
- C. *material (n)*: something used to make other things
3. In the sixth paragraph, the author states, “the material expectations of TV viewers are raised, sometimes to an **unrealistic** level.”

Part A. Write a definition for the word *unrealistic*, on the line below.

Not able to see things how they really are; not seeing what is real.

Part B. What part(s) of the word *unrealistic* helped you determine the meaning of Part A? Explain.

Un- means not, so unreal means not real/unrealistic means not seeing the reality/not seeing the way things really are.

4. According to the article, how has television improved people’s lives?
- A. Television gives people something to do in their free time.
- B. **Television contributes to what people are able to learn.**
- C. Television makes people think they are better off than they actually are.
- D. Television encourages people to buy more material goods.



End of Unit 2 Assessment: On-Demand Informational Writing:

Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part I
(Answers, for Teacher Reference)

5. Planning for the on-demand essay: *Why Philo Farnsworth invented television, and how it changed people's lives*

Review each of the sentences below, then determine which part of the introductory paragraph about Philo Farnsworth's invention of TV each sentence is, and label it on the line next to each sentence. Use the codes below (in **bold**) to label each of the five sentences:

I/BGK - introduction/background knowledge (context) sentence

I/AG - introduction/attention-getter sentence

T - thesis sentence

Pts - points 1 and 2 sentence

I/AG Television has been one of the greatest inventions of the 20th century!

Pts What started as an idea to connect people far and wide has become a piece of technology that we could hardly imagine living without.

I/BGK It was Philo Farnsworth who came up with a solution that he called an image dissector, which eventually became known as TV.

I/BGK In the early 1900s, many inventors were trying to develop some form of television.

T The invention of television has had a tremendous impact on the way we live.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 13

End of Unit On-Demand Informational Writing:

Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 2



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2)

- a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
- b. I can develop the topic with facts, definitions, details, and quotations.
- c. I can use linking words and phrases to connect ideas within categories of information (e.g., in contrast, especially).
- d. I can use precise, content-specific vocabulary to inform or explain about a topic.
- e. I can construct a concluding statement or section of an informative/explanatory text.

I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)

I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)

Supporting Learning Targets

- I can write an informational essay that explains why Philo Farnsworth invented TV and how it changed people's lives.
- I can draw upon evidence from the informational texts I've read about Philo Farnsworth and the invention of TV to support the ideas presented in my essay.
- I can reflect on my learning about Philo Farnsworth's invention of television and how it changed people's lives.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- End of Unit 2 Assessment: On-Demand Information Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 2
- Tracking My Progress, End of Unit 2 recording form



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Homework Review (2 minutes)Engaging the Writer (8 minutes)Work Time<ol style="list-style-type: none">End of Unit 2 Assessment, Part 2 (35 minutes)Tracking My Progress (10 minutes)Closing and Assessment<ol style="list-style-type: none">Debrief: Tracking My Progress (5 minutes)Homework<ol style="list-style-type: none">Independent reading.	<ul style="list-style-type: none">In this lesson, students complete Part 2 of the end of unit assessment by arranging sentences for the introductory paragraph and writing the final three paragraphs of their essays.In the Opening, display an uncut version of the introductory paragraph strips for students to refer to for the Back-to-Back and Face-to-Face protocol.To complete this task, students will need to refer to the notes in their journals, their completed graphic organizers, note-catchers, anchor charts, <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i>, and the article from Lesson 7, "TV Turns On." Each of these materials should be accessible to students throughout the lesson.Note that students complete their Tracking My Progress forms by reflecting on the three most key learning targets from <i>both</i> Parts 1 and 2 of the assessment. The targets chosen represent the most central concepts students have been working toward understanding, during the second half of this unit.In advance:<ul style="list-style-type: none">Review the Back-to-Back, Face-to-Face protocol (see Appendix).Review the end of unit assessment, Part 2.Cut apart the introductory paragraph strips (one set per student).Post: Learning targets.



Lesson Vocabulary	Materials
essay, explain, draw, evidence, support, reflect	<ul style="list-style-type: none">• Introductory paragraph strips (one full page, uncut, for display; one set per student, cut apart)• Document camera• Parts of a Painted Essay anchor chart (from Lesson 9)• Linking Words anchor chart (from Lesson 11)• Journals (begun in Unit 1, Lesson 1)• <i>The Boy Who Invented TV: The Story of Philo Farnsworth</i> (book; one per student)• The Invention of Television note-catcher (from Lesson 6)• "TV Turns On" (from Lesson 7)• How Television Changed People's Lives note-catcher (from Lesson 7)• "Television" article (from Lesson 12)• End of Unit 2 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1 (from Lesson 12; one per student)• End of Unit 3 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 2 (one per student)• Notes Chart (one per student)• Loose-leaf paper (1 or 2 sheets per student)• Tape, glue, or staplers (enough for each student to have access)• Informational Essay rubric (one per student)• Tracking My Progress, End of Unit 2 recording form (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review (2 minutes)</p> <ul style="list-style-type: none"> • Invite students to take out the response to their independent reading that they completed for homework. Ask them to turn to the person next to them and share the response they chose from their Independent Reading Choice Board. • After 1 minute, invite a few students to share their responses whole group. 	<ul style="list-style-type: none"> • Consider providing symbolic representation of key terms from the targets to support students' ability to restate the targets in their own words (e.g., a person talking for <i>explain</i>; taking objects out of a bag for <i>draw</i>; one thing holding up another for <i>support</i>, etc.). • Display the Back-to-Back, Face-to-Face prompts for student reference.
<p>B. Engaging the Writer (8 minutes)</p> <ul style="list-style-type: none"> • Display the learning targets and ask students to join you in reading them aloud: <ul style="list-style-type: none"> * "I can write an informational essay that explains why Philo Farnsworth invented TV and how it changed people's lives." * "I can draw upon evidence from the informational texts I've read about Philo Farnsworth and the invention of TV to support the ideas presented in my essay." * "I can reflect on my learning about Philo Farnsworth's invention of television and how it changed people's lives." • Invite volunteers to restate the targets in their own words, replacing key vocabulary with synonyms that make sense to them. Listen for and support students to generate accurate synonyms: <p><i>essay</i> – multi-paragraph piece of writing</p> <p><i>draw</i> – pull from, use</p> <p><i>support</i> – back up, reinforce</p> • Display an uncut version of the introductory paragraph strips under the document camera for student reference. Tell students that they will now play a brief game of Back-to-Back, Face-to-Face as a warm-up exercise using these sentences from the introductory paragraph from Part 1 of the end of unit assessment. • Encourage students to choose a different partner for each round. 	



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• When students have had adequate time to safely mingle around the room, announce: "Back-to-back."• When all students are paired up, offer the first question:<ul style="list-style-type: none">* "Which sentence is the attention-getter, and why do you think so?"• Give students a moment to refer to the displayed sentences to decide their answer, then announce: "Face-to-face."• Allow students time to share their thinking with their partner and invite a volunteer to share out. Listen for:<ul style="list-style-type: none">– "Television has been one of the greatest inventions of the 20th century!" is the attention-getter because it's a bold statement that causes readers to think about whether they agree."• Repeat this same process for the following questions. Remind students to pair up with a different partner each time.<ul style="list-style-type: none">* "What two sentences give background information or context? How do you know?"* "What sentence is the thesis? How do you know?"* "What are the two points?"• Listen for students to name the following and provide reasonable justification for their thinking:<ul style="list-style-type: none">– Background knowledge and context – "It was Philo Farnsworth who came up with a solution that he called an image dissector, which eventually became known as TV" and "In the early 1900s, many inventors were trying to develop some form."– Thesis – "The invention of television has had a tremendous impact on the way we live."– Two points – "What started as an idea to connect people far and wide (point #1) has become a piece of technology that we could hardly imagine living without (point #2)."	



Work Time	Meeting Students' Needs
<p>A. End of Unit 2 Assessment, Part 2 (35 minutes)</p> <ul style="list-style-type: none">• Display the Parts of a Painted Essay anchor chart and Linking Words anchor chart. Be sure students have their materials from previous lessons:<ul style="list-style-type: none">– journals,– <i>The Boy Who Invented TV: The Story of Philo Farnsworth,</i>– The Invention of Television note-catcher,– “TV Turns On” article,– How Television Changed People's Lives note-catcher,– “Television” article– End of Unit 2 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 1• Distribute new materials:<ul style="list-style-type: none">– End of Unit 2 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 2,– introductory paragraph strips,– notes chart,– loose-leaf paper, and– tape, glue, or staplers.• Ask students to scan the assessment. Then read through the directions together. Point out that this will be a four-paragraph essay. Direct them to focus on the Criteria for Success. Note that this is a multistep process: their first step is to arrange and paste the introductory paragraph strips in a logical order on the top of one piece of their paper. Next, they write their two proof paragraphs and a conclusion paragraph, including linking words that demonstrate the relationship between ideas.• Distribute and review the Informational Essay rubric, which students can use to assess the quality of their writing and revise as needed. Address any clarifying questions.	<ul style="list-style-type: none">• To support students with physical impairments that affect their ability to write, offer access to assistive technology, a computer with word processing, or a scribe.• To support students who struggle with organization or managing materials, offer introductory paragraph strips uncut and allow them to number them instead of arranging them in order.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">Allow students 30 minutes to write. They should do their best in the time they have and refer to their resources for support. Since this is an on-demand assessment, do not provide support other than formally approved accommodations. After 30 minutes, thank students and collect their work.	
<p>B. Tracking My Progress (10 minutes)</p> <ul style="list-style-type: none">Distribute the prompt Tracking My Progress, End of Unit 2 recording form. Encourage students to take their time and offer thoughtful reflections on each target. Remind them that some targets are from Part 1 of the assessment from the previous lesson.Tell students they have 10 minutes to complete the self-assessment and be prepared to share with the group during the debrief.	<ul style="list-style-type: none">Offer to scribe for students who have difficulty with the physical act of writing to be sure to capture meaningful reflections on each target.
Closing and Assessment	Meeting Students' Needs
<p>A. Debrief: Tracking My Progress (5 minutes)</p> <ul style="list-style-type: none">Congratulate students on completing their four-paragraph essay about Philo Farnsworth's invention and how it changed people's lives.Pair students up. Ask them to share the reflections on their Tracking My Progress recording form.Invite several students to share out with the whole group.Collect students' end of unit assessments and Tracking My Progress forms for review.	<ul style="list-style-type: none">Provide a sentence starter to give all students access to the conversation with a peer ("On the first target, I circled.... The evidence I have to support that is ...").
Homework	Meeting Students' Needs
<ul style="list-style-type: none">Continue reading your independent reading book and respond to the final question on your choice board.Be prepared to reflect on your independent reading choice for this unit in the next lesson, to help you choose a new independent reading book.	<ul style="list-style-type: none">Allow students to dictate their response to someone at home to act as scribe.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 2: Lesson 13

Supporting Materials



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End of Unit 2 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 2

Long-Term Learning Targets Assessed:

I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2)

- a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
- b. I can develop the topic with facts, definitions, details, and quotations.
- c. I can use linking words and phrases to connect ideas within categories of information (e.g., in contrast, especially).
- d. I can use precise, content-specific vocabulary to inform or explain about a topic.
- e. I can construct a concluding statement or section of an informative/explanatory text.

I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)

I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)

Directions:

1. Arrange your introductory paragraph strips in the order you think makes the most sense to introduce your essay about *why* Philo Farnsworth invented television and *how* it has changed people's lives.
2. Paste the introductory paragraph strips at the top of your loose-leaf paper to create an introductory paragraph for your essay that includes:
 - a. An introduction that grabs the reader's attention and provides background knowledge (context) about the topic of your essay
 - b. A thesis
 - c. Two points
3. Select the evidence and reasons you will use to support Point 1 and Point 2 from your notes. Organize these on the "Notes Chart" provided.
4. Below your introductory paragraph, write Proof Paragraph 1 to support point 1 with reasons and evidence from the texts you have read and your notes.
5. Below Proof Paragraph 1, write Proof Paragraph 2 to support point 2 with reasons and evidence from the texts you have read and your notes.



End of Unit 2 Assessment: On-Demand Informational Writing: Philo Farnsworth's Invention of the Television and How It Changed People's Lives, Part 2

6. Write a conclusion paragraph for your essay that explains the “What?” and “So What?” of your essay.
7. Check your work against the Criteria for an Essay and make revisions as needed.



Introductory Paragraph Strips

In the early 1900s, many inventors were trying to invent some form of television

Television has been one of the greatest inventions of the 20th century!

It was Philo Farnsworth who came up with a solution that he called an image dissector, which eventually became known as TV.

What started as an idea to connect people far and wide has become a piece of technology that we could hardly imagine living without.

The invention of television has had a tremendous impact on the way we live.



Notes Chart

Evidence and reasons that support Point 1	Evidence and reasons that support Point 2



Informational Essay Rubric

Criteria	4	3	2	1	0
CONTENT AND ANALYSIS: the extent to which the essay conveys ideas and information clearly and accurately in order to support an analysis of topics or texts	<p>___clearly introduce a topic in a manner that follows logically from the task and purpose</p> <p>___demonstrate insightful comprehension and analysis of the text(s)</p>	<p>___clearly introduce a topic in a manner that follows from the task and purpose</p> <p>___demonstrate grade-appropriate comprehension and analysis of the text(s)</p>	<p>___introduce a topic in a manner that follows generally from the task and purpose</p> <p>___demonstrate a literal comprehension of the text(s)</p>	<p>___Introduce a topic in a manner that does not logically follow from the task and purpose</p> <p>___demonstrate little understanding of the text(s)</p>	<p>___demonstrate a lack of comprehension of the text(s) or task</p>
COMMAND OF EVIDENCE: the extent to which the essay presents evidence from the provided texts to support analysis and reflection	<p>___develop the focus with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples from the text(s)</p> <p>___sustain the use of varied, relevant evidence</p>	<p>___develop the focus with relevant facts, definitions, details, quotations, or other information and examples from the text(s)</p> <p>___sustain the use of relevant evidence, with some lack of variety</p>	<p>___partially develop the focus of the essay with the use of some textual evidence, some of which may be irrelevant</p> <p>___use relevant evidence inconsistently</p>	<p>___demonstrate an attempt to use evidence, but only develop ideas with minimal, occasional evidence that is generally invalid or irrelevant</p>	<p>___provide no evidence or provide evidence that is completely irrelevant</p>



Informational Essay Rubric

Criteria	4	3	2	1	0
COHERENCE, ORGANIZATION, AND STYLE: the extent to which the essay logically organizes complex ideas, concepts, and information using formal style and precise language	<p>___exhibit clear, purposeful organization/exhibit use of all parts of the Painted Essay structure</p> <p>___skillfully link ideas using grade- appropriate words and phrases</p> <p>___use grade-appropriate, stylistically sophisticated language and domain-specific vocabulary</p> <p>___provide a concluding statement that follows clearly from the focus and points presented</p>	<p>___exhibit clear organization</p> <p>___link ideas using grade-appropriate words and phrases</p> <p>___use grade-appropriate, precise language and domain-specific vocabulary</p> <p>___provide a concluding statement that follows from the focus and points presented</p>	<p>___exhibit some attempt at organization</p> <p>___inconsistently link ideas using words and phrases</p> <p>___inconsistently use appropriate language and domain-specific vocabulary</p> <p>___provide a concluding statement that follows generally from the focus and points presented</p>	<p>___exhibit little attempt at organization, or attempts to organize are irrelevant to the task</p> <p>___lack the use of linking words and phrases</p> <p>___use language that is imprecise or inappropriate for the text(s) and task</p> <p>___provide a concluding statement that is illogical or unrelated to the topic and information presented</p>	<p>___exhibit no evidence of organization</p> <p>___exhibit no use of linking words and phrases</p> <p>___use language that is predominantly incoherent or copied directly from the text(s)</p> <p>___do not provide a concluding statement</p>
CONTROL OF CONVENTIONS: the extent to which the essay demonstrates command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling	<p>___demonstrate grade-appropriate command of conventions, with few errors</p>	<p>___demonstrate grade-appropriate command of conventions, with occasional errors that do not hinder comprehension</p>	<p>___demonstrate emerging command of conventions, with some errors that may hinder comprehension</p>	<p>___demonstrate a lack of command of conventions, with frequent errors that hinder comprehension</p>	<p>___are minimal, making assessment of conventions unreliable</p>



Tracking My Progress, End of Unit 2

Name: _____

Date: _____

Learning Target: I can explain the relationship between society and the invention of television.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to
learn this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, End of Unit 2

Name: _____

Date: _____

Learning Target: I can write an informational essay that explains why Philo Farnsworth Invented TV and how it changed people's lives.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to
learn this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, End of Unit 2

Name: _____

Date: _____

Learning Target: I can draw upon evidence from the informational texts I've read about Philo Farnsworth and the invention of TV to support the ideas presented in my essay.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to
learn this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



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Grade 5: Module 2B: Unit 3: Overview



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Unit 3: Researching Inventions That Changed People's Lives and Teaching through Graphic Novels

In this third unit, students will return to the genre of the graphic novel, reviewing the elements that make this type of work uniquely suited to conveying an author's complex ideas in an engaging format. Then they will work within expert groups to conduct research on one of two inventions that changed people's lives: the traffic signal (invented by Garrett A. Morgan) or the airplane (invented by the Wright brothers). Students will read short pieces of challenging informational text and be guided through the process of paraphrasing and note-taking to gather information. The mid-unit assessment will gauge students' mastery of note-taking skills: They will read, respond to questions, and take notes on one of two unfamiliar informational texts either about the invention of the traffic signal or the airplane. For the end of unit assessment, students will use the notes they took during the first part of the unit as well as the mid-unit assessment to create a storyboard about their invention, including why the invention was wanted or needed, who invented it, when and where it was invented, how it solved a problem, and the ways in which it changed people's lives.

To complete the unit, students will teach others what they have learned by writing in the graphic novel style (which intentionally blends aspects of informative and narrative writing) to depict and explain why the traffic signal or airplane was invented and how it changed people's lives. Students will revise and edit the storyboards they created for the end of unit assessment, then create a graphic novelette with four sections that describe why the invention was needed; background information about the inventor(s); the process the inventor(s) used to develop a solution; and how the invention changed people's lives. For the final performance task, students will read and present their graphic novelettes to a small group of their peers. This research-based performance task centers on **NYSP12 ELA Standards RI.5.1, RI.5.4, RI.5.9, L.5.3, L.5.4, W.5.2, W.5.3, W.5.4, W.5.5, W.5.6, W.5.7, and W.5.8.**

Guiding Questions and Big Ideas

- *Text structure and visual elements can support our understanding of complex ideas.*
- *New or improved technologies are developed to meet societal demands.*
- **How do new or improved technologies meet societal needs?**
- **How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?**



Mid-Unit 3 Assessment	<p>On-Demand Note-Taking and Text-Dependent Questions: “Garrett Augustus Morgan” or “How Did We Learn to Fly?”</p> <p>This assessment centers on NYSP12 ELA CCLS RI.5.1, RI.5.4, RI.5.7, W.5.7, and W.5.8. For this assessment, students read and take notes on an unfamiliar text related to the invention they have studied in the first half of the unit, Garrett A. Morgan’s traffic signal or the Wright brothers’ airplane. After taking notes about why the invention was needed, the inventor(s), the process for developing the invention, and how the invention changed people’s lives, students will respond to multiple-choice and short-answer questions to demonstrate their understanding of how to use details from the text to explain and make inferences, determine the meaning of new terms from context, and use several resources to answer a question quickly.</p>
End of Unit 3 Assessment	<p>Text-Dependent Questions and Story Board Draft: “You Can Do a Graphic Novel” Excerpt</p> <p>This assessment centers on NYSP12 ELA CCLS RI.5.1, RI.5.4, RI.5.9, W.5.2, W.5.3a and b, W.5.4, and W.5.8. For the end of unit assessment, students will read excerpts from the guide “You Can Do a Graphic Novel,” then answer multiple-choice and short constructed response questions about the text. Then, students create storyboards as a draft for the creation of their graphic novels. Students complete four storyboard templates with information from their notes about the invention and inventor they studied in the first part of the unit (Garrett A. Morgan’s traffic signal or the Wright brothers’ airplane) to establish a plan for the graphic novelette they will write for the final performance task. Students are asked to include details about the need for the invention, the history of the inventor(s), the process the inventor(s) used to develop a solution that met people’s needs, and how the invention changed people’s lives.</p>



Content Connections

This module is designed to address English language arts standards as students read literature and informational text about inventions that have been developed to meet societal needs. However, the module intentionally incorporates scientific practices and themes to support potential interdisciplinary connections to this compelling content.

These intentional connections are described below.

NYS Science Standard 1: Analysis, Inquiry, and Design: Engineering Design

Key Idea 1:

Engineering design is an iterative process involving modeling and optimization (finding the best solution within given constraints); this process is used to develop technological solutions to problems within given constraints.

T1.1 Identify needs and opportunities for technical solutions from an investigation of situations of general or social interest.

T1.1a Identify a scientific or human need that is subject to a technological solution that applies scientific principles.

T1.2 Locate and utilize a range of printed, electronic, and human information resources to obtain ideas.

T1.2a Use all available information systems for a preliminary search that addresses the need.

Next Generation Science Standards: 3–5 Engineering Design

ETS1.B: Developing Possible Solutions

- Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (3-5-ETS1-2)
- At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. (3-5-ETS1-2)
- Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved. (3-5-ETS1-3)



Central Texts

1. Paula Morrow, "Garrett Morgan: Inventor Hero," in *Ask* magazine (February 2008), 19–21.
2. "Transportation, from the Soap Box Derby to the Jeep: First Automatic Traffic Signal," Ohio Academy of Sciences, <http://www.heartlandscience.org/trans/signal.htm>.
3. David White, "The Twofold Genius of Garrett Morgan," Social Studies for Kids, <http://www.socialstudiesforkids.com/articles/ushistory/garrettmorgan.htm>.
4. "Garrett Augustus Morgan," excerpts, Enchanted Learning, <http://www.enchantedlearning.com/inventors/page/m/morgan.shtml>.
5. "Airplane," excerpts, *the New Book of Knowledge*, Grolier Online, 2013.
6. Shashank Nakate, "Invention of the Airplane," excerpts, <http://www.buzzle.com/articles/invention-of-the-airplane.html>.
7. Kate Reuther, "Inventing the Plane," Scholastic Teacher, 2014.
8. "How Did We Learn to Fly Like the Birds?" excerpts, NASA, <http://www.grc.nasa.gov/WWW/k-12/UEET/StudentSite/historyofflight.html>.



This unit is approximately 3 weeks or 17 sessions of instruction.

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 1	Reviewing Visual Elements of a Graphic Novel: <i>Max Axiom</i>	<ul style="list-style-type: none"> I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7) I can recognize, interpret, and make connections in narratives, poetry, and drama to other texts, ideas, cultural perspectives, eras, personal events, and situations. (RL.5.11) <ol style="list-style-type: none"> I can self-select texts to develop personal preferences regarding favorite authors. I can use established criteria to categorize, select texts, and assess to make informed judgments about the quality of the pieces. 	<ul style="list-style-type: none"> I can make observations and ask questions during a Tea Party about inventions that have been developed to meet societal demands. I can analyze how the visual elements in <i>Max Axiom</i> contribute to my understanding of the steps Max takes to solve a problem. I can use established criteria to select an appropriate text for independent reading. 	<ul style="list-style-type: none"> Visual Element note-catcher Reflection in Journal Independent Reading Criteria Self-Assessment 	<ul style="list-style-type: none"> Tea Party protocol
Lesson 2	Expert Research Groups: How the Traffic Signal and Airplane Met Society's Needs, Part 1	<ul style="list-style-type: none"> I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7) I can gather relevant data from print and digital sources; I can summarize or paraphrase information in notes and finished work. (W.5.8) I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of general academic and domain-specific words. (RI.5.4) 	<ul style="list-style-type: none"> I can conduct research to take notes about how an invention was developed to meet society's needs. I can explain what people needed and how their needs were met, using quotes from the text. I can determine the meaning of unfamiliar words and phrases by using context clues and other strategies. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) Expert Text graphic organizer Vocabulary task cards 	<ul style="list-style-type: none"> Expert Text anchor chart Group Norms anchor chart Quote/Paraphrase anchor chart



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 3	Expert Research Groups: How the Traffic Signal and Airplane Met Society's Needs, Part 2	<ul style="list-style-type: none"> I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7) I can gather relevant data from print and digital sources; I can summarize or paraphrase information in notes and finished work. (W.5.8) I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of general academic and domain-specific words. (RI.5.4) 	<ul style="list-style-type: none"> I can conduct research to take notes about how an invention was developed to meet society's needs. I can explain what people needed and how their needs were met, using quotes from the text. I can determine the meaning of unfamiliar words and phrases by using context clues and other strategies. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) Expert Text note-catcher: The Airplane (airplane expert groups) Invention of the Traffic Signal note-catcher (traffic signal expert groups) Vocabulary cards (from homework) 	<ul style="list-style-type: none"> Expert Text anchor chart Vocabulary Strategies anchor chart Group Norms anchor chart



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 4	Expert Research Groups: How the Traffic Signal and Airplane Met Society's Needs, Part 3	<ul style="list-style-type: none"> I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7) I can gather relevant data from print and digital sources; I can summarize or paraphrase information in notes and finished work. (W.5.8) I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of general academic and domain-specific words. (RI.5.4) I can draw on information from multiple print sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (RI.5.7) 	<ul style="list-style-type: none"> I can conduct research to take notes about how an invention was developed to meet society's needs. I can explain what people needed and how their needs were met, using quotes from the text. I can answer a question quickly, drawing on information from multiple sources. 	<ul style="list-style-type: none"> Graphic Novel Sketch, Part 1 (from homework) Expert Text note-catcher: Traffic Signal (airplane expert groups) Invention of the Airplane note-catcher (airplane, expert groups) Answering Question from Multiple Sources handout 	<ul style="list-style-type: none"> Group Norms anchor chart Expert Text anchor chart Vocabulary Strategies anchor chart Locating Answers Quickly anchor chart Gallery Walk protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 5	Mid-Unit Assessment: On-Demand Note-taking and Text-Dependent Questions	<ul style="list-style-type: none">• I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7)• I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1)• I can determine the meaning of general academic and domain-specific words. (RI.5.4)• I can draw on information from multiple print sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (RL.5.7)• I can paraphrase information in notes and finished work. (W.5.8)	<ul style="list-style-type: none">• I can conduct research to take notes about how an invention was developed to meet society's needs.• I can explain what people needed and how their needs were met, using quotes from the text.• I can answer a question quickly, drawing on information from multiple sources.• I can determine the meaning of unfamiliar words and phrases from context.	<ul style="list-style-type: none">• Graphic Novel Sketch, Part 2 (from homework)• Mid-Unit Assessment A or B• Tracking My Progress Mid-Unit 3 recording form	



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 6	Summarizing Notes: Planning a Graphic Novelette Part 1: <i>The Invention of Television</i>	<ul style="list-style-type: none"> I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can introduce a topic clearly, provide a general observation and focus, and group related information logically. I can write narratives to develop real experiences using effective technique, descriptive details, and clear event sequences. (W.5.3) <ul style="list-style-type: none"> I can orient the reader by establishing a situation and introducing characters. I can use narrative techniques such as dialogue to develop experiences and events. I can summarize information in notes and finished work. (W.5.8) I can use knowledge of language and its conventions when writing. (L.5.3) <ul style="list-style-type: none"> I can compare and contrast the varieties of English used in stories. 	<ul style="list-style-type: none"> I can explain what life was like before television by summarizing my notes on a storyboard. I can explain how people's needs inspired the development of television and how people's needs were met, by using narrative techniques, including dialogue. I can introduce the character who invented television by including descriptive details. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) Storyboard, Section 1 charts 	<ul style="list-style-type: none"> Independent Reading Criteria anchor chart



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 7	Summarizing Notes: Planning a Graphic Novelette, Part II: The Invention of Television	<ul style="list-style-type: none"> I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RL.5.9) I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can develop the topic with facts, definitions, details, quotations, or other related information. I can link ideas within and across categories of information using words, phrases, and clauses. I can summarize information in notes and finished work. (W.5.8) 	<ul style="list-style-type: none"> I can explain Philo Farnsworth's background by summarizing my notes on a storyboard. I can explain how Philo Farnsworth developed television by summarizing my notes on a storyboard. I can connect the ideas on my three storyboards by using linking words and phrases. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) Homework Task Card: Unit 3, Lesson 6 (from homework) Storyboard, Section 2 Chart: Background on the Inventor Storyboard, Section 3 Chart: Information about the Process and Solution 	<ul style="list-style-type: none"> Linking Words anchor chart
Lesson 8	Summarizing Notes: Planning a Graphic Novelette, Part III: The Invention of Television	<ul style="list-style-type: none"> I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RL.5.9) I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can include illustrations to aid comprehension. I can use precise language and domain-specific vocabulary to explain a topic. I can provide a concluding section related to the information presented. I can summarize information in notes and finished work. (W.5.8) 	<ul style="list-style-type: none"> I can explain how television changed people's lives by summarizing my notes on a storyboard. I can support readers' comprehension of the information on my storyboard by including illustrations. I can use precise language and scientific vocabulary to explain the invention of television. 	<ul style="list-style-type: none"> Homework Task Card: Unit 3, Lesson 7: Brainstorming Visual Elements (from homework) Storyboard, Section 4 Chart: How Television Changed People's Lives 	<ul style="list-style-type: none"> Quiz, Quiz, Trade protocol Praise-Question-Suggest protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 9	End of Unit Assessment, Part 1: Text-Dependent Questions and Storyboard Draft: "You Can Do a Graphic Novel" Excerpt	<ul style="list-style-type: none"> I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1) I can determine the meaning of general academic and domain-specific words. (RI.5.4) I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RI.5.9) I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can introduce a topic clearly, provide a general observation and focus, and group related information logically. I can include illustration to aid comprehension. I can link ideas within and across categories of information using words, phrases, and clauses. I can use precise language and domain-specific vocabulary to explain a topic. I can write narratives to develop real experiences using effective technique, descriptive details, and clear event sequence. (W.5.3) 	<ul style="list-style-type: none"> I can determine the meaning of unfamiliar words, using context clues and other strategies. I can explain how to create a graphic novel, using evidence from the text. I can summarize information about why people wanted or needed an invention in the caption box of my storyboard Splash Page. I can describe what people needed or wanted and how their needs were met, using dialogue in my storyboard Splash Page. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) End of Unit Assessment, Part 1, A: Text-Dependent Questions End of Unit Assessment, Part 1, B: Storyboard, Section 1 	<ul style="list-style-type: none"> Vocabulary Strategies anchor chart Linking Words anchor chart Chalk Talk protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 9, continued		<ul style="list-style-type: none">a. I can orient the reader by establishing a situation and introducing characters.b. I can use narrative techniques such as dialogues to develop experiences and events.• I can produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (W.5.4)• I can summarize information in notes and finished work. (W.5.8)			



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 10	End of Unit Assessment, Part II: Storyboard Draft, Sections 2 and 3	<ul style="list-style-type: none"> I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RI.5.9) I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can include illustrations to aid comprehension. I can develop the topic with facts, definitions, details, quotations, or other related information. I can link ideas within and across categories of information using words, phrases, and clauses. I can use precise language and domain-specific vocabulary to explain a topic. I can produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (W.5.4) I can summarize information in notes and finished work. (W.5.8) 	<ul style="list-style-type: none"> I can summarize information about the inventor's background in the caption box of my Storyboard, Section 2, I can summarize information about the process for developing an invention in the caption box of my Storyboard, Section 3. I can support readers' understanding of the key ideas on my storyboards by adding visual elements that emphasize important details. 	<ul style="list-style-type: none"> Homework: Unit 3, Lesson 9 (from homework) Independent Reading Choice Board response (from homework) End of Unit Assessment, Part II, A: Storyboard, Section 2 End of Unit Assessment, Part II, B: Storyboard, Section 3 	<ul style="list-style-type: none"> Linking Words anchor chart Peer Critique protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 11	End of Unit Assessment, Part III: Storyboard Draft, Section 4	<ul style="list-style-type: none"> I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RI.5.9) I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2) <ul style="list-style-type: none"> I can include illustrations to aid comprehension. I can link ideas within and across categories of information using words, phrases, and clauses. I can use precise language and domain-specific vocabulary to explain a topic, I can provide a concluding section related to the information presented. I can summarize information in notes and finished work. (W.5.8) I can use knowledge of language and its conventions when writing. (L.5.3) <ul style="list-style-type: none"> I can expand, combine, and reduce sentences for meaning, reader/listener interest, and style. 	<ul style="list-style-type: none"> I can edit a storyboard caption to address readers' understanding and interest by expanding combining, or reducing sentences for meaning and style. I can summarize information about how an invention met society's needs in the caption box of my Storyboard, Section 4. I can reflect on my learning about how to make a plan for a graphic novelette. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) Homework: Unit 3, Lesson 10 (from homework) Edited storyboard caption End of Unit Assessment, Part III: Storyboard, Section 4 Tracking My Progress, End of Unit 3 recording form 	<ul style="list-style-type: none"> Linking Words anchor chart Back-to-Back, Face-to-Face protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 12	Peer Critique and Revision: Storyboard, Sections 1-4	<ul style="list-style-type: none"> I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) With support from peers and adults, I can use a writing process to produce clear and coherent writing. (W.5.5) I can follow our class norms when I participate in a conversation. (SL.5.1) 	<ul style="list-style-type: none"> I can follow our group norms when working with partners to give and receive feedback. I can use feedback from peers to revise my storyboards to better meet the criteria. 	<ul style="list-style-type: none"> Independent Reading Choice Board response (from homework) End of Unit 3 Assessment: Storyboards (1-4) revised Storyboard Criteria for Success form Group Norms checklist 	<ul style="list-style-type: none"> Group Norms anchor chart Peer Critique protocol Four Corners protocol Gallery Walk protocol
Lesson 13	Storyboard Revision: Managing the Sequence of Events and Using Sensory Details	<ul style="list-style-type: none"> I can write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (W.5.3) <ul style="list-style-type: none"> I can use a variety of transitional words, phrases, and clauses to manage the sequences of events. I can use concrete words and phrases and sensory details to convey experiences and events precisely. With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5) 	<ul style="list-style-type: none"> I can use a variety of transitional words and phrases to manage the sequence of events in my storyboard drafts. I can use sensory details to convey experiences and events precisely in my storyboard drafts. 	<ul style="list-style-type: none"> Storyboard revisions (from homework) Independent Reading Choice Board response (from homework) End of Unit Assessment Storyboards (1-4) revised 	<ul style="list-style-type: none"> Narrative Transitions anchor chart



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 14	Creating a Graphic Novelette and Peer Critique: Section 1	<ul style="list-style-type: none"> I can write narratives to develop real experiences using effective technique, descriptive details, and clear event sequence. (W.5.3) <ol style="list-style-type: none"> I can orient the reader by establishing a situation and introducing characters. I can use narrative techniques such as dialogue to develop experiences and events. With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5) I can use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others. (W.5.6) I can follow our class norms when I participate in a conversation. (SL.5.1) 	<ul style="list-style-type: none"> I can create and label pages for my graphic novelette. I can plan Section 1 of my graphic novelette based on criteria from the Graphic Novelette rubric. I can follow our group norms when working with partners to give and receive feedback. 	<ul style="list-style-type: none"> Graphic Novelette: Section 1 Peer Critique based on Graphic Novelette: Section 1 	<ul style="list-style-type: none"> Group Norms anchor chart Peer Critique protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 15	Creating a Graphic Novelette and Peer Critique: Sections 2, 3, and 4	<ul style="list-style-type: none"> I can write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (W.5.3) <ul style="list-style-type: none"> a. I can organize an event sequence that unfolds naturally. e. I can provide a conclusion that follows from the narrated experiences or events. With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting or trying a new approach. (W.5.5) I can use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others. (W.5.6) I can follow our class norms when I participate in a conversation. (SL.5.1) 	<ul style="list-style-type: none"> I can plan Section 2 of my graphic novelette based on criteria from the Graphic Novelette rubric. I can plan Section 3 of my graphic novelette based on criteria from the Graphic Novelette rubric. I can plan Section 4 of my graphic novelette based on criteria from the Graphic Novelette rubric. 	<ul style="list-style-type: none"> Graphic Novelette: Sections 2,3, and 4 Peer critique based on Graphic Novelette rubric: Sections 2, 3 and 4 	<ul style="list-style-type: none"> Group Norms anchor chart Peer Critique protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 16	Creating a Graphic Novelette and Peer Critique: Glossary, Citations, and Table of Contents	<ul style="list-style-type: none">• I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)<ul style="list-style-type: none">d. I can use precise language and domain-specific vocabulary to explain a topic.• I can use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others. (W.5.6)• I can create a list of sources. (W.5.8)• I can follow our class norms when I participate in a conversation. (SL.5.1)	<ul style="list-style-type: none">• I can create an alphabetized glossary of academic and scientific key words for my graphic novelette.• I can create a citations page with a list of my sources for my graphic novelette.• I can create a table of contents for my graphic novelette.	<ul style="list-style-type: none">• Glossary page with key terms alphabetized• Citations page• Table of Contents page	<ul style="list-style-type: none">• Group Norms anchor chart• Peer Critique protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 17	Final Performance Task: Presenting Graphic Novelettes	<ul style="list-style-type: none"> • I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1) • I can determine the meaning of general academic and domain-specific words and phrases in a text relevant to a fifth-grade topic or subject area. (RI.5.4) • I can integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. (RI.5.9) • I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2) • I can write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (W.5.3) • I can produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (W.5.4) • With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5) • I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7) 	<ul style="list-style-type: none"> • I can create a cover for my graphic novelette based on the rubric criteria, then bind all the pages and cover together. • I can present my completed graphic novelette to peers in my triad. 	<ul style="list-style-type: none"> • Completed graphic novelette • Graphic Novelette presentations 	<ul style="list-style-type: none"> • Group Norms anchor chart



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 17, continued		<ul style="list-style-type: none">• I can recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work; and provide a list of sources. (W.5.8)• I can use knowledge of language and its conventions when writing, speaking, reading or listening. (L.5.3)<ul style="list-style-type: none">a. I can expand, combine, and reduce sentences for meaning, reader/listener interest and style. (L.5.3)b. I can compare and contrast the varieties of English used in stories, dramas, or poems.• I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4)			



Optional: Experts, Fieldwork, and Service

Experts:

- Invite graphic novelists or comic book writers and illustrators to speak with the class about how they develop their ideas.

Fieldwork:

- Arrange for students to visit a local library, comic book store, or bookstore with a large selection of graphic novels. In advance, contact an expert at the location you choose to determine effective ways to help students learn more about the graphic novel style of writing.

Service:

- Coordinate with a local library to have students read their graphic novelettes to children during a designated “story hour” for the purpose of educating younger kids about the invention of the traffic signal or airplane.

Optional: Extensions

- Allow students to add additional pages and sections to their graphic novelettes.
- Arrange for students to display and/or share their novelettes with students in lower grades.
- During science instruction, go into more depth regarding what motivates inventors (see note below).



Preparation and Materials

As noted in the Module overview, released along with this module is a stand-alone document titled **Foundational Reading and Language Standards Resources Package for Grades 3–5**. This resource package is designed to give teachers resources and guidance for addressing the CCSS foundational reading and language ELA standards. The package cites example lessons within the modules in which these standards are addressed. It also includes resources for literacy instruction that occurs alongside the modules.

These resources will be referenced throughout Module 2B, when opportunities exist for connecting and differentiating instruction in the lessons. Before launching this module, review the Foundational Reading and Language Standards Resources Package for Grades 3–5 and determine how your current GRAIR time aligns with these resources.

For grade 5 specifically, review the Show the Rule™ Strategy (aligned with CCLS L.5.1, 2, and 3) in advance of Unit 3, as this unit provides opportunities for language work with students. See the specific Show the Rule™ example lesson, which describes a week-long instructional sequence for teaching students about conjunctions. This lesson sequence, and similar lessons designed by teachers, would happen alongside Unit 3, during the Additional Literacy Block.

This unit includes a number of steps for the completion of students’ graphic novelettes.

Review the Performance Task, as well as Lessons 14-16, before launching this unit. Determine whether you will have students use Option A, which requires the use of technology and helps to address Standard W.5.6, or Option B, which does not require the use of technology.

Also consider following the steps described in those lessons for how to create a graphic novelette to make your own model graphic novelette and become familiar with the steps involved, so you are able to effectively guide students in their work. Consider coordinating with a media specialist, technology teacher, and/or art instructor to support students in the creation of their graphic novelettes and to provide additional opportunities and time for students to complete each element of their novelettes.

In Lessons 6 onward, students use highlighters as a part of their process for creating their storyboards. Prepare a class set of each of these four colors: yellow, orange, blue, and green.

See also the **Graphic Novelette model**, below, for teacher reference.

Note: In this unit, students focus on determining information about how either the invention of the traffic signal or the invention of the airplane met the needs of society. This question intentionally aligns to 5th Grade Next Generation Science Standards, related to Engineering. However, it is important to recognize that not all scientists develop new or improved technologies to meet the needs of society; rather, they have an internal motivation to bring their ideas to fruition without considering or even realizing how their inventions/innovations will be used by society. Consider going more deeply into this concept with students during science instruction. This module is intended to connect to, but not replace, science instruction.



Philo Farnsworth's Invention of Television

Table of Contents



By: S. Dalrymple



Table of Contents

Section 1: Why TV Was Invented ...p. 1

Section 2: Philo's Early Years ...p. 3

Section 3: Philo's Amazing Invention ...p. 5

Section 4: How TV Changed People's Lives ...p. 7

Glossary ...p. 9

Citations ...p. 10



Section 1: Why TV Was Invented



I wish we had something more fun to do than work and sit around picking dead grass out of the lawn. I want to see something more interesting.

People wanted an invention like the television for entertainment and communication. People who lived on farms before the television was invented did not have very many things to do for fun. It was also hard for them to learn about things happening far away because travel and mail were very slow.

1



ed

I'm Philo Farnsworth. I invented television because I thought it would be a fun way to bring people together. Let me take you back in time to tell you about how I became motivated to invent TV.



2



Section 2: Philo's Early Years



Philo Farnsworth grew up on a farm in Utah that did not have electricity. Even when he was very young, Philo was curious and was always asking questions. When he moved to a house in Idaho with electricity, he started to learn more about the science of electricity. Philo wanted to be an inventor, and he believed that he could use electricity to develop a television that would bring people together.



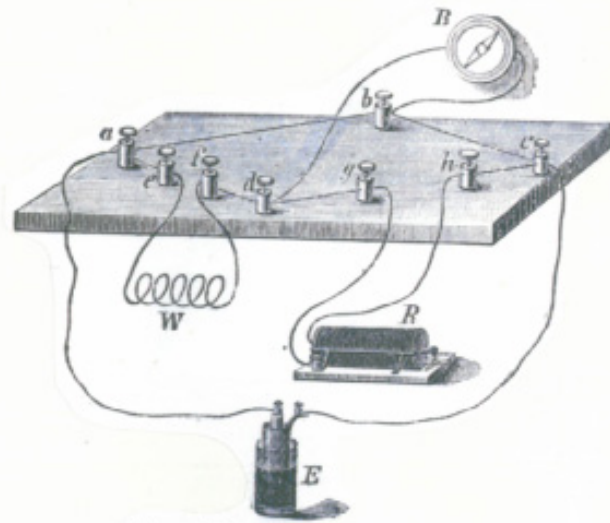
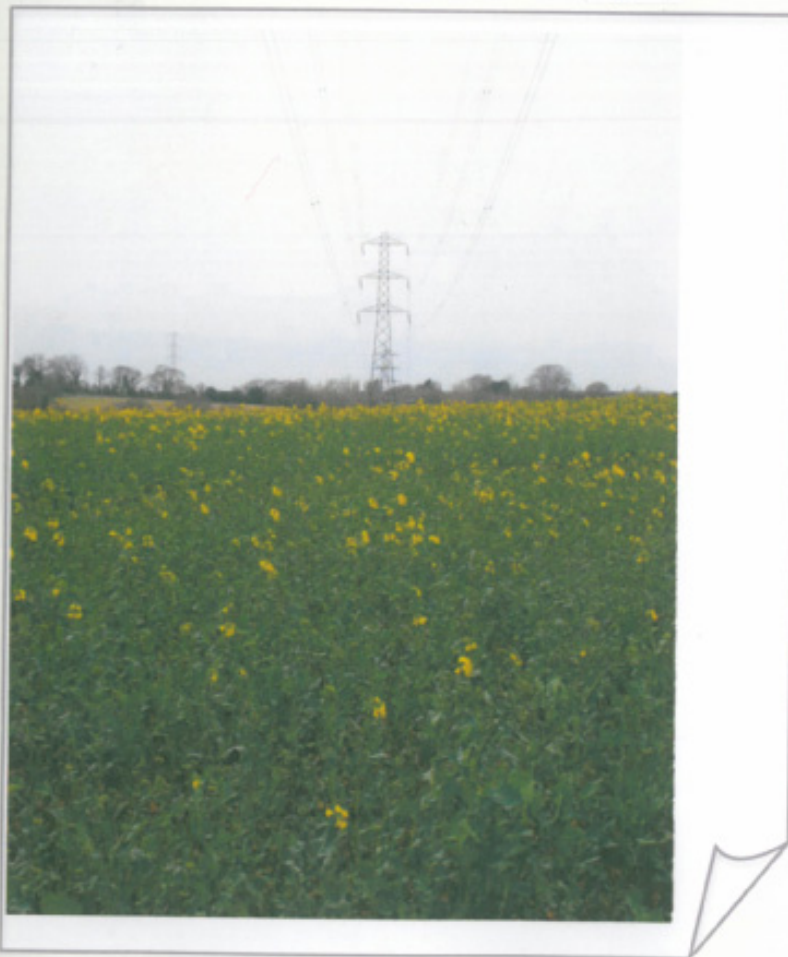


Fig. 118.





Section 3: Philo's Amazing Invention



After learning about electricity, Philo developed an idea for an image dissector camera. It could make a television work by transmitting parallel lines of light as electrons and then reassembling them on a television screen. He found some investors and spent a lot of time trying to make his invention work. Finally he succeeded and invented the television!





Electron: a very small particle of matter that has a negative charge of electricity and that travels around the nucleus of an atom.





Section 4: How TV Changed People's Lives

Let's see what's on TV!





Philo Farnsworth's television made it possible for people to learn about things that were happening all over the world because it allowed people to see them on a television screen. News and information spread very quickly. People all over the world could now watch events at the same time. The television changed the way people communicate.



Glossary

Television: (n.) an electronic device that receives and reproduces images and sounds.

Electricity: (n.) energy created by the movement of particles such as electrons, positrons and ions.

Electron: (n.) a very small particle of matter that has a negative charge of electricity and that travels around the nucleus of an atom.

Invented: (v.) created something new.

Communicate: (v.) share information; convey ideas.



Citations

Krull, Kathleen. *The Boy Who Invented TV: The Story of Philo Farnsworth.*

"The TV Guy," from <http://www.ilovehistory.utah.gov/people/difference/farnsworth.html>

"TV Turns On," from http://www.livinghistoryfarm.org/farminginthe40s/life_27.html

Hudson, Robert. "How Television Changed the World."



This is the story of how, as a young boy, Philo Farnsworth became fascinated with electricity and using it to develop what he called an "image dissector," but what we call "television." Philo eventually invented television, in the late 1920's, because he wanted people to be able to "share the same stories" and he believed TV could lead to world peace. Philo's invention drastically changed people's lives.





EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3:

Recommended Texts



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The list below includes texts with a range of Lexile® text measures about famous inventors and inventions that changed the way we live our lives. This provides appropriate independent reading for each student to help build content knowledge about the topic.

It is imperative that students read a high volume of texts at their reading level in order to continue building the academic vocabulary and fluency demanded by the CCLS.

Note that districts and schools should consider their own community standards when reviewing this list. Some texts in particular units or modules address emotionally difficult content.

Common Core Band Level Text Difficulty Ranges:

(As provided in the NYSED Passage Selection Guidelines for Assessing CCSS ELA)

- Grades 2–3: 420–820L
- Grades 4–5: 740–1010L
- Grades 6–8: 925–1185L

Where possible, texts in languages other than English are also provided. Texts are categorized into three Lexile measures that correspond to Common Core Bands: below grade band, within band, and above band. Note, however, that Lexile® measures are just one indicator of text complexity, and teachers must use their professional judgment and consider qualitative factors as well. For more information, see Appendix 1 of the Common Core State Standards.

Title	Author and Illustrator	Text Type	Lexile Measure
Lexile measures in grades 2–3 band level (below 740L)			
<i>Garrett Morgan, Inventor</i>	Garnet Jackson (author)	Informational	450*
<i>First Flight: The Story of Tom Tate and the Wright Brothers</i>	George Shea (author) Don Bolognese (illustrator)	Informational	460
<i>Eli Whitney and the Cotton Gin</i>	Jessica Gunderson (author) Gerry Acerno, Rodney Ramos, and Charles Barnett III (illustrators)	Informational	580
<i>The Mystery at Kill Devil Hills</i>	Carole Marsh (author)	Literature	670
<i>Garrett Morgan, Innovative Inventor</i>	Carole Marsh (author)	Informational	690

*Lexile based on a conversion from Accelerated Reading level.



Title	Author and Illustrator	Text Type	Lexile Measure
Lexile measures within band level (740L–1010L)			
<i>To Fly: The Story of the Wright Brothers</i>	Wendie C. Old (author)	Informational	780
<i>Race for the Sky: The Kitty Hawk Diaries of Johnny Moore</i>	Dan Gutman (author)	Literature	880
<i>What Color Is My World? The Lost History of the African American Inventor</i>	Kareem Abdul-Jabbar (author)	Informational	910*
<i>Girls Think of Everything</i>	Catherine Thimmesh (author)	Informational	960
<i>African American Scientists and Inventors</i>	Tish Davidson (author)	Informational	970
<i>Airborne: A Photobiography of Wilbur and Orville Wright</i>	Mary Collins (author)	Informational	980*

*Lexile based on a conversion from Accelerated Reading level.



Title	Author and Illustrator	Text Type	Title
Lexile measures above band level (over 1010L)			
<i>Inventing the Automobile</i>	Erinn Banting (author)	Informational	1025*
<i>Just Fine the Way They Are: From Dirt Roads to Railroads to Interstates</i>	Connie Wooldridge (author)	Informational	1030
<i>The Airplane</i>	Richard Spilsbury (author)	Informational	1060
<i>The Wright Brothers: How They Invented the Airplane</i>	Russell Freedman (author)	Informational	1160
<i>The Everything Guide to Writing Graphic Novels: From Superheroes to Manga—All You Need to Create and Sell Your Graphic Works</i>	Mark Ellis (author)	Informational	No LXL

*Lexile based on a conversion from Accelerated Reading level.

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EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 1

Reviewing Visual Elements of a Graphic Novel:

Max Axiom



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text. (RL.5.7)

I can recognize, interpret, and make connections in narratives, poetry, and drama to other texts, ideas, cultural perspectives, eras, personal events, and situations. (RL.5.11)

- a. I can self-select texts to develop personal preferences regarding favorite authors.
- b. I can use established criteria to categorize, select texts, and assess to make informed judgments about the quality of the pieces.

Supporting Learning Targets

- I can make observations and ask questions during a Tea Party about inventions that have been developed to meet societal demands.
- I can analyze how the visual elements in *Max Axiom* contribute to my understanding of the steps Max takes to solve a problem.
- I can use established criteria to select an appropriate text for independent reading.

Ongoing Assessment

- Visual Element note-catcher
- Reflection in Journal
- Independent Reading Criteria Self-Assessment



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Engaging the Reader: Revisiting the Guiding Questions (5 minutes)Work Time<ol style="list-style-type: none">Introducing the Performance Task: Writing a Graphic Novelette (15 minutes)Reviewing Visual Elements: <i>Max Axiom</i> (25 minutes)Selecting an Independent Reading Text (10 minutes)Closing and Assessment<ol style="list-style-type: none">Debrief and Review Learning Targets (5 minutes)Homework<ol style="list-style-type: none">Fluency practice and independent reading.	<ul style="list-style-type: none">In this lesson, students are introduced to the performance task: writing a graphic novelette about an invention that changed people's lives, either Garrett Morgan's traffic signal or the Wright brothers' airplane.Students participate in a Tea Party protocol to analyze images and text related to the airplane and the traffic signal, two inventions that were developed to meet the demands of society. These two inventions will serve as research topics, about which students will build expertise throughout the unit. During this lesson, students indicate which invention they would prefer to learn about. Take their preferences into account as you determine expert group triads before Lesson 2. (See the Teaching Note at the end of this lesson, below the Homework section.)Students then review visual elements found in the graphic novel <i>Max Axiom</i> (from Unit 1) to reinforce their learning about how authors use these elements to support readers' understanding of complex ideas. Prompt students to begin thinking about how they might include a variety of visual elements in their own graphic novelettes.Students are also asked to choose a new independent reading text based on specific criteria as well as the reflections they recorded in the center square of the Independent Reading Choice Boards from Units 1 and 2.In advance:<ul style="list-style-type: none">Review the Tea Party protocol (see Appendix). Note that the Tea Party protocol used in this lesson is a variation of the protocol posted in the Appendix. Review Work Time A so that you can clearly explain the modified protocol to students and offer support as needed.Prepare the Tea Party images and text, making sure that at least two students have the same image or piece of text (see the supporting materials).Review the Performance Task Invitation (see Supporting Materials.)Prepare and tape the Visual Elements Cards under students' seats (see the supporting materials and review Work Time B).Prepare a selection of independent reading choices from the Recommended Texts List for this unit.As needed, review the Visual Elements of a Graphic Novel reference page (from Unit 1, Lesson 1) about visual elements found in a graphic novel.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">• Post: Learning targets.

Lesson Vocabulary	Materials
novelette, make observations, ask questions, analyze, visual elements, contribute, quotes, explicitly, inferences, established, criteria, appropriate, expert, research	<ul style="list-style-type: none">• Chart paper (one piece; to record big ideas)• Tea Party cards (one per student, with at least two students receiving the same card)• Performance Task Invitation (one to display)• Index cards (one per student)• Visual element cards (one per student)• Journals (begun in Unit 1, Lesson 1; one per student)• <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> (book; from Unit 1; one per student)• Sticky notes (three per student)• Visual Element note-catcher (one per student)• Visual Elements task card (one per student)• Independent Reading Criteria Self-Assessment (one per student)• Independent reading texts (various)• Independent Reading Choice Board (one per student)



Opening	Meeting Students' Needs
<p>A. Engaging the Reader: Revisiting the Guiding Questions (5 minutes)</p> <ul style="list-style-type: none"> Recognize students for their thoughtful and cooperative work throughout Units 1 and 2 and congratulate them on their ability to craft a well-organized, informative Painted Essay about how Philo Farnsworth's invention of television changed people's lives. Then, explain that today's lesson marks the beginning of the third and final unit of this module. Say something like: <ul style="list-style-type: none"> * "Today you will learn more about the criteria for the performance task you will complete during this unit and revisit your understandings about the types of visual elements found in graphic novels. But first let's take some time to reflect on the questions that will continue to guide our work." Ask students to read the first guiding question aloud with you: <ul style="list-style-type: none"> * "How do authors structure text and use visual elements to engage and support readers' understanding of complex ideas?" Remind students that this guiding question helped focus their work during Unit 1. Then ask them to consider and discuss with a partner: <ul style="list-style-type: none"> * "How did our work with the graphic novel about Max Axiom in Unit 1 help you understand the way authors use structure and visual elements to support a reader's understanding of the process Max used to solve a problem for society?" After 1 or 2 minutes, invite a few students to share their thinking. Listen for responses such as: <ul style="list-style-type: none"> – "We learned that authors sometimes structure their book by breaking it up into sections. This makes it easier to understand complex ideas because you can focus on ideas in smaller chunks." – "We analyzed the way the authors and illustrators of <i>Max Axiom</i>, Donald B. Lemke, Tod Smith, and Al Milgrom, used visual elements such as thought and speech bubbles, colors, close-up images, information boxes, diagrams, and so forth to help us understand what Max did to solve the mayor's problem." Ask students to consider and discuss with a nearby partner what they think one of the big ideas of this module might be, based on their work with this guiding question during Unit 1. After 1 or 2 minutes, invite several students to share their thinking whole group. Listen for: <ul style="list-style-type: none"> – I think a big idea might be that authors use structure and visual elements to help readers understand complex ideas." Ask students to read the second guiding question aloud with you: <ul style="list-style-type: none"> * "How do new or improved technologies meet societal needs?" 	<ul style="list-style-type: none"> To give all students access to the discussion, offer sentence frames: <p>"When we studied the graphic novel in Unit 1, I understood authors use structure to _____ and visual elements to _____," "I think one of the big ideas of this module might be _____ because _____," and "_____ is an invention we learned about that met a societal need by _____."</p> Display the word <i>novelette</i> and a student-friendly definition to support all students, especially ELLs.



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Remind them that this guiding question focused their work during Unit 2. Then prompt them to consider and discuss with a partner:<ul style="list-style-type: none">– “Explain how one of the inventions we have learned about met the needs of society.”• After 1 or 2 minutes, invite a few students to share. Listen for:<ul style="list-style-type: none">– “The TV gave people a new form of entertainment and made it easier for them to learn about and explore things that were happening far away.”– “The electric motor was invented because people needed an affordable, reliable way to generate electricity. It met people’s needs because it led to the development of things like power plants, refrigerators, and washing machines.”– “The windshield wiper and paper bag machine made people’s lives safer and easier.”– “Basketball was invented so people would have a sport to play indoors during the winter. It provided them with entertainment and exercise.”• Ask students to consider and discuss what they believe the second big idea for this module may be.• After 1 or 2 minutes, cold call several students to share their thinking whole class. Listen for:<ul style="list-style-type: none">– “I think the second big idea could be that new or improved technologies are developed to meet people’s needs.”• Synthesize students’ thinking to record the big ideas of this module on chart paper:<ul style="list-style-type: none">– “Text structure and visual elements can support our understanding of complex ideas.”– “New or improved technologies are developed to meet societal demands.”• Students should refer to these big ideas throughout the unit to help focus their thinking on how to create their own graphic novelettes about how an invention was developed to meet societal demands.• Write the word <i>novelette</i> where all students can see. Ask them to use their vocabulary strategies to think about what this word might mean. Encourage them to recognize and discuss parts of the word they already know with a nearby partner.• After 1 minute, invite a few students to share their thinking whole group. Listen for ideas such as:<ul style="list-style-type: none">– “I know the word <i>novel</i> means a story. I think the last part of the word, <i>-ette</i>, means small. Therefore, a graphic novelette is probably a small version of a graphic novel.” If students are not able to determine the meaning of this word, define it for them.	



Work Time	Meeting Students' Needs
<p>A. Introducing the Performance Task: Writing a Graphic Novelette (15 minutes)</p> <ul style="list-style-type: none">• Direct students' attention to the posted learning targets and ask them to read the first one aloud together:<ul style="list-style-type: none">* "I can make observations and ask questions during a Tea Party about inventions that have been developed to meet societal demands."• Ask students to Think-Pair-Share what it means to <i>make observations</i> and <i>ask questions</i>.• After 1 minute, invite a few students to share their thinking aloud with the class. Listen for:<ul style="list-style-type: none">– "<i>Make observations</i> means to notice (and discuss) specific details about something."– "We <i>ask questions</i> about things we don't understand or wonder about."• Then tell students they will participate in a new activity called the Tea Party protocol to make observations and ask questions about two inventions that were developed to meet the demands of society.• Explain that each student will receive a card with a quote, phrase, or image about an invention that was developed to meet people's needs. Distribute the Tea Party cards. (Make sure at least two students receive the same card.)• Give directions to prepare for the Tea Party:<ol style="list-style-type: none">1. On your own, review the text or image on your card.2. Then think about an observation or question about the text or image that you would like to discuss with a partner.3. Write your observation or question on the back of your card.• Give students 3 or 4 minutes to read their cards and record an observation or question.	<ul style="list-style-type: none">• Provide a sentence starter for the Think-Pair-Share: "Making observations means _____ and asking questions means _____."• To support students who struggle with the physical act of writing, offer to scribe their observations or wonders on the back of their Tea Party cards.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> Next, give directions for the Tea Party: Tell students that they will mingle around the room, reading to each other and sharing observations and questions. <ol style="list-style-type: none"> First find the person who has the same text or image. Then discuss your observations and/or questions (2 or 3 minutes). Next, find a partner who has a different text or image related to the <i>same invention</i> that is on your card. Discuss your observations and/or questions (2 or 3 minutes). Finally, meet with at least one other peer who has text or an image about a <i>different invention</i> than the one on your card. Discuss your observations and/or questions (2 or 3 minutes). Once students have met with at least three peers, ask them to return to their seats and turn and talk with a nearby classmate: <ul style="list-style-type: none"> * “What observations or questions did you have about the text and images related to these inventions?” Ask several students to share out their observations or questions (ideas will vary, but listen for them to make specific references to the Tea Party quotes, phrases, and details from images.) Collect students' Tea Party cards, and then explain that they will begin working in expert groups during the next lesson. One set of expert groups will focus on learning about the Wright brothers' invention of the airplane, and the other expert groups will focus on Garrett Morgan's invention of the traffic signal. Each group will conduct research and use the information they collect to create a graphic novelette about how the airplane or the traffic light met the needs of society. Tell students that their graphic novelettes will need to include information about what people needed, how the invention was developed to meet people's needs, and how the invention changed people's lives, as well as a variety of the visual elements found in a graphic novel. Display the Performance Task Invitation, to help ground students' learning for this unit. Ask students to read the invitation aloud with you then tell students to consider and discuss with a nearby partner: How could you describe this task, in your own words? After 1 minute, invite a few students to share their ideas whole group. Distribute an index card to each student. Ask students to consider the Performance Task Invitation as well as the tea party images and text they found most interesting, and then indicate on their index card which invention and inventor they would prefer to learn and write a graphic novelette about. 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • It is important to clarify that their preferences will be taken into consideration, but not all students will be able to have their choice. • Give students 1 minute to write their name on one side of their index cards then record their preference on the other side. • Collect students' index cards. 	
<p>B. Reviewing Visual Elements: <i>Max Axiom</i> (25 minutes)</p> <ul style="list-style-type: none"> • Explain that during this part of Work Time, students will work with peers in larger groups to consider and discuss what they recall about the ideas presented in the graphic novel about <i>Max Axiom</i>. • Direct students to look under their chairs for a visual element card. Explain that this card indicates which group they will work with for today. • Ask students to quickly collect their journals and books, <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> and move to join classmates who have the same visual element cards. • Write these questions where all students can see them: <ul style="list-style-type: none"> * "What problem does Max Axiom need to solve?" * "How is Max going to solve the problem?" • Distribute three sticky notes to each student. • Ask students to work in their groups to review the Splash Page, pages 4 and 5 of <i>Max Axiom</i>, and use their sticky notes to flag the details and visual elements that help them answer these questions. • After 2 or 3 minutes, cold call several students to share their thinking whole class. Encourage them to refer to specific details and visual elements that helped them answer the question. Listen for responses such as: <ul style="list-style-type: none"> – "The problem is that the city might flood during the rainy season, and they need to build a levee from a material that can keep the rainwater out. The detail on the Splash Page that helped me understand this is a close-up picture of the mayor's eye showing that she is really worried. In the text, she is asking Max for help to build a levee using local materials to protect the city from flooding." – "Max is going to use a scientific process to find a solution to the problem. I know this because on page 5, he says he is going to solve the problem 'the scientific way,' and then there is a close-up image of his tablet showing steps of the scientific method that he will use." 	<ul style="list-style-type: none"> • Consider directing students to reread Section 1 of <i>Max Axiom</i> with group members before answering the questions. • As students share out the thinking they did with their groups, display the Splash Page under the document camera and point to elements as they are discussed. • To help all students have access to the discussion, offer a sentence frame: "Max's solution met the needs of the people by _____."



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask groups to discuss:<ul style="list-style-type: none">* “What can you infer about how Max Axiom’s solution met the needs of society?”• After 1 or 2 minutes, cold call several students to share out whole class. Listen for:<ul style="list-style-type: none">– “Max Axiom’s solution probably helped people in the city stay safe because if the city had flooded, people could have been trapped and injured.”– “His solution probably changed people’s lives by protecting their homes and belongings. If the river had flooded the city, their things could have been damaged.”• Direct students’ attention back to the posted learning targets and read the second one aloud:<ul style="list-style-type: none">* “I can analyze how the visual elements in <i>Max Axiom</i> contribute to my understanding of the steps Max takes to solve a problem.”• Draw students’ attention to the terms <i>analyze</i>, <i>visual elements</i>, and <i>contribute</i>. Review definitions if necessary.• Invite a few students to restate the learning target in their own words.• Tell students that revisiting how visual elements can support readers’ understanding of a complex idea, such as how Max Axiom uses a “process” to solve a problem, will support their ability to infuse various visual elements into their own graphic novelettes in a meaningful way.• Then say something like:<ul style="list-style-type: none">* “You and your group members will become the class experts on your visual element. You will work together to analyze how your visual element contributes to readers’ understanding of the ideas presented in <i>Max Axiom</i>.”• Distribute the Visual Element note-catcher and Visual Elements task card.• Read the task card directions aloud to students then answer any clarifying questions. When students are ready, ask them to begin and circulate to probe students’ thinking and offer guidance.• As students work, consider asking questions such as:<ul style="list-style-type: none">* “Why do you think the author chose to use your visual element in this way?”* “How does this example of your visual element help you understand what Max is doing to solve the problem?”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • After 8 to 10 minutes, refocus students whole class. • Cold call students from each group to share how their visual element adds to their understanding of the process Max Axiom uses to solve a problem. Responses will vary, but encourage students to explain their thinking by referring to specific pages and examples from the text. • Reiterate to students that as they begin developing their own graphic novelettes, they should think about how they can incorporate visual elements that will support their readers' understanding of the ideas they are trying to convey. 	
<p>C. Selecting an Independent Reading Text (10 minutes)</p> <ul style="list-style-type: none"> • Tell students they will now select a new independent reading text for this unit. • Read the final learning target aloud: <ul style="list-style-type: none"> * "I can use established criteria to select an appropriate text for independent reading." • Draw students' attention to the terms <i>established</i> and <i>criteria</i>, which have been discussed in previous lessons. Review definitions as needed. • Distribute the Independent Reading Criteria Self-Assessment. • Ask students to refer to this document as they consider, then discuss with a nearby partner: <ul style="list-style-type: none"> * "What does it mean for an independent reading text to be <i>appropriate</i>?" • After 1 or 2 minutes, cold call a few students to share their thinking whole class. Listen for responses such as: <ul style="list-style-type: none"> – "An appropriate independent reading text is one that is interesting to you." – "An appropriate independent reading book is a book that is challenging but that you can still understand." • Give students 1 or 2 minutes to reflect on their previous independent reading choices by completing the first column on the Independent Reading Criteria Self-Assessment. • Give them 5 or 6 minutes to reflect on the criteria and select a new independent reading text from the choices available. • Once students have selected a new text, ask them to complete the second column on the Independent Reading Criteria Self-Assessment. 	<ul style="list-style-type: none"> • Offer a sentence frame to provide ELLs access to the independent reading discussion: "An independent reading text is appropriate when _____." • Offer a peer, aide, or yourself as a scribe for students who struggle with the physical act of writing when filling in their independent reading self-assessment.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Have students share their book selection and reflection with a classmate. Ask partners to also consider and discuss:<ul style="list-style-type: none">* “Why do you think the book you selected is an appropriate independent reading choice for you?”• As time allows, cold call several students to share their thinking whole class.• Distribute the Independent Reading Choice Board. Review the directions and prompts/questions in each box, as needed.	
Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Direct students to:<ol style="list-style-type: none">1. Set aside their new independent reading books and choice boards.2. Gather their journals and <i>Max Axiom</i> books and quickly find and sit with a partner who was <i>not</i> in their visual element group during today's lesson.• Ask partners to consider and discuss:<ul style="list-style-type: none">* “How do the visual elements in <i>Max Axiom</i> support your understanding of the ideas presented in the text?”• After 1 or 2 minutes, cold call several students to share their thinking aloud. Encourage them to use specific examples from the text to explain their thinking. Listen for ideas such as:<ul style="list-style-type: none">– “The images in <i>Max Axiom</i> helped me understand the process Max used to solve a problem for the mayor. For example, the image of the tablet on page 5 clearly outlines the steps he will use to solve the problem, and the images of the library helped me understand what Max meant when he said you have to gather information.”• Give students 1 minute to record their response to the reflection question on a clean page in their journal.• Read each of the learning targets aloud and ask students to use Fist-to-Five to demonstrate their progress toward each one.• For students who are showing only one or two fingers, consider pulling a small group for a review of Unit 1 content before Lesson 6.	<ul style="list-style-type: none">• Offer a sentence frame to support ELLs in the discussion: “The visual elements in <i>Max Axiom</i> support my understanding of _____. For example, _____.”• Consider providing access to a word processor for students who struggle with the physical act of writing to capture their response to the reflection question.



Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read independently for at least 30 minutes. Complete one box on your new Independent Reading Choice Board.• Choose one page from the graphic novel <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> to practice reading aloud with fluency (focus on “Accuracy” and “Expression and Tone”). Be prepared to read this page aloud to group members during the Opening of the next lesson. <p><i>Note: Before the start of Lesson 2, determine heterogeneous groups of three for students to work in throughout this third unit of the module. Expert group triads will study either the Wright brothers' invention of the airplane (airplane expert groups) or Garrett Morgan's invention of the traffic signal (traffic signal expert groups). Final selection of groups should take student preferences from the Tea Party into account; however, do note that the texts selected for the airplane expert groups have a higher level of complexity than the texts about the traffic signal.</i></p>	<ul style="list-style-type: none">• Consider providing struggling readers with access to a Phonics Phone to practice with at home and return the next day. This will help them hear their articulation more clearly to more accurately self-assess their fluency.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 1

Supporting Materials

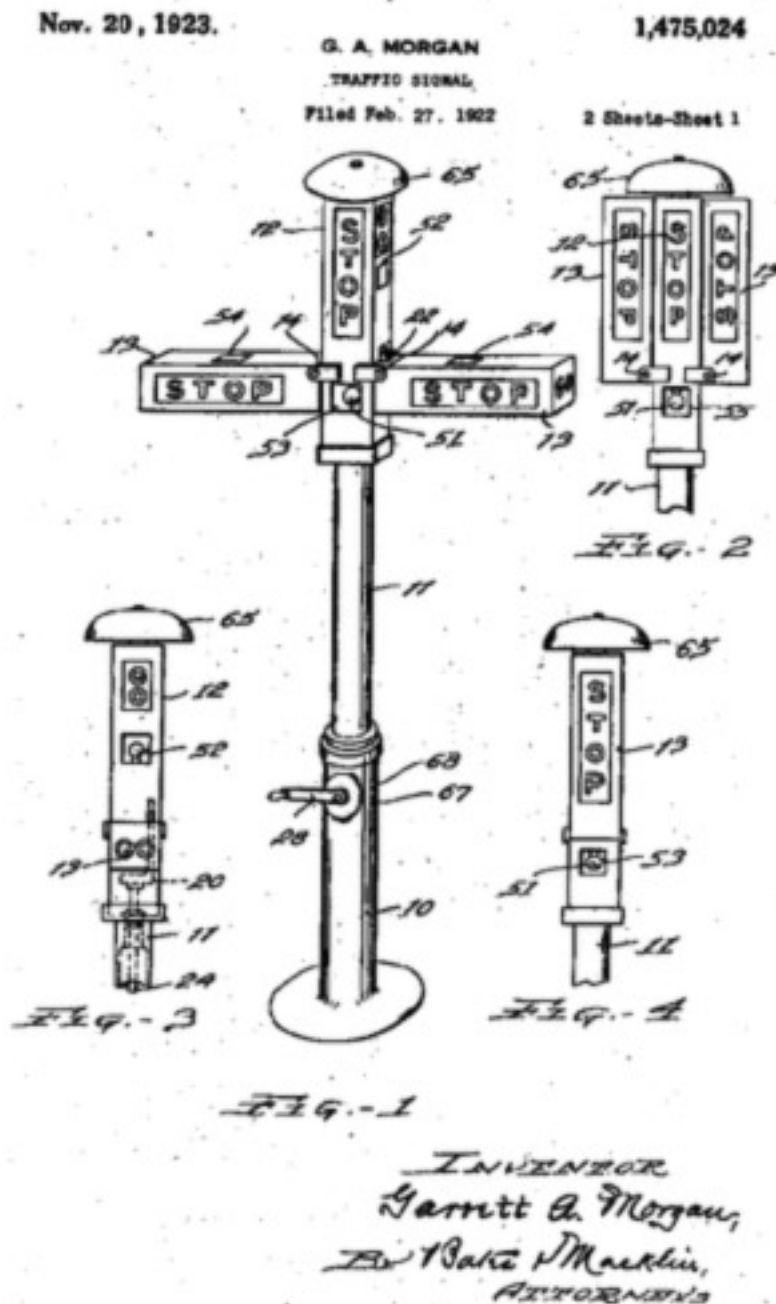


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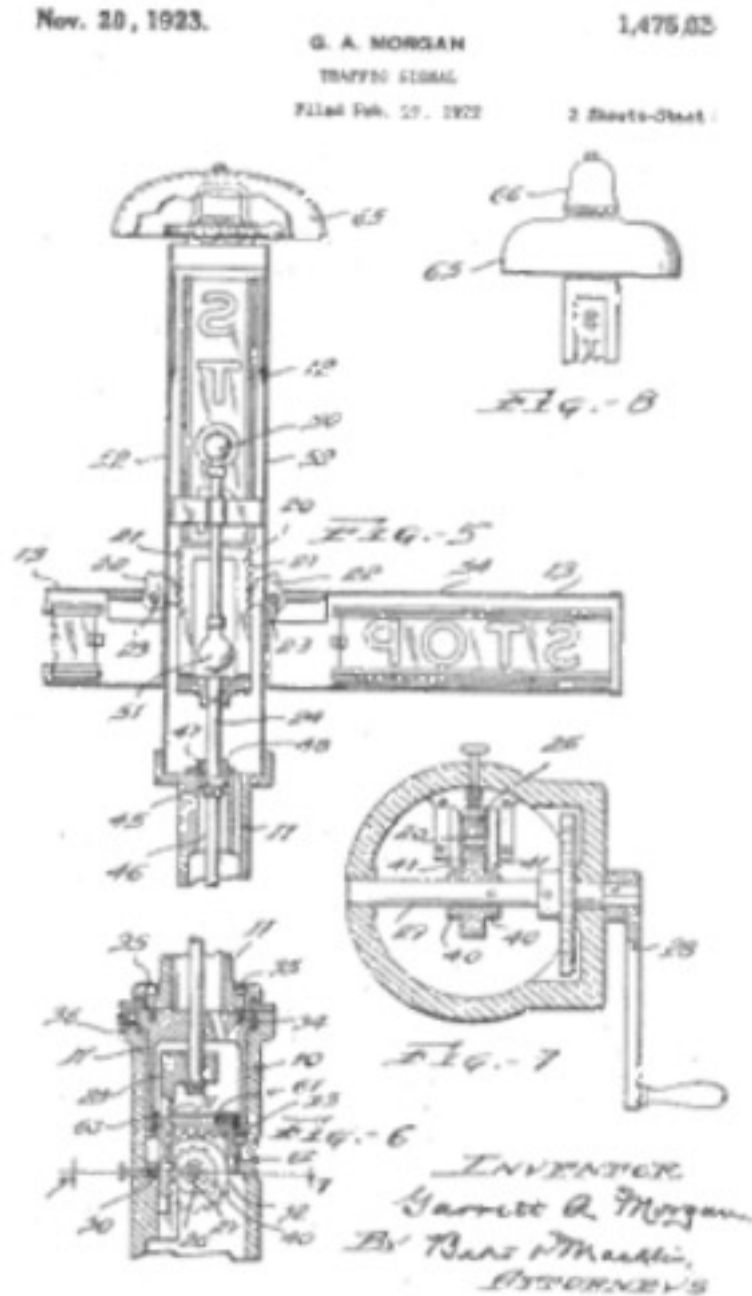
Tea Party Cards:
Garrett Morgan Traffic Signal Patent #1



Public Domain.



Tea Party Cards:
Garrett Morgan Traffic Signal Patent #2



Garrett Augustus Morgan - Traffic Signal Patent #1,475,024 on 11/20/1923.



Tea Party Cards:
Garrett Morgan



Garrett A. Morgan was an inventor and businessman—a man whose lifetime achievement is a model of dedication to public service, safety, and technological innovation.



Tea Party Cards:

Garrett Morgan, Congressional Record (Excerpts)

**Congressional Record
110th Congress (2007–2008)**

HONORING AFRICAN AMERICAN INVENTORS—(House of Representatives—February 13, 2008)

[Page: H893] *GPO's PDF*

Whereas Garrett Augustus Morgan made outstanding contributions to public safety;

Whereas firefighters in the early 1900s wore the safety helmets and gas masks that he invented, and for which he was awarded a gold medal at the Second International Exposition of Safety and Sanitation in New York in 1914;

Whereas 2 years later, he himself used the mask to rescue men trapped by a gas explosion in a tunnel being constructed under Lake Erie;

Whereas following the disaster which took 21 lives, the City of Cleveland honored him with a gold medal for his heroic efforts;

Whereas in 1923, he received a patent for a traffic signal to regulate vehicle movement in city areas, and this device was a direct precursor to the modern traffic light in use today;



Tea Party Cards:

Garrett Morgan, Traffic Signal Museum Artifact



Traffic signal invented by Garrett Morgan

Currently on display

Not a part of the official Smithsonian Collection

Garrett Morgan, an African American inventor, demonstrated this manually operated, illuminated traffic signal in Cleveland, Ohio. In addition to “Stop” and “Go,” it had a signal that stopped traffic in all directions, providing a safe crossing for pedestrians.



Tea Party Cards:

Garrett Morgan, “Ohio Inventions” Excerpt

Garrett Morgan

After witnessing a crash between an automobile and a buggy, Cleveland entrepreneur Morgan was inspired to develop a traffic signal. The 1923 patent Morgan received for his traffic light was not his first. Earlier, during World War I, Morgan received a patent for his version of a gas mask.



Tea Party Cards:

Link to Historical Photos of Wright Brothers' Flight at Kitty Hawk

Photos of flight at Kitty Hawk, N.C. (32 images total; in advance, choose two to three for the Tea Party protocol)

<http://www.loc.gov/resource/mwright.04003#seq-3>



Tea Party Cards:
Telegram about First Flight at Kitty Hawk

Form No. 168.

THE WESTERN UNION TELEGRAPH COMPANY.
INCORPORATED
23,000 OFFICES IN AMERICA. CABLE SERVICE TO ALL THE WORLD.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been accepted to by the sender of the following message. Errors can be guarded against only by repeating a message back to the sending station for comparison, and the Company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, nor in any case where the claim is not presented in writing within sixty days after the message is filed with the Company for transmission.
This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

ROBERT C. CLOWRY, President and General Manager.

RECEIVED at

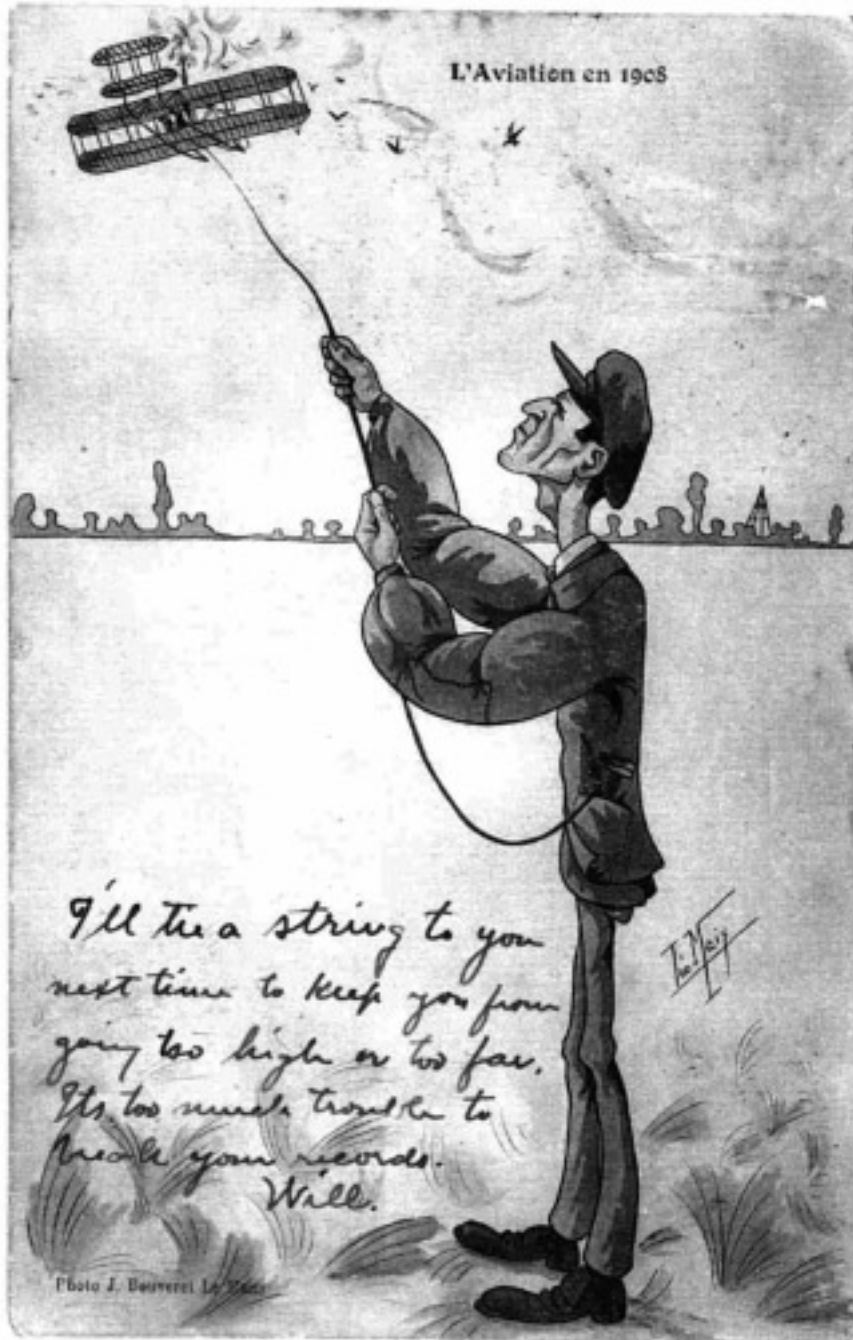
176 C KA GS 33 Paid. Via Norfolk Va
Kitty Hawk N C Dec 17
Bishop M Wright
7 Hawthorne St

Success four flights thursday morning all against twenty one mile
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through air thirty one miles longest (57) seconds inform Press
home Dec 17 Christmas .
Orville Wright 535P

170

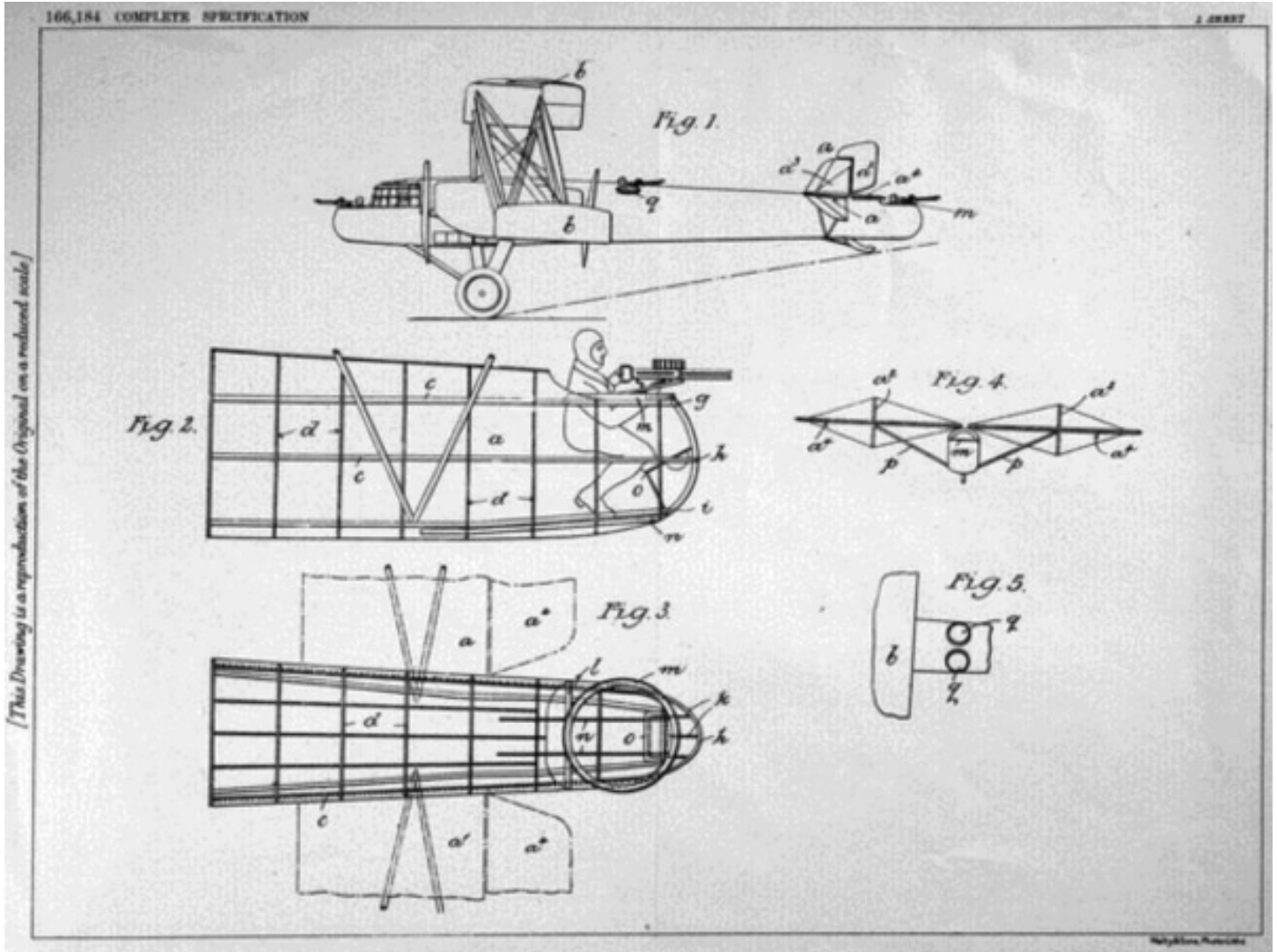


Tea Party Cards:
Postcard from Wilbur to Orville Wright





Tea Party Cards:
Airplane Design





Tea Party Cards:
Quotes about Flight

Quote from Leonardo da Vinci:

from <http://www.goodreads.com/quotes/tag/flying>

“Once you have tasted flight, you will forever walk the earth with your eyes turned skyward, for there you have been, and there you will always long to return.”

Quotes from Orville Wright:

from <http://wrightbrothers.info/quotes.php>

“If birds can glide for long periods of time, then ... why can't I?”

“The desire to fly is an idea handed down to us by our ancestors, who, in their grueling travels across trackless lands in prehistoric times, looked enviously on the birds soaring freely through space, at full speed, above all obstacles, on the infinite highway of the air.”



Performance Task Invitation

You have been researching one of two different inventions that changed people's lives. You also have learned about the style and structure of a graphic novel, and how graphic novelists use visual elements to help readers understand important ideas in their stories. Now you will have a chance to share what you have learned by writing a graphic novelette about either Garrett Morgan's invention of the traffic light, or the Wright Brother's invention of the airplane. Your novelette will tell the story of what needs or wants inspired the development of the invention; discuss the inventor(s) background; the inventor(s) process for developing a solution that would meet people's needs; and how the invention changed people's lives. Make sure your novelette incorporates factual information from your research, key terms as well as visual and narrative elements found in graphic novels, in order to convey ideas clearly to your audience.



Visual Element Cards

Frames/Panels	Diagrams/Information Boxes
Thought Bubbles/Speech Bubbles	Images/Photos
Font Size, Color, Style	Colors



Visual Element Note-catcher

Name: _____

Date: _____

Name of visual element: _____

Example 1

Page number: _____

How does this example support your understanding of the text?

Example 2

Page number: _____

How does this example support your understanding of the text?

Example 3

Page number: _____

How does this example support your understanding of the text?

Reflection question: How does this visual element add to your understanding of the process Max uses to solve the problem?



Visual Elements task card

- Locate two or three examples of your group's visual element in *Max Axiom*.
- Discuss how each example adds to your understanding of the ideas in that section of text.
- Record your thinking on the Visual Element note-catcher.
- Think about and then discuss the reflection question on your note-catcher with your group members.
- Record your response to the reflection question on your note-catcher.
- Be prepared to share your thinking with the class.



Independent Reading Criteria Self-Assessment

Learning target: I can use established criteria to select an appropriate text for independent reading.

Criteria

Interest	Some ways to tell if you're interested in a book: <ul style="list-style-type: none">• You talk about your book without being asked.• You become really animated when you answer questions about your book.• You're fascinated by the topic and/or characters.
Understanding	Some ways to tell if you understand what you're reading: <ul style="list-style-type: none">• You can accurately summarize what you have read.• You can make connections between the text and other books you have read or experiences you have had.• You remember new ideas from your book without a lot of effort.
Readability	Some ways to determine if you can successfully read a book: <ul style="list-style-type: none">• You know most but not all of the words.• You find yourself using words from your book when you speak or write.• You make some mistakes, but you can usually identify and correct them without help.• You are challenged, but you still understand what the text is mostly about.



Independent Reading Criteria Self-Assessment

Self-Assessment

Directions: Use the criteria above to help you respond to these questions and prompts. For **yes** or **no** questions, circle one response.

My Last Independent Reading Text	New Independent Reading Text
Did my last independent reading text interest me? Yes No	Do I think my new independent reading text will interest me? Yes No
Was I able to understand all, or most, of the ideas in my last independent reading text? Yes No	Do I think I will be able to understand all, or most, of the ideas in my new independent reading text? Yes No
Was my last independent reading text readable for me? Yes No	Do I think I will be able to read my new independent reading text? Yes No
Was my last independent reading choice an appropriate choice for me? Why or why not?	Do I think my new independent reading text will be an appropriate choice for me? Why or why not?



Independent Reading Choice Board

Name: _____

Date: _____

Title of Independent Reading Book/Author's Name: _____

After reading independently (silently and/or aloud) for at least 30 minutes, write a response to any ONE question from the board *except* the center square. Complete the center square once you have answered each of the other eight questions.

VISUAL ELEMENTS	CONNECTIONS	STRUCTURE
What visual elements (pictures, text) do you notice in this book?	What connections were you able to make between your independent reading book and other texts, topics explored, or experiences you have had?	How is this book structured?
How do the visual elements support your understanding of the text?		How does the structure support your understanding of the text?



Independent Reading Choice Board

<p>BOOK SELECTION</p> <p>Why did you choose this independent reading text?</p> <p>Do you think you made a good choice? Explain. Use specific examples from the text to support your reasoning.</p>	<p><i>*Complete this square last</i></p> <p>What qualities will you look for in the next book you read? (e.g., same author, similar visual features, more/less challenging, etc.)</p>	<p>RECOMMENDATION</p> <p>Would you recommend this book and/or this author to someone else? Explain. Use specific examples from the text to support your reasoning.</p>
<p>VOCABULARY</p> <p>Which three words from this text do you find most descriptive? Explain. Please copy the sentence in which the word was found and record a page number for each term.</p>	<p>READABILITY</p> <p>Is your independent reading book too hard, just right, or too easy? Explain. Use specific details from the text in your explanation.</p>	<p>INTEREST</p> <p>Do you find this book interesting? Explain. Give reasons and use specific examples from the text to support your opinion.</p>



Visual Elements of a Graphic Novel Reference Page

Visual Element	Description
Splash Page	<i>First two pages; gets the reader's attention; uses large and close-up images</i>
Frames/Panels	<i>The boxes that contain scenes and/or information; some are larger than others; can be arranged sequentially or in a more random order</i>
Gutters	<i>The space between the frames/panels; moves from one scene to another to show changing actions, the passage of time, or to make changes in locations</i>
Ambient Sounds	<i>Words that show sounds</i>
Thought Bubbles/Speech Bubbles	<i>What the characters think/what the characters say</i>
Font Size, Color, Style	<i>Text, captions, information, or dialogue in the story that uses different styles of type and/or different colors</i>
Images/Photos	<i>Drawings/pictures of characters, settings, actions, important details, and information</i>
Colors	<i>Blue, green, red, black, white, brown, etc.; bright, dull, dark, light</i>
Diagrams/Information Boxes	<i>Drawings of technical equipment, displays, documents, graphs, definitions, and other ideas or objects</i>



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 2

Expert Research Groups: How the Traffic Signal and Airplane Met Society's Needs, Part 1



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7)
I can gather relevant data from print and digital sources; I can summarize or paraphrase information in notes and finished work. (W.5.8)
I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1)
I can determine the meaning of general academic and domain-specific words. (RI.5.4)

Supporting Learning Targets

- I can conduct research to take notes about how an invention was developed to meet society's needs.
- I can explain what people needed and how their needs were met, using quotes from the text.
- I can determine the meaning of unfamiliar words and phrases by using context clues and other strategies.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- Expert Text graphic organizer
- Vocabulary task cards



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Reader: Scientific Inquiry (10 minutes)2. Work Time<ol style="list-style-type: none">A. Determining the Gist: Expert Text 1 (10 minutes)B. Introducing the Expert Text Note-catcher: "The TV Guy" (25 minutes)C. Vocabulary to Deepen Understanding (10 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Review Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Independent research.B. Independent reading.	<ul style="list-style-type: none">• This lesson introduces the Expert Text note-catcher that guides student work through Lesson 4 and prepares them for the on-demand note-taking assessment in Lesson 5. The class works together to complete an Expert Text anchor chart about Philo Farnsworth's invention of television. This task not only provides students with a reference tool for their work in this and the next two lessons, but it also helps point out the importance of completing each of the note-taking boxes before using that information to answer the synthesis questions in the thought and speech bubbles on their note-catchers.• In the Opening of this lesson, students complete a fluency self-assessment. Consider using the self-assessments as well as your notes regarding students' reading fluency to set up individual meetings to discuss their strengths and areas for improvement in order to set appropriate fluency goals.• Students also start a new vocabulary routine in this lesson. They complete vocabulary cards for each key term and organize them on a metal ring. These cards will serve as a reference and support for the inclusion of a glossary in the graphic novelettes students create for the performance task later in this unit.• During part of this lesson, students revisit excerpts from the article "the TV Guy" (which they first read in Unit 2, Lesson 5). Note that "The TV Guy" article is also used for the "Show the Rule™" sequence of lessons. For more information Show the Rule™, see the overview document Foundational Reading and Fluency Skills Resources Package for Grades 3-5 and the Show the Rule™ document, both on EngageNY.org. For Grade 5, the sample Show the Rule™ lesson sequence helps students understand and determine the rules of conjunctions. You could use the Show the Rule™ introductory lesson during your Additional Literacy Block, as a follow-up shortly after Unit 3, Lesson 2. Having students work with conjunctions early on in this unit will support their ability to revise and create a graphic novelette during later lessons.• In advance:<ul style="list-style-type: none">– Determine and post triads for airplane expert groups and traffic signal expert groups.– Decide whether you will reuse or re-create the Group Norms and Quote/Paraphrase anchor charts from Unit 1.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">– Create a new Expert Text anchor chart using the same format as the Expert Text note-catcher that students will use to record information about their invention and inventor during this and the next two lessons. Be sure to familiarize yourself with the Expert Text anchor chart (answers, for teacher reference). This will help you guide students during Work Time B.– Consider creating an Expert Folder for each student to hold the articles and documents they do not paste directly into their journals or add to a metal ring during Lessons 2–4 (this will help them organize and locate their materials more easily in successive lessons).• Post: Learning targets.



Lesson Vocabulary	Materials
<p>conduct research, take notes, invention, developed, explain, needed/needs, met, quotes, determine, meaning, context</p> <p>From “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal”: automatic, traffic, signal, congested, manufacturing, mechanics, acquire, extensively</p> <p>From “Wright Brothers: Inventors of the Airplane”: airplane, craft, engine, previously, glider, propellers, pioneers, aerodynamics</p>	<ul style="list-style-type: none">• Document camera• Journals (begun in Unit 1, Lesson 1; one per student)• <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> (book; one per student)• Fluency self-assessment (from Fluency Packet and Unit 1; one per student)• Group Norms anchor chart (begun in Unit 1, Lesson 1)• “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (one per student, traffic signal expert groups)• “Inventing the Plane” (one per student, airplane expert groups)• Expert Text anchor chart (new; teacher-created; see supporting materials)• Details from “The TV Guy” envelope (one envelope per triad)• Quote/Paraphrase anchor chart (begun in Unit 1, Lesson 2)• Expert Text anchor chart (answers, for teacher reference)• Expert Text note-catcher (one per student)• Expert Text note-catcher: The Airplane (answers, for teacher reference)• Expert Text note-catcher: The Traffic Signal (answers, for teacher reference)• Vocabulary task card (one per student)• Index cards, with a hole punched in one corner (eight per student)• Metal ring, to hold index cards (one per student)• Dictionary (one per triad)• Vocabulary Definitions: Lesson 2 (for teacher reference)• Independent Reading Choice Board (from Lesson 1)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader: Scientific Inquiry (10 minutes)</p> <ul style="list-style-type: none">• Display expert research triads using a document camera.• Direct students to quickly collect their journal and book, <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i>, before sitting in their triad groups.• Ask students to locate the page in <i>Max Axiom</i> that they practiced reading with fluency for homework. Ask them to take a moment to practice reading aloud by “whisper reading” the passage to themselves.• After 1 minute, instruct students to take turns reading their passages aloud to their triad.• Circulate as students read and take informal notes about their progress with fluency goals, using the fluency self-assessment criteria.• After each student has had the opportunity to read in their triad, refocus students whole group.• Distribute a fluency self-assessment to each student. Have them quickly complete the self-assessment based on their read-aloud to their triad.• Collect the self-assessments to review and use for helping each student set appropriate fluency goals in a one-on-one meeting during another part of the day.• Next, encourage students to recall their discussions from Unit 1, Lesson 5 about how real-world scientists might use a process, different from the linear approach Max Axiom took, to solve problems and meet societal needs.• Then, ask students to turn to page 5 of <i>Max Axiom</i> and focus on the upper-most speech bubble in the lower right-hand frame.• Read the speech bubble aloud:<ul style="list-style-type: none">* “The order or number of these steps can always change, but scientists often rely on these basic methods to organize information.”• Ask students to consider and discuss:<ul style="list-style-type: none">* “How was the process Max Axiom used to solve a problem similar to Philo Farnsworth’s process for developing TV?”* “How was the process Max Axiom used to solve a problem different from Philo Farnsworth’s process for developing TV?”	<ul style="list-style-type: none">• Consider allowing reluctant readers to choose a partner they trust to read aloud to rather than reading to their assigned triad.• Offer a sentence frame to give all students access to the discussion: “Both Max Axiom and Philo Farnsworth _____” or “Max Axiom _____, whereas Philo Farnsworth _____.”



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 or 2 minutes, invite several students to share their thinking with the class. Remind them to support their ideas with information from the text. Listen for responses such as:<ul style="list-style-type: none">– “Max Axiom and Philo Farnsworth both had an idea about what they wanted to create, and they both did experiments to figure out how to make their idea work in the best possible way.”– “Max Axiom did research to help him develop his hypothesis, and Philo Farnsworth did research to help him create a plan for his television.”– “When they finished with their experiments, Max Axiom and Philo Farnsworth both presented their findings.”– “Philo Farnsworth went back to revise his ideas many times before he invented a working television, but Max Axiom collected the information he needed after his first experiment.”• Explain that over the next several lessons, students will learn about the way one scientist used a process of scientific inquiry to develop an invention that met the needs of society.	



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: Expert Text 1 (10 minutes)</p> <ul style="list-style-type: none">• Explain that during this and the next two lessons, students will conduct research in their expert groups by closely reading several texts about either Garrett Morgan's invention of the traffic light or the Wright brothers' invention of the airplane.• Refer to the Group Norms anchor chart and ask triads to discuss:<ul style="list-style-type: none">* "Which group norm was most helpful to you when working in your last group?"* "How can you use that norm in your new triad?"• After 1 or 2 minutes, cold call several students to share out whole class. Answers will vary, but students may mention taking turns, asking clarifying questions, and other strategies. Encourage students to remember these norms as they work in their new triads.• Distribute copies of "Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal" and "Wright Brothers: Inventors of the Airplane" to the appropriate expert groups.• Remind students that when encountering a new text, they oftentimes start by reading for gist to get an overall sense of the flow and ideas presented in the text before reading for more specific details.• Direct them to take turns reading paragraphs from their expert texts aloud in their triads, and then discuss the gist of the article.• After 5 or 6 minutes, refocus students' attention whole group. Encourage members from each expert group to share out their thinking about the gist. Listen for:<ul style="list-style-type: none">– "The gist of 'First Automatic Traffic Signal' is that Garrett Morgan invented the traffic signal to help drivers and people crossing busy streets stay safe."– "The gist of 'Wright Brothers' is that the Wright brothers invented the first airplane and then found ways to make it even better."• After students from each expert group have had a chance to share, ask them to record the gist of their expert text on a new page in their journals.	<ul style="list-style-type: none">• Offering a sentence frame helps all students access the discussion: "The group norm I thought was most helpful working in my last group was _____ because _____" and "I can use that norm in this triad by _____."• To support students with significant difficulties reading complex text, consider inviting them to a small group. Modify the length of the text. Be sure to select wisely so they are still set up to successfully contribute to the gist conversation with their triad.



Work Time (continued)	Meeting Students' Needs
<p>B. Introducing the Expert Text Note-catcher: “The TV Guy” (25 minutes)</p> <ul style="list-style-type: none"> • Direct students’ attention to the first two learning targets and read them aloud: <ul style="list-style-type: none"> * “I can conduct research to take notes about how an invention was developed to meet society's needs.” * “I can explain what people needed and how their needs were met, using quotes from the text.” • Draw students’ attention to the terms <i>invention</i> and <i>developed</i> in the first target. Ask them to consider and discuss the meaning of each of these terms in their triads. • After 1 minute, cold call a few students to share their thinking with the class. Listen for: <ul style="list-style-type: none"> – “An <i>invention</i> is a device that is created to perform a specific task or meet a specific need.” – “<i>Developed</i> means created.” • Circle or underline the phrase “conduct research to take notes” in the first target. • Invite a few students to explain what that means. Listen for ideas such as: <ul style="list-style-type: none"> – “It means to collect and record information.” – “When you read the text, you locate specific information relating to what you are researching. Then you take notes about the information; sometimes you write down direct quotes, and sometimes you use paraphrased details.” • Ask students to recall and discuss what they remember from Unit 2 about how to take notes that include <i>relevant</i> details. • After 1 minute, invite a few to share out what they recall about determining <i>relevant</i> details. Listen for: <ul style="list-style-type: none"> – “Relevant means related to the topic, question, or prompt.” • Display and refer students to the Expert Text anchor chart. • Explain that this is a larger version of the Expert Text note-catcher they will use over the course of the next several lessons. Tell the students that before they begin working in their research groups, the whole class will work together to complete the example note-catcher using the familiar text “The TV Guy.” 	<ul style="list-style-type: none"> • Consider inviting students who take longer to process to join you for a small group to sort a smaller number of details from “The TV Guy” envelope so they don’t lose out on important think time. • Provide a sentence starter to support the triad discussion: “It’s best to paraphrase when _____. It’s better to use quotes when_____.” • Consider displaying strong student suggestions about when to paraphrase and when to quote to support all students in justifying their thinking during the next part of the discussion. • During the reread of the texts from Work Time A, consider gathering the same small group of struggling readers together again to revisit the same modified text to gather details to bring back to their triad.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Point out the four gray boxes on the Expert Text anchor chart. Explain that in each of these boxes, students will record relevant information from the text that responds to the prompt at the top of the box.• Read the first gray box from the anchor chart aloud:<ul style="list-style-type: none">* “Background information about the INVENTION: Explain why people needed or wanted this invention.”• Draw students' attention to the terms <i>needed</i> and <i>wanted</i>. Ask them to consider these terms carefully as they discuss in triads what type of information might go in the first box.• After 1 minute, invite a few students to restate the prompt from the first box in their own words and describe the type of information they might record in this box.• Read the title and prompt from the next box aloud:• “Background information about the INVENTOR(S): Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.”• Draw students' attention to the terms <i>history</i>, <i>motivation</i>, <i>skills</i>, and <i>preparation</i>.• Ask triads to discuss the meaning of each term.• After 1 or 2 minutes, cold call several students to share their thinking. Listen for:<ul style="list-style-type: none">– “<i>History</i> in this context means the events from the inventor(s) past, the events that happened before he/they created the invention.”– “<i>Motivation</i> is what inspires someone and pushes them to keep going.”– “<i>Skills</i> are abilities or talents.”– “<i>Preparation</i> is what you have done to become ready.”• If students are not able to determine the meaning of each term, provide definitions for them.• Invite a few students to use their understanding of these terms to restate the prompt in their own words.• Next, read aloud the box “Information about developing a SOLUTION: Explain how the inventor(s) solved the problem.”• Point out the term <i>solution</i>, which should be familiar from previous units and lessons. Cold call a few students to share out the meaning of this term (answer, result, explanation) and clarify if needed.• Invite a few students to restate this prompt in their own words.• Read the final box aloud, “Information about the IMPACT: Explain how this invention changed people's lives.”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Focus students on the term <i>impact</i> and ask them to discuss what this word means. After a moment, invite one or two students to share out. Listen for students to explain that <i>impact</i> means to make things different, to have an effect or influence on someone or something. • Ask students to consider how they could restate the prompt in their own words. Then, invite a few to share their thinking with the class. • Finally, point out the speech and thought bubbles. Tell students that after they record relevant information from the article into the four main boxes, they will synthesize their thinking by answering the questions in the thought and speech bubbles. Explain that the first step they will take is to determine which details from “The TV Guy” belong in each box of the Expert Text anchor chart. • Distribute Details from “The TV Guy” envelope to each triad but tell students to leave their envelopes closed for the time being. • Explain that a number of the important details from “The TV Guy” have been pre-selected for today’s activity. It is each triad’s job to sort the details into one of four categories: background information about the invention, background information about the inventor, information about the process and solution, or information about the impact of the invention. • Direct triads to open their envelopes and begin sorting details into one of four piles. Clarify directions as needed. • After 4 or 5 minutes, refocus students’ whole class. • Cold call a student to select a detail and explain in which box on the anchor chart she or he believes the detail belongs. • Then, cold call a few students from other triads to share whether they agree or disagree and why. • Once the class comes to a consensus about the placement of the detail, explain that they must determine the most effective way to record the information. • Point out the Quote/Paraphrase anchor chart. • Invite a few students to remind the class about the difference between quoting and paraphrasing details. Listen for: <ul style="list-style-type: none"> – “Quotes are exactly what’s said in the text, so you need to place quotation marks around the phrase or sentence when you add it to your notes, to show they are someone else’s words.” – “When you paraphrase, you put the idea into your own words. Sometimes you shorten it, or sometimes you just say it in a different way. If it’s in your own words, you don’t need to use quotation marks around the sentence or phrase.” 	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask triads to think about and discuss when it might be more effective to use quotes on the Expert Text note-catcher and when it might make more sense to paraphrase.• After 1 or 2 minutes, cold call a few students to share their thinking whole class. Listen for suggestions such as:<ul style="list-style-type: none">– “If you can express the idea clearly in your own words, you might want to paraphrase.”– “If the detail you underlined is very long, it might be more effective to paraphrase so you can pull out the most important information.”– “If the author’s wording helps support your thinking, you might want to quote exactly.”– “If the exact wording of the text helps you respond to the prompt on the note-catcher in a clear and effective way, you would want to use a direct quote.”• Ask students to consider whether the detail they are discussing from “The TV Guy” would be more effective on the anchor chart quoted or paraphrased. Take their suggestions into consideration as you record the detail on the anchor chart.• For each of the remaining details, cold call a few students from different groups to explain where they believe each one belongs on the anchor chart and why. Encourage them to explain whether they believe the detail will be more effective paraphrased or quoted.• Record student suggestions on the anchor chart. Refer to the Expert Text anchor chart (answers, for teacher reference) for possible suggestions.• Invite a student to read the first thought bubble aloud:<ul style="list-style-type: none">– “What need or want inspired the development of this invention?”• Ask triads to refer to the anchor chart to help them consider and discuss a response to this question. Also, remind them that they should use key terms from the question in their responses.• After 1 or 2 minutes, cold call several students to share their thinking whole group. Record a strong response or a synthesis of responses in the thought bubble on the Expert Text anchor chart.• Invite a student to read aloud the question from the speech bubble:<ul style="list-style-type: none">– “How were people’s needs met, and by whom?”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Give triads 1 to 2 minutes to refer to the anchor chart and discuss a response. Once again, remind them to use key terms from the question in their responses.• Cold call a few students to share their thinking whole class. Record a strong response or a synthesis of responses in the speech bubble on the Expert Text anchor chart.• Tell students that they will now complete a similar note-catcher using details from their own texts about either Garrett Morgan's invention or the Wright brothers' invention.• Distribute one Expert Text note-catcher to each student. Direct students to work with their triads:<ol style="list-style-type: none">1. Reread the article from Work Time A.2. As you read, look for and underline details that respond to the prompt in each gray box.3. Discuss the details you locate with your triad members.4. Record at least one or two relevant details in each box, using a combination of quotes and paraphrases.5. Refer to your notes (quotes and paraphrased details) to help you respond to the thought and speech bubble questions. Remember to use key terms from the questions in your responses.• Circulate to provide support and guidance as needed.• After 10 or 12 minutes, refocus students' whole class.• For each of the four gray boxes, cold call a few students from each expert group to explain details they recorded. Encourage them to explain why they chose to record specific details in each box, as well as how they determined if the detail should be quoted or paraphrased. Refer to the Expert Text Note-catcher: The Airplane (answers, for teacher reference) or Expert Text Note-catcher: The Traffic Signal (answers, for teacher reference).• As time allows, cold call a few students from each group to share their responses to the questions in the thought and speech bubbles.	



Work Time (continued)	Meeting Students' Needs
<p>C. Vocabulary to Deepen Understanding (10 minutes)</p> <ul style="list-style-type: none">• Direct students' attention to the third learning target and read it aloud:<ul style="list-style-type: none">* "I can determine the meaning of unfamiliar words and phrases by using context clues and other strategies."• Point out the terms <i>determine</i>, <i>unfamiliar</i>, and <i>context</i>.• Invite several students to use their knowledge of these terms to restate the learning target in their own words.• Cold call several students to share out the types of strategies they have practiced throughout this module to determine the meaning of unfamiliar terms. Listen for them to share ideas such as:<ul style="list-style-type: none">– "We can use text that is around the word to help us figure out what it means."– "We can look for and define parts of the word that we are familiar with to help us determine the meaning."– "We can use our knowledge of roots, prefixes, suffixes, and affixes to help us determine what the word means."– "We can use a resource like a dictionary to look up the meaning of a word."• Explain that in this unit, students will create vocabulary cards with the key terms from their texts. Tell them these cards will help them create a glossary for their graphic novelettes. If students need a reminder about what a glossary is, direct them to turn to page 30 in their <i>Max Axiom</i> book to refresh their memories.• Distribute vocabulary task cards, index cards, and metal rings. Make sure students have access to print or online dictionaries.• Read the directions on the task card aloud and clarify as needed.• Ask students to work in their triads to complete vocabulary cards for at least the first three terms on their task card.• After 7 or 8 minutes, refocus students whole class.• Invite students from each expert group to share definitions for the terms they discussed in their triads. Refer to Vocabulary Definitions: Lesson 2 (for teacher reference).	<ul style="list-style-type: none">• Write or draw synonyms for key words above or below where they appear in the target to support ELLs.• To support accurate homework completion, check in with students who typically struggle with writing or vocabulary work in general. Make sure they have an accurate model to take home as a resource.



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to quickly locate a partner who is not a member of their triad and share an interesting detail from their Expert Text note-catcher.• After 1 or 2 minutes, cold call a few students to explain the detail their partner shared.• Reread each of the learning targets aloud. Ask students to discuss which target they found most challenging today and why.• Collect students' Expert Text note-catchers and identify those who may need additional support completing the note-catcher during Lessons 3 and 4.	<ul style="list-style-type: none">• Provide a sentence frame to support all students in responding to the prompt: "The target I found most challenging today was _____."
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread your article, "Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal" or "Wright Brothers: Inventors of the Airplane." Locate and add at least three more quotes or paraphrased details to the boxes on your note-catcher.• If necessary, complete your vocabulary cards for all terms listed at the top of the Vocabulary task card (for your expert text only.)• Read independently for at least 20 minutes. Complete a new box on your Independent Reading Choice Board. <p><i>Note: Because students will need access to their Expert Text note-catchers for homework, find a time before the end of the day to make copies of the note-catchers to gauge their initial understanding of how to locate and record relevant notes (in the form of quotes and paraphrased details from the text). Make determinations about which students may need more support mastering these skills before taking the on-demand note-taking mid-unit assessment in Lesson 5.</i></p> <p><i>Review the definitions/synonyms/drawings on the vocabulary cards students were able to finish in class today to evaluate whether they require additional support before they can independently use a variety of strategies to determine the meaning of unfamiliar words and phrases. Be prepared to return students' index cards in the next lesson.</i></p> <p><i>Review student materials for Lessons 3 and 4 to determine the most effective way for them to organize and access the materials they will need.</i></p>	



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Grade 5: Module 2B: Unit 3: Lesson 2

Supporting Materials



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“Transportation, From the Soapbox Derby to the Jeep: First Automatic Traffic Signal”



Transportation

From the Soapbox Derby to the Jeep

First Automatic Traffic Signal

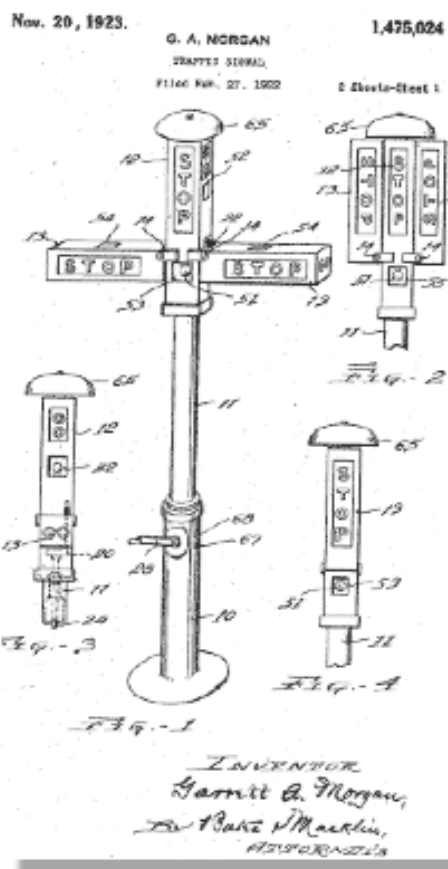
Garrett A. Morgan, an African-American businessman and inventor, invented the first automatic traffic signal in 1923. It brought order and greater safety to city streets congested with the increasingly popular horseless carriages. The first traffic signal was installed in Cleveland at the corner of Euclid Avenue & East 105th Street. Inspiration for the invention came to Morgan as he watched traffic flow on the busy streets of Cleveland. Morgan sold the invention to the General Electric Co for \$40,000, and GE began manufacturing the signals.



Morgan was the son of former slaves, and grew up on a farm in Kentucky. As a teen, he moved to Cincinnati, Ohio. While he never went past elementary school in formal training, he did work with a tutor in Cincinnati. Morgan moved to Cleveland in 1895 and went to work as a sewing machine repairman. His understanding of mechanics helped him both in this trade and also in his memorable inventions. In 1907, he launched his own business that repaired sewing machines and also trained others to do the same. Not a man to focus just on one thing, Morgan started a newspaper in 1920 called the "Cleveland Call." It was during this period that Morgan came up with the idea of the traffic signal.

While colored lights were incorporated later, Morgan's idea was a machine that displayed three versions of signs: "stop" -- "go" -- and an "all-directional stop." The all-directional stop was design to allow people to cross the busy streets. While other may have been working on similar ideas at the time, Morgan was the first to acquire a U.S. patent for his work, which was granted on November 20, 1923.

Morgan also contributed to public safety with other inventions. He invented helmets and gas masks used by firefighters in the early 1900's. He also invented a gas mask that was used extensively in 1914 during World War I to protect service people from the effects of chlorine gas fumes.





“Transportation, From the Soapbox Derby to the Jeep: First Automatic Traffic Signal”

Did You Know?

- Morgan invented the first hair straightener which he sold as "Morgan Hair Refining Cream."
- He also designed a "de-curling" comb.
- Morgan invented "zig-zag" sewing machine stitching.

Find out more...

- **Garrett Morgan: Father of the Stoplight**
(www.nhtsa.dot.gov/kids/safeschool/morgan2.html)
- **Morgan's Patents and Illustrations**
(www.princeton.edu/~mcbrown/display/morgan_patents.html)



“Inventing the Plane”

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Source (for teacher reference only): <http://teacher.scholastic.com/activities/flight/wright/invent.htm>



Expert Text Anchor Chart

What need or want inspired the development of this invention?

How were people's needs met, and by whom?

Background information about the
INVENTION

Explain why people needed or wanted this invention.

Background information about the
INVENTOR(S)

Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

Information about developing a
SOLUTION

Explain how the inventor(s) solved the problem.

Information about the **IMPACT**

Explain how this invention changed people's lives.



Expert Text Anchor Chart
(Answers, for Teacher Reference)

What need or want inspired the development of this invention?

People wanted new ways to entertain themselves and share information.

How were people's needs met, and by whom?

Philo Farnsworth's television allowed people to send images across long distances. It provided people with new forms of entertainment, and it allowed them to learn about and explore things that were far away.

Background information about the INVENTION
Explain why people needed or wanted this invention.

- People wanted new ways to entertain themselves.
- People were interested in exploring new things.
- Philo wanted a way to send images

Background information about the INVENTOR(S)
Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

- Philo Farnsworth was a farm boy from Utah.
- His first house had no electricity.
- When he moved to a house in Idaho with electricity, Philo was fascinated by all of the electrical devices.
- "Farnsworth believed that he could transform electricity into pictures by controlling the speed and direction of fast-flying electrons."
- Farnsworth drew a design to show his high school science teacher his idea.

Information about developing a SOLUTION
Explain how the inventor(s) solved the problem.

- He found investors who gave him money to experiment with his device.
- After a lot of working, he was able to transfer his first image in 1921.
- The first image on the television was a line.
- He made the television work by inventing an image dissector camera tube.

Information about the IMPACT
Explain how this invention changed people's lives.

The TV was a new form of entertainment.
"Philo T. Farnsworth changed the way people all over the world talk to each other, learn about things, and entertain themselves."

Details from “The TV Guy”

Philo T. Farnsworth, who came from a little community outside of Beaver, Utah, built on the work of others. But he was the one who made the image dissector camera tube that put the first images on a television screen.

His invention opened up entirely new avenues for entertainment, information, and exploration—and landed him on a postage stamp in 1983!

Philo T. Farnsworth changed the way people all over the world talk to each other, learn about things, and entertain themselves. His invention made *Sesame Street*, news programs, sitcoms, dramas, and all the other television programs possible.

Philo Farnsworth came into a world just beginning to be electrified in 1906.

His family’s first house, near Beaver, Utah, had no electricity. So when the family moved to a new house in Idaho, young Philo was fascinated! Lights that came on when you flipped a switch and electric tools for the farm intrigued him.

In 1922, he drew a design for his high school chemistry teacher, Justin Tolman. The drawing had nothing to do with the class assignment, but Tolman kept it. Farnsworth believed that he could transform electricity into pictures by controlling the speed and direction of fast-flying electrons.

By the age of 13, he had won his first national contest, sponsored by *Science and Invention* magazine, for a thief-proof lock.

Philo was still thinking about how to send images through the air. But he had no money to work on his idea. Eventually, he met a pair of Californians who invested money in his idea. They gave him enough money that he could experiment with the device he had worked on in high school.

He successfully transferred his first image in 1927—at age 21. So what was the first real television image? Just a simple line!

"Utah State History." Philo Farnsworth. Utah Division of State History, Web. <http://www.ilovehistory.utah.gov/people/difference/farnsworth.html>.



Expert Text Anchor Chart

What need or want inspired the development of this invention?

How were people's needs met, and by whom?

Background information about the
INVENTION

Explain why people needed or wanted this invention.

Background information about the
INVENTOR(S)

Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

Information about developing a
SOLUTION

Explain how the inventor(s) solved the problem.

Information about the **IMPACT**

Explain how this invention changed people's lives.



Expert Text Note-catcher: The Airplane
(Answers, for Teacher Reference)

What need or want inspired the development of this invention?

People wanted to be able to travel from one place to another more quickly.

How were people's needs met, and by whom?

The Wright brothers invented the first airplane with an engine. Airplanes travel much faster than trains or boats, so people can go long distances in a short amount of time.

Background information about the INVENTION
Explain why people needed or wanted this invention.

- Traveling by boat or train was very slow.

Background information about the INVENTOR(S)
Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

- The Wright brothers grew up in Indiana and Ohio with their five siblings.
- Wilbur was 4 years older than Orville.
- They liked to invent things.
- They became interested in flying after their dad gave them a toy helicopter.
- "They experimented with making their own helicopters, and Orville liked to build kites."
- "They studied how birds flew and used their wings to help design the wings for their gliders and planes."

Information about developing a SOLUTION
Explain how the inventor(s) solved the problem.

- They experimented with gliders to design wings and controls.
- They made a lightweight engine and efficient propellers.
- "They were the first to make a successful human flight with a craft that was powered by an engine and was heavier than air."
- On December 14, 1903, Orville flew the first plane at Kitty Hawk in North Carolina.
- The first flight was 12 seconds long and went 120 feet.

Information about the IMPACT
Explain how this invention changed people's lives.

- "This was quite a milestone and impacted transportation throughout the world."
- Airplanes make it easier for people to travel because they can go long distances in a short amount of time.



Expert Text Note-catcher: The Traffic Signal
(Answers, for Teacher Reference)

What need or want inspired the development of this invention?

People needed a way to direct traffic so the streets could be more organized and safer for drivers and pedestrians.

How were people's needs met, and by whom?

Garrett Morgan's traffic signal told drivers when to stop and when to drive so they would not get in accidents and so people could cross the street safely.

Background information about the INVENTION
Explain why people needed or wanted this invention.

- There were many more cars on the roads and the streets were very congested.
- The traffic was not organized.
- It was not very safe for people to cross the street.

Background information about the INVENTOR(S)
Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

- Garrett Morgan was the son of former slaves.
- He grew up on a farm in Kentucky but moved to Ohio.
- He worked as a sewing machine repairman.
- He was interested in mechanics.
- He started a newspaper.
- "Inspiration for the invention came to Morgan as he watched traffic flow on the busy streets of Cleveland."

Information about developing a SOLUTION
Explain how the inventor(s) solved the problem.

- He created the first automatic traffic signal in 1923.
- The machine had three signals, for "stop," "go," and "all direction stop."
- The all direction stop was to allow pedestrians to cross the street.
- Colored lights were added later.

Information about the IMPACT
Explain how this invention changed people's lives.

- The traffic light made the streets safer for drivers and people walking.
- It helped bring order to the "city streets congested with increasingly popular horseless carriages."



Vocabulary Task Card

1. Write each of your vocabulary terms on one side of your index cards.
 - **The airplane expert group:**
airplane, craft, engine, previously, glider, propellers, pioneers, aerodynamics
 - **The traffic signal expert group:**
automatic, traffic, signal, congested, manufacturing, mechanics, acquire, extensively
2. Determine the meaning of each of your vocabulary terms, using context clues or other strategies you learned during previous lessons.
3. Write a synonym or definition and draw a picture of the meaning of each term on the back of your index cards.
4. Do your best to arrange your vocabulary cards in alphabetical order, then add them to the metal ring provided.



Vocabulary Definitions: Lesson 2
(For Teacher Reference)

“Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal”	“Wright Brothers: Inventors of the Airplane”
acquire – to get or obtain	aerodynamics – the field of science that explores how objects move through air
automatic – (a machine) working by itself, without a person to make it move or run	airplane – a powered, heavier-than-air flying machine with fixed wings
congested – overcrowded	craft – a ship
extensively – over a large area, widespread	engine – a machine with moving parts that turns energy into motion
manufacturing – using machines to make something	glider – a light flying machine with no engine
mechanics – the field of science that explores forces and motion	pioneers – people who are among the first to explore a new place or idea
signal – something that moves or changes to communicate information	previously – at an earlier time
traffic – vehicles moving on streets	propellers – angled blades that spin around to move an airplane forward



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 3

Expert Research Groups: How the Traffic Signal and Airplane Met Society's Needs, Part 2



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7)

I can gather relevant data from print and digital sources; I can summarize or paraphrase information in notes and finished work. (W.5.8)

I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1)

I can determine the meaning of general academic and domain-specific words. (RI.5.4)

Supporting Learning Targets

- I can conduct research to take notes about how an invention was developed to meet society's needs.
- I can explain what people needed and how their needs were met, using quotes from the text.
- I can determine the meaning of unfamiliar words and phrases by using context clues and other strategies.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- Expert Text note-catcher: The Airplane (airplane expert groups)
- Invention of the Traffic Signal note-catcher (traffic signal expert groups)
- Vocabulary cards (from homework)



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Homework Review and Engaging the Reader (5 minutes)Work Time<ol style="list-style-type: none">Determining the Gist: Expert Text 2 (15 minutes)Second Read: Close Reading Guide: "Garrett Morgan: Inventor Hero" or Expert Text Note-catcher: The Airplane (30 minutes)Closing and Assessment<ol style="list-style-type: none">Debrief and Review Learning Targets (10 minutes)Homework<ol style="list-style-type: none">Splash Page sketch.Independent reading.	<ul style="list-style-type: none">This lesson follows a similar pattern to Lesson 2.In the Opening of this lesson, students participate in a vocabulary charades activity. This task is designed to help them reflect on the meaning of vocabulary terms and think creatively about how to represent definitions in an active way. As this can be a challenging concept for students, consider modeling how to silently dramatize terms using words that are familiar to the class.Students in expert groups read one of two new articles about the invention of the traffic signal or the invention of the airplane. While the airplane expert groups work to complete their Expert Text note-catchers and determine the meaning of unknown words and phrases using context clues and other strategies, you lead the traffic signal expert groups through a close read of the article "Garrett Morgan: Inventor Hero" using the Close Reading Guide in the supporting materials.During an extended debrief, students from both expert groups mingle with members of other triads who are studying the same invention to share and compare the definitions, synonyms, and drawings of key terms they recorded on their vocabulary cards.In the Closing, students participate in the Hot Seat protocol to answer a series of questions about why and how the inventions they are studying were developed, as well as the impact those inventions had on people's lives.In advance:<ul style="list-style-type: none">Review and become familiar with Hot Seat from Checking for Understanding Techniques (see Appendix) to clarify directions and guide student discussions during the debriefing.Create and place numbered Hot Seat Tickets under all student chairs before the debriefing (see the supporting materials). Note that several students will have the same Hot Seat questions; however, due to the open-ended nature of each question, their answers should vary.Review Glass, Bugs, Mud in Checking for Understanding Techniques (see Appendix).Consider creating Expert Folders for students to keep track of materials distributed in Lessons 2–4.Post: Expert Text anchor chart, Vocabulary Strategies anchor chart, learning targets, lesson vocabulary from expert texts.



Lesson Vocabulary	Materials
<p>conduct research, take notes, invention, developed, explain, needed/needs, met, quotes, determine, meaning, context</p> <p>From “Garrett Morgan: Inventor Hero”: prevent, tragedy, visible, caution, intersection, oncoming</p> <p>From “The Invention of the Airplane”: tackling, field, interest, attempts, manufacture, substantial, regarding, capacity</p>	<ul style="list-style-type: none">• Journals (begun in Unit 1, Lesson 1; one per student)• Document camera• Index cards (eight per student)• “Garrett Morgan: Inventor Hero” (one per student in traffic signal expert groups)• “The Invention of the Airplane” (one per student in airplane expert groups)• Group Norms anchor chart (begun in Unit 1, Lesson 1)• Expert Text anchor chart (begun in Lesson 2)• Invention of the Traffic Signal note-catcher (one per student in traffic signal expert groups)• Invention of the Traffic Signal: Close Reading Guide (for teacher reference)• Expert Text Note-catcher: The Airplane (one per student in airplane expert groups)• Expert Text Note-catcher: The Airplane (answers, for teacher reference)• Airplane task card (one per student in airplane expert groups)• Dictionaries (one per triad)• Vocabulary Strategies anchor chart (begun in Unit 1, Lesson 2)• Vocabulary Definitions: Lesson 3 (for teacher reference)• Hot Seat Tickets (one per student)• Graphic Novel Sketch, Part 1 (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to join their expert group triads from Lesson 2. Then, ask triads studying the same invention to “pair up.”• Explain that in order to review the vocabulary terms students defined for homework, they will participate in vocabulary charades.• Ask students to take out the vocabulary cards they completed for homework. Then give these directions:<ol style="list-style-type: none">1. One member of your group of six chooses one term from the vocabulary cards to silently act out for the rest of the group to guess.2. Group members get a total of three tries to figure out which word their peer is acting out.3. If no one guesses the correct word after three tries, the student tells the group what word they were trying to act out.4. A new group member repeats Steps 1–3.• Clarify directions or model as necessary. Explain that abstract terms may be harder to act out, but breaking the word into two parts and acting each part individually can help. Remind students that they are all familiar with the list of possible terms.• Choose one student from each group to start the activity. Ask them to begin and circulate to offer support.• After 3 minutes, focus students whole group. Ask triads to discuss:<ul style="list-style-type: none">* “How do key terms from the text help you to better understand how the invention you are studying was developed to meet people’s needs?”• After 1 minute, invite a couple of students to share their ideas whole group. Listen for examples such as:<ul style="list-style-type: none">– “The word <i>pioneers</i> from the Wright brothers article helped me understand that their idea for how to build a plane was new and innovative for the time.”– “The word <i>congested</i> from the Garrett Morgan article helped me understand how busy and crowded intersections were during his time.”• Explain that students’ work today is similar to the work they completed in the previous lesson. They will continue to determine the meaning of key terms and capture notes about an invention that was developed to meet societal needs. These tasks will help them recognize important ideas from the text and prepare for the on-demand note-taking assessment in Lesson 5.	<ul style="list-style-type: none">• Offer a sentence frame to help students participate in the discussion: “The word _____ helped me understand how _____ met people’s needs because_____.”



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: Expert Text 2 (15 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their journals and separate themselves into their triads from Lesson 2.• Tell them that their task for today is to capture notes from a new article about either the traffic signal or airplane to add to their knowledge about the invention they are studying and how it affected society.• Tell them that their work with the new texts begins with reading for gist, but today they will also be asked to locate and consider key terms from their texts during this first read.• Use a document camera to display the vocabulary terms for each expert group.<ul style="list-style-type: none">– Airplane expert group key terms: <i>tackling, field, interest, attempts, manufacture, substantial, regarding, capacity</i>– Traffic signal expert group key terms: <i>prevent, tragedy, visible, caution, intersection, oncoming</i>• Distribute eight index cards to each student.• Direct them to record each of their vocabulary terms on one side of their index cards.• Display these directions:<ol style="list-style-type: none">1. Read your new expert text with triad members. Take turns reading aloud while other group members follow along silently.2. Circle key vocabulary terms as you notice them in the text.3. Discuss the gist of the text with your triad members. Try to include at least one key term in your gist statement.4. Record the gist on the same page in your journal that you recorded the gist from Lesson 2.5. If time permits, begin discussing the key terms with group members and record synonyms or definitions for each word on the front of your index cards.• Clarify directions as needed, and then distribute the articles “Garrett Morgan: Inventor Hero” and “The Invention of the Airplane” to the appropriate expert groups.• Ask students to begin and circulate to support their work and offer guidance.• After 7 or 8 minutes, refocus students whole class. Cold call a few from each expert group to share their gist statement aloud with the class. Listen for responses such as:<ul style="list-style-type: none">– “The Wright brothers’ heavier-than-air craft had a substantial impact on the field of airplane development.”– “Garrett Morgan was concerned for others, so he invented machines to help prevent tragedies.”	<ul style="list-style-type: none">• In addition to displaying each expert group’s key terms and directions for the activity, consider providing some students with their own version, especially those who you know have trouble seeing the board or tracking from board to paper.• Consider reading with a small group of students who struggle with complex text. Modify the length of the text, but carefully select deletions so they are still prepared to contribute a meaningful gist and vocabulary to their triad discussions.



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Close Reading Guide: “Garrett Morgan: Inventor Hero” or Expert Text Note-catcher: The Airplane (30 minutes)</p> <ul style="list-style-type: none"> Focus students’ attention on the learning targets: <ul style="list-style-type: none"> * “I can conduct research to take notes about how an invention was developed to meet society’s needs.” * “I can explain what people needed and how their needs were met, using quotes from the text.” * “I can determine the meaning of unfamiliar words and phrases by using context clues and other strategies.” Underline the key terms students are familiar with from previous units and lessons: <i>conduct research, take notes, invention, developed, explain, needed/needs, met, quotes, determine, meaning, and context</i>. Point out that these are the same targets they worked on during the previous lesson. Ask triads to discuss: <ul style="list-style-type: none"> * “How did you work independently and with triad group members to meet these targets during the previous lesson?” After 1 or 2 minutes, cold call a variety of students to share their group’s thinking whole class. Listen for responses such as: <ul style="list-style-type: none"> – “We reread our articles to locate details about the background of our invention, the inventor(s), the process and solution, and the impact of the invention on people’s lives.” – “We took notes in the form of quotes and paraphrased details from the text.” – “We responded to the questions in the thought and speech bubbles to explain what people needed and how their needs were met, based on the notes from the four boxes on our note-catchers.” – “We determined the meaning of unfamiliar words by using context clues and parts of the word we already knew, and by using resources such as dictionaries and glossaries.” Explain that although both expert groups used the same Expert Text note-catchers in Lesson 2 to meet these targets, today only the airplane expert groups will use those note-catchers to capture ideas from their new text. The traffic signal expert groups will participate in a teacher-directed close reread and note capture of the article “Garrett Morgan: Inventor Hero.” Say something like: <ul style="list-style-type: none"> * “I will need the airplane expert groups to work more independently today as I work with the triads studying Garrett Morgan’s invention of the traffic signal.” Remind airplane expert group members that they can refer to the Group Norms anchor chart for ideas about how to work well together, as well as the Expert Text anchor chart if they get stuck or need a reminder about how to complete various sections of their Expert Text note-catchers. 	<ul style="list-style-type: none"> Consider providing a task card to keep all students moving in case they are ready for you before you are at a good stopping point with an expert group. Offer a sentence frame to provide all students access to the group discussion before cold calling: “Quotes and paraphrased details helped me with my thoughts and speech bubble sections because _____” or “I knew a detail was relevant if _____.”



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Distribute The Invention of the Traffic Signal note-catcher to the appropriate expert groups. Ask triads to read through each of the questions on their note-catchers together and restate each question in their own words to demonstrate that they understand what the question is asking.• As traffic signal expert groups are reading and restating, distribute the Expert Text Note-catcher: The Airplane and Airplane task card to the airplane expert groups.• Read the directions on the task card aloud and provide clarification as needed. Make sure students have access to print or online dictionaries. Ask students to begin.• Return to work with the traffic signal expert groups. Take a moment to allow a few students to share out their restatements of the questions on their The Invention of the Traffic Signal note-catchers. Address misinterpretations as needed.• Use the Invention of the Traffic Signal Close Reading Guide (for teacher reference) to lead the traffic signal expert groups through "Garrett Morgan: Inventor Hero."• When the traffic signal triads have answered all but the final question on their note-catchers, give them these directions:<ol style="list-style-type: none">1. With group members, read and restate the final question on your note-catcher.2. Review your responses to the other questions on your note-catcher and information from the article to help you determine an answer to the last question.3. Discuss your thinking with group members, and then record a response to the final question.4. Use context clues and other strategies to determine the meaning of key terms you recorded onto index cards during Work Time A. Write a short definition or synonym and draw a picture of the meaning of each word on the back of your index cards.• Clarify as needed. Remind traffic signal expert groups to refer to the Group Norms anchor chart for ideas about how they can work together to complete each task cooperatively, and the Vocabulary Strategies anchor chart for ways to determine the meaning of unfamiliar words and phrases. Have dictionaries available for their use.• As traffic signal expert groups get started, move back to work with the airplane expert groups. Stop them in their work to ask how many triads have completed the speech and thought bubble questions on the Expert Text note-catcher. If most of the groups have <i>not</i> completed these parts of the note-catcher, allow them 1 or 2 additional minutes to discuss their thinking about how to answer each question and then record their responses. Circulate to offer guidance.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Once airplane experts have answered the thought and speech bubble questions, cold call a few to share their responses aloud. See the Expert Text Note-catcher: The Airplane (answers, for teacher reference) for possible responses.• Ask the airplane expert groups to consider and discuss:<ul style="list-style-type: none">* “How did quotes and paraphrased details in your notes help you answer the thought and speech bubble questions?”* “How did you determine which information from the article was relevant?”• After 1 or 2 minutes, cold call a few students to share out. Listen for ideas like:<ul style="list-style-type: none">– “I looked for words and phrases in the quotes and paraphrased details on my note-catcher that were related to key terms from the thought and speech bubble questions; I summarized related details to craft a response to the thought and speech bubble questions.”– “I referred to the prompts in each box to help me determine whether certain details were relevant, the kind of information that could be used to respond to the prompt accurately.”• Focus students' whole group. Invite a few to share out an example of how they used one of the strategies on the Vocabulary Strategies anchor chart to define an unknown word. Listen for them to describe how they used context clues, Greek or Latin roots, familiar parts of a word, or a dictionary to define key terms.• Allow students 2 or 3 minutes to mingle with members of other triads who are studying the same invention to share and compare the definitions, synonyms, and drawings of key terms they recorded onto index cards.• As time permits, allow students to make revisions to their vocabulary cards and note-catchers, based on new understandings about key terms after conversations with peers.• Collect students' completed vocabulary cards to review. See Vocabulary Definitions: Lesson 3 (for teacher reference) and the Teaching Note at the end of this lesson, after Homework.• Ask students to hold on to their note-catchers to use during an extended debrief of their learning.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (10 minutes)</p> <ul style="list-style-type: none"> Review the Hot Seat protocol with students and clarify directions as needed. Have them check under their seats for a Hot Seat Ticket and locate the number on their ticket. Explain that this number indicates the order in which they will answer the questions on the ticket. Encourage students to take a moment to silently read and consider their question, then refer to their notes, articles, and vocabulary cards to help them formulate a response to each question. In number order, ask students to read their question aloud and share their response. Answers to Hot Seat questions will vary, but responses might include: <ul style="list-style-type: none"> “The airplane changed people’s lives by making travel much easier and more comfortable. It also improved defense services and emergency rescues.” “The traffic signal changed people’s lives by making streets more organized so there were fewer accidents and pedestrians could cross safely.” “The Wright brothers’ interest and passion in flying machines as well as their determination to work for many years helped them develop a heavier-than-air plane.” “Garrett Morgan’s concern for others and his mechanical-mindedness helped him succeed in building a traffic signal because he was able to create one that worked at day and night and for cars, carriages, and pedestrians.” “I think the quote, ‘Airplanes gave us the opportunity to explore different parts of the world. Tackling emergency situations like floods became easier. Airplanes are also an important part of the defense services’ was most helpful because it gives specific examples of needs that have been met by airplanes.” “The quote, ‘To solve these problems, Morgan invented an electric traffic signal with three positions: stop, go, and an all direction stop for vehicles to let pedestrians cross in safety. His signals could operate 24 hours a day, with a spotlight for nighttime use’ was most helpful to me because it explained what his signal did to make the streets safer all day long.” “I notice that the Wright brothers worked on their invention for many years, just like Philo Farnsworth.” “Garrett Morgan and Michael Faraday were both mechanically minded.” Praise students for their ability to make inferences and use details from their notes, the text, and key terms to help them think about why and how the inventions they are studying were developed as well as the impact those inventions had on people’s lives. 	<ul style="list-style-type: none"> To support students who struggle to synthesize information quickly, invite them to a small group, narrow their Hot Seat questions so they each have something similar, and support them in consolidating their ideas to be ready to share when it’s their turn.



Closing and Assessment (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Read each of the learning targets aloud and ask students to use Glass, Bugs, and Mud to demonstrate their level of mastery toward each target. Note those who show bugs or mud, as they may need more support taking notes or determining the meaning of key terms.• Distribute the Graphic Novel Sketch, Part 1. Read through the directions with students and provide clarification as needed.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread your article: "Garrett Morgan: Inventor Hero" or "The Invention of the Airplane." Complete your Graphic Novel Sketch, Part 1. Read independently for at least 15 or 20 minutes. <p><i>Note: Because students will need access to their note-catchers for homework, find a time before the end of the day to make copies of their Expert Text and The Invention of the Traffic Signal note-catchers to gauge their ability to locate and record relevant notes (in the form of quotes and paraphrased details from the text). Make determinations about which students may need additional support to master these skills before taking the on-demand note-taking mid-unit assessment in Lesson 5.</i></p> <p><i>Review the definitions/synonyms/drawings on students' vocabulary cards to evaluate whether they may require additional support before they can independently use a variety of strategies to determine the meaning of unfamiliar words and phrases. Be prepared to return students' cards in the next lesson.</i></p>	



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 3

Supporting Materials

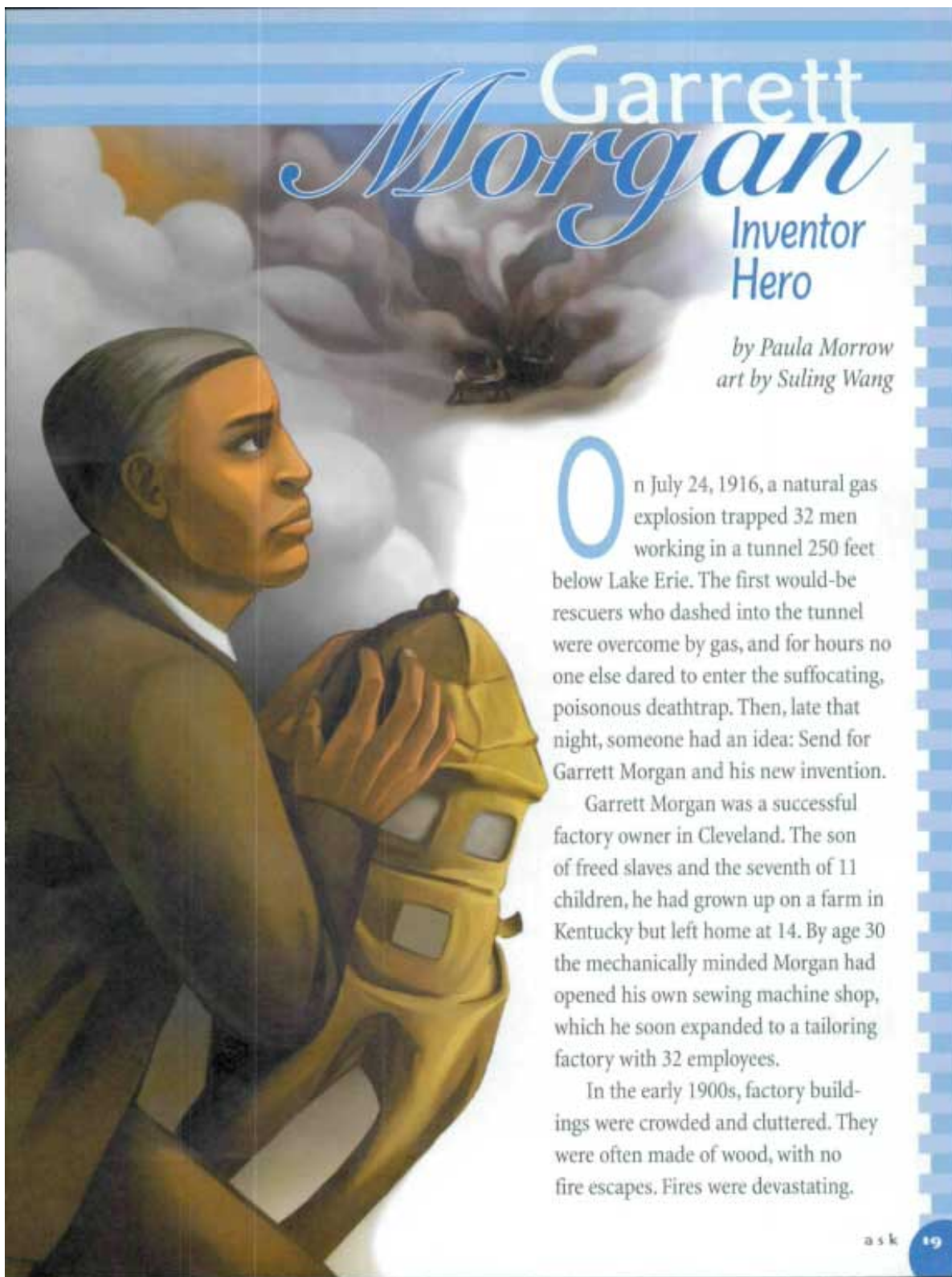


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Garrett Morgan: Inventor Hero



Garrett Morgan

Inventor Hero

by Paula Morrow
art by Suling Wang

On July 24, 1916, a natural gas explosion trapped 32 men working in a tunnel 250 feet below Lake Erie. The first would-be rescuers who dashed into the tunnel were overcome by gas, and for hours no one else dared to enter the suffocating, poisonous deathtrap. Then, late that night, someone had an idea: Send for Garrett Morgan and his new invention.

Garrett Morgan was a successful factory owner in Cleveland. The son of freed slaves and the seventh of 11 children, he had grown up on a farm in Kentucky but left home at 14. By age 30 the mechanically minded Morgan had opened his own sewing machine shop, which he soon expanded to a tailoring factory with 32 employees.

In the early 1900s, factory buildings were crowded and cluttered. They were often made of wood, with no fire escapes. Fires were devastating.

ask 19



Garrett Morgan: Inventor Hero

Morgan's safety hood (shown below) was the model for the gas mask used by the U.S. Army during World War I. The gas mask saved countless lives.



Concerned about his employees, Morgan experimented with a "safety hood" that would allow the wearer to breathe despite a fire's toxic smoke. Morgan knew smoke rises during a fire, so he created a heat-resistant hood with a long tube reaching to the floor. Wearing Morgan's hood, a firefighter could breathe the cleaner air near the ground. Morgan lined the breathing tube with a sponge-like material that was moistened before use to cool and filter the air. A second tube released exhaled air.

Roused from home on the night of the tunnel explosion, Garrett rushed to the disaster site with samples of his safety hood.



Anxious survivors of the tunnel disaster wait to see if Garrett Morgan's invention will save the trapped workers.

Still in their pajamas, he and his brother Frank put on hoods and bravely entered the tunnel. It was a dangerous test of the invention, but they saved two lives and recovered four bodies before officials closed the site. Morgan knew that more lives might have been saved if he had been called sooner.

The daring rescue made Morgan famous and brought requests for safety hoods from fire departments around the country. But his greatest reward was knowing that his invention would now save more people.

Over the years, Morgan patented many ideas that saved lives or made life easier. In those days, city streets were crowded with horses, carriages, bicycles, and pedestrians. One day, Morgan—the first African American in Cleveland to



Garrett Morgan: Inventor Hero

buy an automobile—was driving his new car when he witnessed a terrible collision between another car and a horse-drawn carriage. Morgan decided that traffic-control signals could prevent such tragedies.

Other inventors had experimented with this idea, but their mechanical signals had to be operated by hand and were not visible at night. In addition, existing signals had no caution sign between stop and go, so a driver going one direction might start across an intersection before an oncoming driver had time to stop. To solve these problems, Morgan invented an electric traffic signal with three positions: stop, go, and an all-directional stop for vehicles to let pedestrians cross in safety. His signals could operate 24 hours a

day, with a spotlight for nighttime use. After patenting his design, Morgan sold the rights to General Electric Corporation for \$40,000. His signals were used across the country and set the standard for the red-yellow-green traffic lights we use today.

Once in a while, someone comes along who actively looks for ways to keep others safe. Such a person was Garrett Morgan who, in addition to his inventive genius, was blessed with genuine concern for the well-being of other people.

Why worry about traffic when you can fly?



When's my turn to go?



A good old-fashioned traffic jam—before Garrett Morgan's invention.

Do pedestrians or horses have the right of way?





The Invention of the Airplane (excerpts)
by Shashank Nakate

The invention of the airplane changed the way we travel and also made traveling very comfortable. Airplanes gave us the opportunity to explore different parts of the world. Tackling emergency situations like floods became easier. Airplanes are also an important part of the defense services.

Who Invented the Airplane?

The Wright brothers from the USA invented the first airplane. They used to study the experiments and research taking place in the field of airplane development. Their interest and passion for airplanes led to the development of the first heavier-than-air plane.

First Airplane to Fly

The Wright brothers, Wilbur and Orville, began working on the idea of building airplanes in 1899. They finally succeeded in flying the first airplane on 17th December, 1903. It was a historic day, since many attempts to manufacture an airplane had earlier met with failure.

Airplane History

Substantial work in the field of airplane development took place in the 19th century. However, there was a lot of interest among people regarding airplanes from the times of Leonardo da Vinci. Though the airplane was invented in 1903, it became popular only after the government of America used it for the Air-Mail service. Thereafter, airplanes gained popularity and were used for many different purposes.

Today's airplanes have become technologically advanced and possess a sophisticated design. The recently launched Airbus 380 is the biggest passenger airplane. It has a capacity to carry 853 passengers and travel at a speed of 900 km/hr. The Antonov An-225 Mriya is the heaviest aircraft in the world.



Invention of the Traffic Signal note-catcher

Refer to the article “Garrett Morgan: Inventor Hero” to help you respond to these questions.

<p>Reread Paragraph 2 silently; then use details from the text to answer the questions on the right.</p>	<p>Locate and circle the phrase “mechanically minded.” What do you think “mechanically minded” means? What words from the text make you think so?</p> <p>Underline the parts of this paragraph that explain how Garrett Morgan demonstrated he was “mechanically minded.”</p>
<p>Whisper read Paragraph 6, then use details from the text to answer the questions on the right.</p>	<p>Why did Garrett Morgan think people needed a traffic-control signal?</p>



Invention of the Traffic Signal note-catcher

Refer to the article “Garrett Morgan: Inventor Hero” to help you respond to these questions.

Reread Paragraph 7 silently; then use details from the text to answer the questions on the right.

What were some of the problems with other inventors’ ideas for a traffic signal?

How was Garrett Morgan’s traffic-control signal different from previous signals?

Reread to underline words and phrases from this paragraph that helps you understand how Garrett Morgan’s traffic-control signal made intersections safer for people.

The article states, “His signals were used across the country and set the standard for the red-yellow-green traffic lights we use today.” Locate and circle the phrase “set the standard.” Underline words from the text that help you determine the meaning of this phrase. What does “set the standard” mean?



Invention of the Traffic Signal note-catcher

Refer to the article “Garrett Morgan: Inventor Hero” to help you respond to these questions.

<p>Reread Paragraph 8 aloud together with your group members, then use details from the text to answer the questions on the right.</p>	<p>Reread to locate and underline words and phrases that describe what type of person Garrett Morgan was. Then paraphrase the text you underlined to describe Garrett Morgan.</p> <p>How did these qualities lead Garrett Morgan to the development of his traffic-control signal?</p>
<p>Refer to the visual elements at the end of the article.</p>	<p>What types of visual elements are used to help the reader understand what people’s problem was? Explain.</p> <p>What types of visual elements are used to help the reader understand the solution to people’s problem? Explain.</p>
<p>Review your answers to the above questions and the article to help you respond to the prompt on the right.</p>	<p>In your own words, explain what people needed.</p> <p>How did Garrett Morgan’s invention of the traffic-control signal meet people’s needs?</p>



Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Total Time: 30 minutes

Directions	Questions	Teaching Notes
Reread Paragraph 2 silently; then use details from the text to answer the questions on the right.	<p>Locate and circle the phrase “mechanically minded.” What do you think “mechanically minded” means? What words from the text make you think so?</p> <p>Underline the parts of this paragraph that explain how Garrett Morgan demonstrated he was “mechanically minded.”</p>	<p>Give students 1 or 2 minutes to read the second paragraph and circle the phrase “mechanically minded.”</p> <p>Ask them to consider and discuss in groups what they think this phrase means (encourage them to refer to the Vocabulary Strategies anchor chart for ideas about how to determine the meaning of unfamiliar words).</p> <p>Cold call a few students to share what they think “mechanically minded” means and which words in the text made them think so. Listen for responses like:</p> <p><i>I think mechanically minded means being smart about/good with machines because the article says Garrett Morgan opened a sewing machine shop and expanded it into a factory; he was a successful factory owner by age 30.</i></p> <p>Ask students to record a response to the first question, then read the second question aloud. Draw their attention to the word <i>demonstrated</i>. Ask them to quickly discuss what they think <i>demonstrated</i> means. After 1 minute, invite one or two students to share their thinking. Listen for:</p> <p><i>Demonstrated means showed what someone did.</i></p>



Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
		<p>Ask students to quickly look back through the second paragraph to locate and underline examples of how Garrett Morgan demonstrated he was mechanically minded. After 2 minutes, cold call a few students to share out. Listen for:</p> <p><i>Garrett Morgan demonstrated he was mechanically minded because he was “a successful factory owner (in Cleveland)”;</i> <i>by age 30 he had opened his own sewing machine shop; he “expanded to a tailoring factory (with 32 employees).”</i></p>
<p>Whisper read Paragraph 6, then use details from the text to answer the questions on the right.</p>	<p>Why did Garrett Morgan think people needed a traffic-control signal?</p>	<p>Give students 1 or 2 minutes to whisper read the paragraph. Then, reread the question and allow them to quickly go back to the text to locate and record details that help them understand the reasons Garrett Morgan thought people needed a traffic-control signal. Cold call a few students to share out their thinking. Listen for:</p> <p><i>The reasons Garrett Morgan thought people needed a traffic signal were that city streets were crowded; he saw a terrible collision between a car and a horse-drawn carriage; he thought traffic control signals could prevent tragedies.</i></p>



Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
Reread Paragraph 7 silently; then use details from the text to answer the questions on the right.	<p>What were some of the problems with other inventors' ideas for a traffic signal?</p> <p>How was Garrett Morgan's traffic-control signal different from previous signals?</p> <p>Reread to underline words and phrases from this paragraph that helps you understand how Garrett Morgan's traffic-control signal made intersections safer for people.</p>	<p>Allow students 1 or 2 minutes to reread Paragraph 7 to locate details that help them answer the question. Cold call a few students to share their thinking whole group. Listen for:</p> <p><i>Some problems were that their "signals had to be operated by hand and were not visible at night" and "existing signals had no caution sign between stop and go, so a driver going one direction might start across an intersection before an oncoming driver had time to stop."</i></p> <p>Next, prompt students to reread the paragraph and underline words and phrases that help them understand how Garrett Morgan's traffic signal made intersections safer for people. After 1 or 2 minutes, cold call a few students to share out the text they underlined. Listen for:</p> <p><i>Garrett Morgan's signal had three positions: "stop, go, and an all directional stop for vehicles to let pedestrians cross in safety" and "his signals could operate 24 hours a day, with a spotlight for nighttime use." They allowed pedestrians to cross the street safely and signaled drivers when it was their turn to go so they would not crash into each other.</i></p>



Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
	<p>The article states, “His signals were used across the country and set the standard for the red-yellow-green traffic lights we use today.” Locate and circle the phrase “set the standard.” Underline words from the text that help you determine the meaning of this phrase. What does “set the standard” mean?</p>	<p>As time allows, consider asking students to come to the front of the classroom to dramatize the problems and solutions they describe.</p> <p>Ask students to locate and circle “set the standard” in this paragraph. Then ask them to reread and underline context clues that help them understand the meaning of this term. Direct triads to briefly discuss the term, the text they underlined, and what they think this phrase means. After 2 minutes, cold call a few students to share out their definitions and explain how they arrived at them. Listen for ideas such as:</p> <p><i>I think “set the standard” means that newer inventions were based on Garrett Morgan’s invention because the article explains that the signal Garrett Morgan came up with is the basis for the modern red, yellow, and green traffic lights we use today.</i></p>



Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
Reread Paragraph 8 aloud together with your group members; then use details from the text to answer the questions on the right.	<p>Reread to locate and underline words and phrases that describe what type of person Garrett Morgan was. Then paraphrase the text you underlined to describe Garrett Morgan.</p> <p>How did these qualities lead Garrett Morgan to the development of his traffic-control signal?</p>	<p>Allow students 2 or 3 minutes to chorally read the paragraph with group members and underline text that describes what type of person Garrett Morgan was. Then, invite a few students to share out details they underlined. Listen for:</p> <p><i>Garrett Morgan was the type of person who looked for ways to keep people safe; he was an inventive genius; he was genuinely concerned for the well being of other people.</i></p> <p>Then, ask students to consider and discuss with group members: “How could you paraphrase these details, in your own words, to describe what type of person Garrett Morgan was?” After 1 or 2 minutes, cold call a few students to share their thinking whole group. Listen for suggestions like:</p> <p><i>Garrett Morgan was a great inventor who wanted nothing more than to make people’s lives safer.</i></p> <p>Ask students to read and restate the second question in their own words. Invite a few to share out how they restated the question.</p> <p>Tell students to take a moment to go back to the text to help them formulate a response to the question. After 1 or 2 minutes, cold call a few students to share out their thinking. Listen for:</p> <p><i>Because Garrett Morgan cared about safety and other people and was inventive, he was able to develop a traffic signal that would help pedestrians, cars, and carriages stay safe and avoid tragedy in busy intersections.</i></p>



Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
Refer to the visual elements at the end of the article.	<p>What types of visual elements are used to help the reader understand what people's problem was? Explain.</p> <p>What types of visual elements are used to help the reader understand the solution to people's problem? Explain.</p>	<p>Give students 2 minutes to review the visual elements (if they need support identifying and naming the types of visual elements in the photo, remind them that they may refer to the Visual Elements resource in their journals, from Unit 1, Lesson 1, for support.) Cold call a few students to share out their thinking. Listen for:</p> <p><i>The article has a (historical) photo of how busy intersections were (the number of people, cars, carriages using the road at the same time); there is a thought bubble coming from a person in the photo that shows a person wondering, "Do pedestrians or horses have the right of way?"; there is a cartoon animal with a speech bubble asking, "When's my turn to go?"</i></p> <p>Focus students on the second question and point out that this time they are looking for visual elements that support their understanding of the solution to the problem. After 1 or 2 minutes, cold call a few students to share out the visual elements that support their understanding of the solution. Listen for:</p> <p><i>There is a patent drawing of Garrett Morgan's traffic-control signal that shows how signs popped out and were visible to show when people could take turns crossing; it shows how Garrett Morgan's traffic signal worked.</i></p>



Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
Review your answers to the above questions and the article to help you respond to the prompt on the right.	<p>In your own words, explain what people needed.</p> <p>How did Garrett Morgan's invention of the traffic-control signal meet people's needs?</p>	<p>Allow students 2 or 3 minutes to review their responses, discuss their thinking with group members, and write a response to the first question. Then, invite a few students to share their thinking aloud. Listen for:</p> <p><i>People needed a way to avoid collisions in busy intersections and a way for pedestrians to cross intersections safely.</i></p> <p>Focus students on the second question. Once again, ask them to review their responses, discuss their thinking in groups, and then formulate a response to the question. After 2 minutes, cold call a few students to share out their thinking. Listen for ideas like:</p> <p><i>Garrett Morgan's invention told people when it was safe to stop, go, and let pedestrians cross in safety (so there would be fewer collisions).</i></p>



Expert Text Note-catcher: The Airplane

What need or want inspired the development of this invention?

How were people's needs met, and by whom?

Background information about the
INVENTION

Explain why people needed or wanted this invention.

Background information about the
INVENTOR(S)

Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

Information about developing a
SOLUTION

Explain how the inventor(s) solved the problem.

Information about the **IMPACT**

Explain how this invention changed people's lives.



Airplane Task Card

1. Independently, reread the article “The Invention of the Airplane.”
2. As you read, look for and underline details that respond to the prompt in each gray box of your note-catcher: background about the INVENTION; background about the INVENTOR(S); information about developing a SOLUTION; and information about the IMPACT.
3. With your triad, share the details you underlined and discuss:
 - * “Is this information *relevant*?”
 - * “Where should I record this information on my note-catcher (which gray box)?”
 - * “Should I quote this information or paraphrase it on my note-catcher? Why?”
4. Record at least one or two relevant details in each box (make sure to record quotes and paraphrased information on your note-catcher).
5. Refer to your notes (quotes and paraphrased details) to help you respond to the thought and speech bubble questions. Remember to use key terms from the questions in your responses.
6. Once you have completed your note-catcher, work with group members to determine the meaning of key terms on your vocabulary cards, using context clues and other strategies. On the back of your index cards, write a synonym or definition and draw a picture to show the meaning of each word.



Expert Text Note-catcher: The Airplane
(Answers, for Teacher Reference)

What need or want inspired the development of this invention?

People had wanted to fly since the time of da Vinci, and earlier attempts to invent airplanes had failed.

How were people's needs met, and by whom?

The Wright brothers' invention of the airplane in 1903 allowed people to fly comfortably to places all over the world. Airplanes are also used to help in emergency situations and with our defense services.

Background information about the INVENTOR(S)
Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

- "They used to study the experiments and research taking place in the field of airplane development."
- They had an interest and passion for airplanes that led to their development of the first heavier-than-air plane.

Information about developing a SOLUTION
Explain how the inventor(s) solved the problem.

- They began working on their idea for a plane in 1899.
- "They finally succeeded in flying the first airplane on 17th December, 1903."

Information about the IMPACT
Explain how this invention changed people's lives.

- "The invention of the airplane changed the way we travel."
- Airplanes make traveling more comfortable.
- Airplanes allow us to visit and explore other parts of the world.
- They are used to help during emergency situations such as floods.
- They "are an important part of the defense services."
- An Airbus 380 can carry 853 passengers to places around the world.



Vocabulary Definitions: Lesson 3
(For Teacher Reference)

“Garrett Morgan: Inventor Hero”	“The Invention of the Airplane”
prevent – stop, avoid	tackling – confronting; dealing with a difficult situation
tragedy – disaster; something bad that happens	field – area, subject
visible – can be seen; noticeable; in sight	interest – something someone enjoys doing
caution – warning	attempts – efforts
intersection – crossing point, overlapping streets	manufacture – build, create, make, construct
oncoming – approaching, getting closer	substantial – large amount; significant
	capacity – the amount something can hold



Hot Seat Tickets

<p>1</p> <p>How did the invention you are studying change people's lives?</p>	<p>1</p> <p>How did the invention you are studying change people's lives?</p>
<p>2</p> <p>What special skills helped the inventor(s) you are learning about succeed where others did not?</p>	<p>2</p> <p>What special skills helped the inventor(s) you are learning about succeed where others did not?</p>
<p>3</p> <p>Which three vocabulary terms do you think are most important to the gist of the article you read? Explain your thinking.</p>	<p>3</p> <p>Which three vocabulary terms do you think are most important to the gist of the article you read? Explain your thinking.</p>
<p>4</p> <p>Which quote from the text best helps you explain how people's needs were met by this invention?</p>	<p>4</p> <p>Which quote from the text best helps you explain how people's needs were met by this invention?</p>
<p>5</p> <p>What similarities do you notice between the inventor you are studying and Philo Farnsworth?</p>	<p>5</p> <p>What similarities do you notice between the inventor you are studying and Philo Farnsworth?</p>

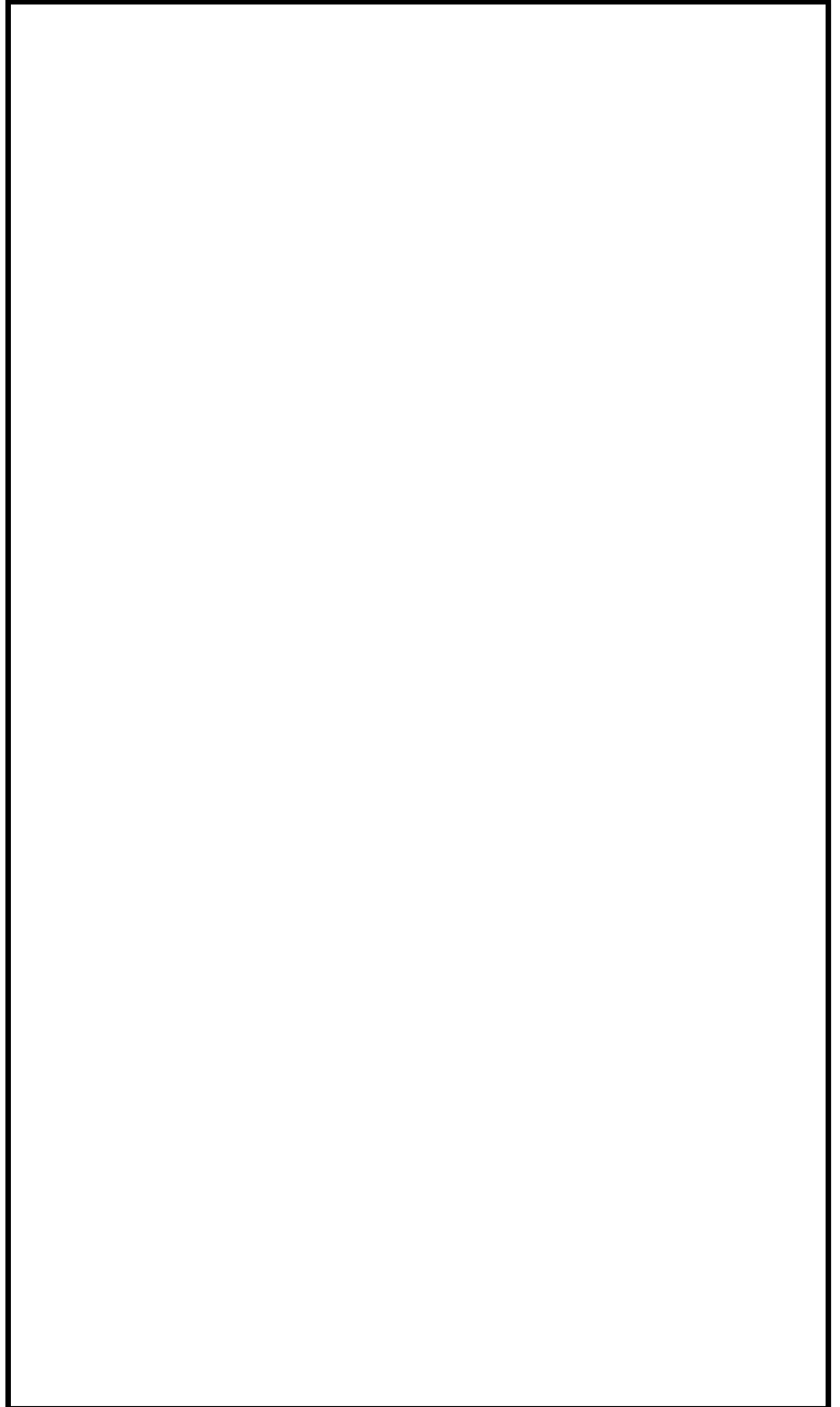


Graphic Novel Sketch,
Part 1

The Splash Page of a graphic novel introduces the situation, characters, and setting through the use of detailed images. It is a visual way for the author to communicate important information to the reader. This sketch is an opportunity to share information about the topic you are researching in a visual way to help you prepare to create your own graphic novelette.

Directions:

1. Read and consider the thought bubble on your Expert Text note-catcher to identify details that help explain the **need** or **want** that inspired the development of the invention you are researching.
2. Use the panel provided to sketch one image for a Splash Page that introduces the need or want that inspired the development of the invention. Your sketch should include visual representations of the details you identified in Step 1.
3. Include a speech or thought bubble with text that explains/states the need or want that inspired the development of the invention you are studying.
4. Finish the sketch by using one color to draw attention to the most important details.





EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 4

Expert Research Groups: How the Traffic Signal and Airplane Met Society's Needs, Part 3



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7)
I can gather relevant data from print and digital sources; I can summarize or paraphrase information in notes and finished work. (W.5.8)
I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1)
I can draw on information from multiple print sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (RI.5.7)

Supporting Learning Targets

- I can conduct research to take notes about how an invention was developed to meet society's needs.
- I can explain what people needed and how their needs were met, using quotes from the text.
- I can answer a question quickly, drawing on information from multiple sources.

Ongoing Assessment

- Graphic Novel Sketch, Part 1 (from homework)
- Expert Text note-catcher: Traffic Signal (traffic signal expert groups)
- Invention of the Airplane note-catcher (airplane expert groups)
- Answering Questions from Multiple Sources handout



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Homework Review and Engaging the Reader (5 minutes)Work Time<ol style="list-style-type: none">Determining the Gist: Expert Text 3 (10 minutes)Second Read: Close Reading Guide: "Airplane" or Expert Text Note-catcher: "The Two-Fold Genius of Garrett Morgan" (30 minutes)Drawing on Information from Multiple Sources to Answer Questions Quickly (10 minutes)Closing and Assessment<ol style="list-style-type: none">Debrief and Review Learning Targets (5 minutes)Homework<ol style="list-style-type: none">Graphic Novel Sketch, Part 2.Independent reading.	<ul style="list-style-type: none">This lesson follows a pattern similar to Lessons 2 and 3. Students once again work in expert groups to determine the gist of a third article about the invention they are studying, either the traffic signal or the airplane. While the traffic signal groups complete their Expert Text note-catchers, the airplane expert groups are led through a close read of the article "Airplane" using the Close Reading Guide in the supporting materials.During Work Time C, students work in triads to quickly locate answers to several questions using the articles they have read over the course of Lessons 2–4, which gives them practice with ELA Standard RI.5.7.In advance:<ul style="list-style-type: none">Review the Gallery Walk protocol (see Appendix) for Work Time A.Post: Learning targets, lesson vocabulary from expert texts.



Lesson Vocabulary	Materials
<p>conduct research, take notes, invention, developed, explain, needed/needs, met, quotes, drawing, multiple resources</p> <p>From “The Twofold Genius of Garrett Morgan”: apprentice, equipment, running, transportation, eventually</p> <p>From “Airplane”: unreliable, destination, accomplish, efficient, requirement</p>	<ul style="list-style-type: none"> • Sticky notes (two per student) • Journals (begun in Unit 1, Lesson 1; one per student) • Index cards (seven per student) • “Airplane” (one per student in airplane expert groups and one to display) • “The Twofold Genius of Garrett Morgan” (one per student in traffic signal expert groups and one to display) • Group Norms anchor chart (begun in Unit 1, Lesson 1) • Expert Text anchor chart (begun in Lesson 2) • Invention of the Airplane note-catcher (one per student in airplane expert groups) • Invention of the Airplane Close Reading Guide (for teacher reference) • Expert Text Note-catcher: Traffic Signal (one per student in traffic signal expert groups) • Expert Text Note-catcher: Traffic Signal (answers, for teacher reference) • Traffic Signal task card (one per student in traffic signal expert groups) • Dictionaries (one per triad) • Vocabulary Strategies anchor chart (begun in Unit 1, Lesson 2) • Vocabulary Definitions: Lesson 4 (for teacher reference) • “Wright Brothers: Inventors of the Airplane” (from Lesson 2; one per student in airplane expert groups and one to display) • “The Invention of the Airplane” (from Lesson 3; one per student in airplane expert groups and one to display) • “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2; one per student in the traffic signal expert groups and one to display) • “Garrett Morgan: Inventor Hero” (from Lesson 3; one per student in the traffic signal expert groups and one to display) • Document camera • Locating Answers Quickly anchor chart (one to display) • White board and dry erase marker (one per triad) • Graphic Novel Sketch, Part 2 (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out the Graphic Novel Sketch, Part 1 that they completed for homework.• Review and clarify the directions for a Gallery Walk.• Explain that as students silently view their classmates' Splash Page sketches during the Gallery Walk, they should identify praise for, and questions about, their classmates' work.• Distribute two sticky notes to each student and tell them to record at least one "praise" and one "question."• Have students display their Splash Page sketches by placing them on their desks or tables.• Give students 2 or 3 minutes to silently review their classmates' work and record praises and questions.• Refocus students' whole class.• Cold call several students to share praise for a classmate's work. Invite several to ask questions about their classmates' sketches and provide an opportunity for the classmate to respond.• Explain that sketches are a great way to demonstrate understanding of key ideas from the texts they read because creating visual representations of concepts allows students to share their thinking through imagery rather than text alone. Tell them that type of homework assignment also provides an opportunity to practice creating various parts of a graphic novel, such as the Splash Page. This helps prepare them for the final performance task, creating their own graphic novelette.	<ul style="list-style-type: none">• Offer to scribe for students who struggle with the physical act of writing to capture their praises and questions.



Work Time	Meeting Students' Needs
<p>A. Determining the Gist: Expert Text 3 (10 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their journals and sit with their triads.• Tell students they will work to determine the gist using the same strategy as in Lesson 3. They will look for and circle key terms as they read, and then try to incorporate at least one key term in their gist statements.• Display the key vocabulary terms for each expert research group:<ul style="list-style-type: none">– Traffic signal expert groups: <i>apprentice, equipment, running, transportation, eventually</i>– Airplane expert groups: <i>unreliable, destination, accomplish, efficient, requirement</i>• Distribute seven index cards to each student.• Ask them to quickly record each vocabulary word on its own index card.• Remind them that they will want to locate and circle their key terms as they read for gist, but that they will have more time to discuss and define the terms during their second read.• Display these directions for triads to follow as they read for gist:<ol style="list-style-type: none">1. Read your expert text with your triad. Take turns reading aloud while other group members follow along silently.2. Circle key vocabulary terms as you notice them in the text.3. Discuss the gist of the text with your triad. Try to use at least one key term in your gist statement.4. Record the gist on the same page in your journal that you recorded the gist from Lesson 3.5. If time permits, begin discussing the meaning of key terms and record synonyms or definitions on the back side of your vocabulary cards.• Clarify directions as needed.• Distribute “Airplane” to airplane expert groups and “The Twofold Genius of Garrett Morgan” to traffic signal expert groups.• Direct students to begin reading for gist. Circulate to offer support.	<ul style="list-style-type: none">• Provide a physical version of vocabulary terms to triad groups to support students who have trouble seeing the board or tracking from board to paper.• Consider reducing the number of vocabulary terms for students who struggle with vocabulary, reading, or writing. Alternatively, consider providing some definitions for them or providing index cards with parts of the definition missing that they must fill in.• Consider providing a physical version of the gist discussion directions to triad groups who struggle to see the board or track from board to paper.• Consider providing small group support to students who struggle to navigate complex text. Offer a modified amount of the text that still allows them to offer meaningful thoughts to the discussion of vocabulary and gist.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> After 5 or 6 minutes, cold call a few students from each group to share their gist statement with the whole class. Listen for responses such as: <ul style="list-style-type: none"> “Garrett Morgan was a successful businessman and inventor who created equipment that he thought people needed.” “Previous flying machines were unreliable, but the Wright brothers identified the requirements for a controlled plane and accomplished their dream of flying. Their invention has had a great impact on our lives.” 	
<p>B. Second Read: Close Reading Guide: “Airplane” or Expert Text Note-catcher: “The Twofold Genius of Garrett Morgan” (30 minutes)</p> <ul style="list-style-type: none"> Focus students' attention on the first two learning targets: <ul style="list-style-type: none"> * “I can conduct research to take notes about how an invention was developed to meet society's needs.” * “I can explain what people needed and how their needs were met, using quotes from the text.” Underline the key terms students are familiar with from previous units and lessons: <i>conduct research, take notes, invention, developed, explain, needed/needs, met, and quotes</i>. Point out that these are two of the same targets they worked on during the previous two lessons. Invite a few students to share out how they might restate each of these targets in their own words. Explain that in this lesson, expert groups studying the traffic signal will use the Expert Text note-catcher from Lesson 2 to capture notes about their invention, inventor, solution, and impact, then respond to the questions in the thought and speech bubbles. Airplane expert groups will participate in a teacher-directed close reread and note capture of the article “Airplane.” Say something like: <ul style="list-style-type: none"> * “Today, I will need the traffic signal expert groups to work more independently as I work with the airplane expert groups.” Remind traffic signal triads that they can refer to the Group Norms anchor chart for ideas about how to work cooperatively, as well as the Expert Text anchor chart if they get stuck or need a reminder about how to complete various sections of their Expert Text note-catchers. Distribute Invention of the Airplane note-catcher to the airplane expert groups. Ask triads to read through each of the questions on their note-catchers together and restate each question in their own words to demonstrate that they understand what the question is asking. As airplane expert groups are reading and restating, distribute the Expert Text Note-catcher: Traffic Signal and Traffic Signal task card to the traffic signal expert groups. 	<ul style="list-style-type: none"> Consider recording a strong example of a student restatement of the target to support all students, especially ELLs. Consider allowing students who struggle with the physical act of writing to work with a strong partner. They should contribute meaningfully to the work but record on only one note-catcher. Be sure to provide a copy of the note-catcher to both students as a resource in future lessons. Consider giving the airplane expert groups a task card of the second set of directions to allow them to work independently when you resume your work with another group.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Read the directions on the task card aloud to students and provide clarification as needed. Make sure they have access to print or online dictionaries. Ask them to begin. • Return to work with the airplane expert groups. Invite a few students to share out their restatements of the questions on their note-catchers. Address misinterpretations as needed. • Use the Invention of the Airplane Close Reading Guide (for teacher reference) to lead the airplane expert groups through their second read of the article "Airplane." • When students in airplane triads have answered all but the final question on their note-catchers, give them these directions: <ol style="list-style-type: none"> 1. With group members, read and restate the final question on your note-catchers. 2. Review your responses to the other questions on your note-catcher and information from the article to help you determine an answer to the last question. 3. Discuss your thinking with group members, then record a response to the final question. 4. Use context clues and other strategies to determine the meaning of key terms you recorded on index cards during Work Time A. On the back of your index cards, write a short definition or synonym and draw a picture of the meaning of each word. • Clarify any directions as needed. Remind the airplane expert groups to refer to the Group Norms anchor chart for ideas about how they can work together effectively to complete each task and the Vocabulary Strategies anchor chart for ways they can determine the meaning of unfamiliar words and phrases. Have dictionaries available for their use. • As airplane expert groups get started, move back to work with the traffic signal expert groups. Stop them in their work to ask how many groups have written a response to the speech and thought bubble questions on their Expert Text note-catchers. If most of the groups have <i>not</i> completed these parts of the note-catcher, allow them 1 or 2 additional minutes to discuss their thinking about how to answer each question and then record their responses. Circulate to offer guidance. • Once traffic signal experts have answered the thought and speech bubble questions, cold call a few to share their responses aloud. See Expert Text Note-catcher: Traffic Signal (answers, for teacher reference) for possible responses. • Ask traffic signal expert groups to consider and discuss: <ul style="list-style-type: none"> * "How did quotes and paraphrased details in your notes help you answer the thought and speech bubble questions?" * "How did you determine which information from the article was relevant?" 	<ul style="list-style-type: none"> • Use similar sentence frames as in Lesson 2 to support each student to respond to this prompt: "My quotes and paraphrased details in my notes helped me complete the thought and speech bubbles because _____" and "I know an idea is relevant when _____."



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • After 1 or 2 minutes, cold call a few students to share out. Listen for ideas like: <ul style="list-style-type: none"> – “I looked for words and phrases in the quotes and paraphrased details on my note-catcher that were related to key terms from the thought and speech bubble questions; I summarized related details to craft a response to the thought and speech bubble questions.” – “I referred to the prompts in each box to help me determine whether certain details were relevant, the kind of information that could be used to respond to the prompt accurately.” • Focus students whole group. Invite a few to share out an example of how they used one of the strategies on the Vocabulary Strategies anchor chart to define an unknown word. Listen for them to describe how they used context clues, Greek or Latin roots, familiar parts of a word, and dictionaries to define key terms. • Allow students 2 or 3 minutes to mingle with members of other triads who are studying the same invention to share and compare the definitions, synonyms, and drawings of key terms they recorded onto index cards. • As time permits, allow students to make revisions to their vocabulary cards and note-catchers, based on new understanding gleaned from conversations with peers. • Collect students' completed vocabulary cards to review. See Vocabulary Definitions: Lesson 4 (for teacher reference) and the Teaching Note at the end of this lesson, after Homework. 	
<p>C. Drawing on Information from Multiple Sources to Answer Questions Quickly (10 minutes)</p> <ul style="list-style-type: none"> • Ask students to take everything off their desks except for the three articles they have read about their invention and inventor. Use a document camera to display the titles of these articles to help them with this step. Then, ask them to return to their triad groups. <ul style="list-style-type: none"> * The airplane expert groups need: “Wright Brothers: Inventors of the Airplane,” “The Invention of the Airplane,” and “Airplane.” * The traffic signal expert groups need: “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal,” “Garrett Morgan: Inventor Hero,” and “The Twofold Genius of Garrett Morgan.” • Display the Locating Answers Quickly anchor chart, keeping the questions covered. • Direct students' attention to the learning targets and read the third one aloud: <ul style="list-style-type: none"> * “I can answer a question quickly, drawing on information from multiple sources.” • Help students focus on the terms <i>drawing</i>, <i>multiple</i>, and <i>sources</i>. 	<ul style="list-style-type: none"> • Display the names of the three articles each expert triad needs to locate. Consider showing each one under the document camera to help students who struggle with organization locate their materials in a timely manner. • Display student-generated definitions of the terms <i>drawing</i>, <i>multiple</i>, and <i>sources</i> to support ELLs.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Ask them to consider and review the meaning of each term in their triad groups. • After 1 or 2 minutes, cold call several students to share definitions. Encourage them to explain how they determined the meaning of each key word from the target. Listen for ideas such as: <ul style="list-style-type: none"> – “<i>Drawing</i> means to use as a resource. I remember that we learned about the many definitions for draw in an earlier lesson, and I used context clues to determine which meaning made the most sense in this sentence.” – “I remember that in math; <i>multiply</i> means when you add the same number more than one time. I think <i>multiple</i> and <i>multiply</i> have the same root, so I determined that <i>multiple</i> means more than one. When I tried that in the sentence, it made sense.” – “I remembered that <i>sources</i> are documents you can look at because we learned about that in an earlier lesson.” • Ask students if any other terms from the learning target stand out to them. Listen for them to identify that the questions will need to be answered <i>quickly</i>. • Invite a few students to restate the target in their own words. • Explain that to work toward this target, triads will collaborate to identify which of their three articles would be best for answering a specific question quickly. When they have made their selection, students will write the title of the article on a white board and hold it up. • Distribute white boards and dry erase markers to each triad. • Reveal the first two questions on the Locating Answers Quickly chart. <ul style="list-style-type: none"> * Traffic signal expert groups: “How was Garrett Morgan’s traffic signal different from other signals that had been developed?” * Airplane expert groups: “Which of the Wright brothers flew the first flight?” • Direct triads to identify and write on their white boards the name of the article that would be best for answering the question quickly. • After 1 minute, cold call students from a few groups to explain their answers. Listen for responses such as: <ul style="list-style-type: none"> – “We think that ‘Garrett Morgan: Inventor Hero’ would be the best article to answer this question quickly because there is a whole paragraph that describes earlier signals.” 	<ul style="list-style-type: none"> • To support students who struggle with taking turns and relinquishing control, consider having a specific order for turns with the white board to minimize arguments. • Consider dropping these questions off in strips to groups with members who have trouble seeing the board or tracking from board to paper.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “Our group thinks it would be easiest to use the text ‘Wright Brothers: Inventors of the Airplane’ because the sections in this text are labeled with questions and one of the questions is, ‘Who flew the first flight?’”• Reveal the next two questions on the chart.<ul style="list-style-type: none">* Traffic signal expert groups: “Which article would be best to help you describe the physical structure of Garrett Morgan’s traffic signal?”* Airplane expert groups: “How do the features of a plane change based on its function?”• Give students 1 minute to write their responses on white boards.• Then, cold call a few to explain how they made their selection. Listen for ideas like:<ul style="list-style-type: none">– “The diagrams in the article ‘Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal’ are the most helpful for quickly explaining the physical structure of the traffic signal.”– “Our group decided that ‘Airplane’ was the best text to answer this question quickly because there is a whole section about airplane design that explains how designers can change a plane to make it better for one task or another.”• Reveal the final two questions from the Locating Answers Quickly chart and ask students to write their answers on their white boards.<ul style="list-style-type: none">* Traffic signal expert groups: “How did Garrett Morgan earn money to pay for his education?”* Airplane expert groups: “What experiences inspired the Wright brothers to build airplanes?”• After 1 minute, cold call several students to explain their choices. Listen for:<ul style="list-style-type: none">– “Our group thinks that the article ‘The Twofold Genius of Garrett Morgan’ would be best for answering this question because it has the most details about his life.”– We decided that ‘Wright Brothers: Inventors of the Airplane’ would help us find the answer most easily because the section about their childhood explains about the experiences that encouraged them to be interested in flying things.”• Praise students for their ability to draw on multiple sources to determine the best way to answer questions quickly.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Direct students to the learning targets and ask:<ul style="list-style-type: none">* “How have you worked toward these targets during the past several lessons?”• After 2 or 3 minutes, cold call several students to share their thinking whole class. Possible responses could include:<ul style="list-style-type: none">– “I worked on taking notes about how the traffic signal was developed to improve the safety of city streets by responding to prompts on my note-catcher.”– “I identified quotes from each article I read that helped me explain how people’s needs were met. I recorded the quotes on my note-catcher and then paraphrased the ideas when I responded to the question in the thought bubbles.”– “We looked back at all of the articles to pick which one would help us answer a question quickly.”• Explain that students will be able to demonstrate their progress on these targets as they take the Mid-Unit 3 Assessment during the next lesson.• Distribute and review directions for the Graphic Novel Sketch, Part 2.	<ul style="list-style-type: none">• Provide a sentence frame to support all students in responding to this prompt: “I have worked toward _____ by _____.”
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread your article: “The Twofold Genius of Garrett Morgan” or “Airplane.” Complete the Graphic Novel Sketch, Part 2.• Read independently for at least 15 to 20 minutes. <p><i>Note: Because students will need access to their note-catchers for homework, find a time before the end of the day to make copies of their Expert Text and The Invention of the Airplane note-catchers to gauge their ability to locate and record relevant notes (in the form of quotes and paraphrased details from the text). Make determinations about which students may need additional support to master these skills before taking the on-demand note-taking mid-unit assessment in Lesson 5.</i></p> <p><i>Review the definitions/synonyms/drawings on students' vocabulary cards to evaluate whether students may require additional support before they can independently use a variety of strategies to determine the meaning of unfamiliar words and phrases. Be prepared to return students' index cards in the next lesson.</i></p>	<ul style="list-style-type: none">• Consider providing a copy of a strong model of a Splash Page sketch from the Lesson 3 homework to give students an idea of the level of quality you're looking for in this sketch.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 4

Supporting Materials



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Airplane

The airplane has had a greater impact on our lives than any other modern invention. The ability to fly has dramatically increased the speed at which we can travel and decreased the time it takes to receive mail, food, and other goods from far-off places. It has brought us into closer contact with people in other parts of the world, and it has drastically changed the way we wage war.

Yet, until the beginning of the 20th century, the idea of a practical flying machine was only a dream. Balloons and gliders had been flown before 1900, but they were unreliable and could not carry a person over a long distance and land at a chosen destination. It was not until Orville and Wilbur Wright invented and successfully flew the first powered, controllable aircraft that the dream of flight became a reality. On December 17, 1903, the Wrights' plane, the *Flyer*, took off at Kitty Hawk, North Carolina, and flew 120 feet (37 meters).

Airplane Design

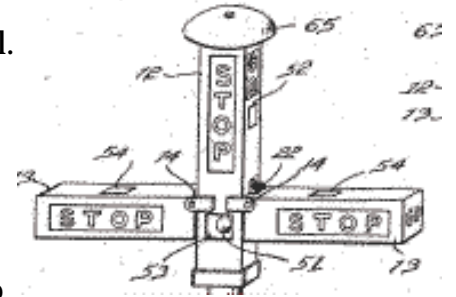
An airplane can fly at fast or slow speeds over long or short distances. It can carry hundreds of vacationers around the world or a single person from one side of a major city to the other. The designer of an airplane must keep in mind the task the airplane is to accomplish. Will the airplane fly great distances? If so, the designer will have to provide either very efficient power or the capacity to store a great amount of fuel. Should the airplane's structure be relatively light or heavy? That depends on the cargo it will carry. This might be two persons or a whole company of soldiers and equipment. A large airplane will mean more weight and more drag. As a result, larger engines and wings will be necessary to get it airborne. Crop dusters, aerobatic biplanes, personal transportation aircraft, and airliners all have different design requirements. The airplane designer has many choices to make, and modern technology can help with these decisions.



The Twofold Genius of Garrett Morgan (excerpts)

Garrett Morgan was an African-American inventor who invented two very different and important things: the gas mask and the traffic signal. During his long life, he also became one of the most recognized and respected African-Americans in the country.

Morgan was born on March 4, 1877, in Paris, Kentucky. His parents were former slaves. As a child, he attended school and also worked on the family farm. When he was an older teen, he moved to Cincinnati to find work. He found it as an apprentice to a handyman, who paid young Garrett enough to hire a tutor and continue his studies.



Morgan made enough money to open his own sewing machine repair shop, which he did in 1907. He was so successful that he expanded his business two years later to include making clothes, using equipment that he had built himself.

The same skills that made Morgan a successful inventor and businessman also fired his curiosity and drove his inventions. He would see a need for something and then go about trying to find something that filled that need; if that something didn't exist, then he would make it himself. He had done this with his sewing equipment business, to great success. (He had 32 employees working for him.)

Morgan branched out again in 1920, starting a newspaper, the *Cleveland Call*. He made good money from running this newspaper, and he soon bought a home and a car. (Some historians say that he was the first African-American to own a car.)

The automobile was a relatively recent invention, and it was by no means the only method of transportation used by Americans. Many people still rode in horse-drawn carriages or rode bicycles or walked in the streets. People driving cars went much faster, of course, and accidents were commonplace.

Seeing this, Morgan decided to do something about it. He invented what would become the traffic light. Several people had invented different kinds of traffic signals by this time, but they weren't good enough for Morgan, who designed one that had some familiar features: a T-shaped pole that had a signal on the top, with three positions. These three positions were Go, Stop, and All-Stop. This last position applied to people coming from every direction, and was used to make sure that pedestrians could cross the street safely. Morgan received a patent for his device in 1923 and eventually sold it to General Electric. It was used throughout America until it was replaced by the traffic lights that are still used today.

He died in 1963 after a long and successful life. His two outstanding inventions live on.

"The Twofold Genius of Garrett Morgan." The Twofold Genius of Garrett Morgan. <<http://www.socialstudiesforkids.com/articles/ushistory/garrettmorgan.htm>>.



Invention of the Airplane Note-catcher

Directions: Refer to the article “Airplane” to help you respond to these questions.

<p>Whisper read Paragraph 1, then use details from the text to answer the questions on the right.</p>	<p>Locate and circle the word <i>increase</i> in this paragraph. Underline the words from the text that help you determine the meaning of <i>increase</i>. What does it mean?</p> <p>Locate and circle the word <i>decrease</i> in this paragraph. Underline parts of the word and/or words from the text that help you determine the meaning of <i>decrease</i>. What does it mean?</p>
<p>Reread Paragraph 2 aloud with group members; then use details from the text to answer the questions on the right.</p>	<p>Underline details that help you understand what some of the problems were with “flying machines” built before the 1900s. Paraphrase the details you underlined to explain the problems with these “flying machines.”</p> <p>How was the Wright brothers’ <i>Flyer</i> different from previous “flying machines”?</p> <p>Why do you think “powered, controllable aircraft” were able to do what earlier flying machines could not?</p>



Invention of the Airplane Note-catcher

Directions: Refer to the article “Airplane” to help you respond to these questions.

<p>Reread Paragraph 3 silently; then use details from the text to answer the questions on the right.</p>	<p>Underline details in the paragraph that help you understand what an airplane designer will have to do if the airplane will fly long distances. Paraphrase the details you underlined to explain what the designer must do.</p> <p>Sketch a picture to show what larger airplanes need to become airborne.</p> <p>Explain what airplanes do for people.</p>
<p>Review your answers to the above questions and the article to help you respond to the prompt on the right.</p>	<p>In your own words, explain how the Wright brothers’ invention of the airplane changed people’s lives.</p>



What need or want inspired the development of this invention?

How were people's needs met, and by whom?

Expert Text Note-catcher: Traffic Signal

Background information about the INVENTION

Explain why people needed or wanted this invention.

Background information about the INVENTOR(S)

Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

Information about developing a SOLUTION

Explain how the inventor(s) solved the problem.

Information about the IMPACT

Explain how this invention changed people's lives.



Traffic Signal Task Card

1. Independently, reread the article “The Twofold Genius of Garrett Morgan.”
2. As you read, look for and underline details that respond to the prompt in each gray box of your note-catcher: background about the INVENTION; background about the INVENTOR(S); information about developing a SOLUTION; and information about the IMPACT.
3. With your triad, share the details you underlined and discuss:
 - * “Is this information *relevant*?”
 - * “Where should I record this information on my note-catcher (which gray box)?”
 - * “Should I quote this information or paraphrase it on my note-catcher? Why?”
4. Record at least one or two relevant details in each box (make sure to record quotes and paraphrased information on your note-catcher).
5. Refer to your notes (quotes and paraphrased details) to help you respond to the thought and speech bubble questions. Remember to use key terms from the questions in your responses.
6. Once you have completed your note-catcher, work with group members to determine the meaning of key terms on your vocabulary cards, using context clues and other strategies. On the back on your index cards, write a synonym or definition and draw a picture to show the meaning of each word.



Invention of the Airplane Close Reading Guide
(For Teacher Reference)

Total Time: 30 minutes

Directions	Questions	Teaching Notes
Whisper read Paragraph 1, then use details from the text to answer the questions on the right.	<p>Locate and circle the word <i>increase</i> in this paragraph. Underline the words from the text that help you determine the meaning of <i>increase</i>. What does it mean?</p> <p>Locate and circle the word <i>decrease</i> in this paragraph. Underline parts of the word and/or words from the text that help you determine the meaning of <i>decrease</i>. What does it mean?</p>	<p>Allow students 2 or 3 minutes to whisper read, circle, underline, and work with group members to determine the meaning of the word <i>increase</i>. Invite a few students to share out what they think <i>increase</i> means and which words or phrases they underlined to help them determine the meaning. Listen for:</p> <p><i>I think increase means to grow or become better; I underlined the article where it says the ability to fly has “dramatically increased the speed at which we travel,” which means we can get places faster than before.</i></p> <p>Allow students 2 or 3 minutes to whisper read, circle, underline, and work with group members to determine the meaning of the word <i>decrease</i>. Invite a few students to share out what they think <i>decrease</i> means and which words or phrases they underlined to help them determine the meaning. Listen for:</p> <p><i>I think decrease means takes less (time); I underlined where the article says the ability to fly has “decreased the time it takes to receive mail, food, and other goods” from far-away places.</i></p>



Invention of the Airplane Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
Reread Paragraph 2 aloud with group members, then use details from the text to answer the questions on the right.	<p>Underline details that help you understand what some of the problems were with “flying machines” built before the 1900s. Paraphrase the details you underlined to explain the problems with these “flying machines.”</p> <p>How was the Wright brothers’ <i>Flyer</i> different from previous “flying machines”?</p> <p>Why do you think “powered, controllable aircraft” were able to do what earlier flying machines could not?</p>	<p>Read the first question aloud. Give students 3 minutes to reread the paragraph and work with group members to locate and underline details that help them explain the problems with “flying machines” built before the 1900s. Cold call a few groups to share their thinking aloud. Listen for:</p> <p><i>Balloons and gliders were unreliable; they could not carry people long distances; they could not land at a “chosen destination.”</i></p> <p>Read the second question aloud, and then ask triads to locate and record a response. After 2 minutes, cold call a few students to share their thinking whole group. Listen for suggestions like:</p> <p><i>The Wright brothers’ Flyer was the first “powered, controllable aircraft.”</i></p> <p>Ask students to read the third question aloud and then restate it in their own words. Invite a few to share out their restatements. Then give students 1 minute to look back to the text to help them formulate a response to the question. Cold call a few to share their ideas aloud. Listen for:</p> <p><i>A powered, controllable aircraft would be reliable, able to take people long distances, and able to take people to specific destinations.</i></p>



Invention of the Airplane Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
Reread Paragraph 3 silently; then use details from the text to answer the questions on the right.	<p>Underline details in the paragraph that help you understand what an airplane designer will have to do if the airplane will fly long distances. Paraphrase the details you underlined to explain what the designer must do.</p> <p>Sketch a picture to show what larger airplanes need to become airborne.</p> <p>Explain what airplanes do for people.</p>	<p>Give students 2 or 3 minutes to locate, underline, and paraphrase details that explain what an airplane designer will have to do if an airplane will fly long distances. Once they have recorded their answers, cold call a few students to share their thinking whole group. Listen for:</p> <p><i>The designer will have to make sure there is efficient power or the capacity to store a lot of fuel.</i></p> <p>Ask students to locate details that help them understand what larger planes need to become airborne. Prompt them to try to determine the meaning of the word <i>airborne</i> by thinking about the meaning of familiar parts of this word: <i>air-</i> and <i>-borne</i>. After 1 minute, ask a few students to share their thinking aloud. Listen for:</p> <p><i>I think airborne means going up in the air.</i></p> <p>Direct students to locate details in the text that explain what larger planes need to become airborne, then to sketch a quick picture to show what larger airplanes need. Once students complete their sketches, ask a few to hold their sketches up and explain how their drawings depict what larger airplanes need to fly. Look and listen for them to show and explain:</p> <p><i>I drew a plane with a large engine and bigger wings because the article says that larger planes need larger engines and wings.</i></p>

Invention of the Airplane Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
		<p>Read the third question aloud to students, then ask them to go back to the paragraph to locate and list details that explain what airplanes do for people. After 2 or 3 minutes, cold call a few students to share out their responses. Listen for suggestions such as:</p> <p><i>Airplanes carry vacationers around the world; carry a single person from one side of a city to another; fly people great distances; carry cargo (people/soldiers and equipment); are used as “crop dusters, aerobatic biplanes, personal transportation aircraft.”</i></p>
Review your answers to the above questions and the article to help you respond to the prompt on the right.	In your own words, explain how the Wright brothers’ invention of the airplane changed people’s lives.	<p>Direct students to work with group members to review each of their responses to help them determine and record an answer to the synthesis question. After 3 or 4 minutes, cold call a few students to share their ideas whole group. Listen for answers similar to:</p> <p><i>When the Wright brothers invented the first powered, controllable airplane, they made it possible for people to travel great distances and/or to specific locations more; their invention made it possible for people to travel to far-off places quickly; and they made it possible for us to contact people in other parts of the world.</i></p>



Expert Text Note-catcher: Traffic Signal
(Answers, for Teacher Reference)

What need or want inspired the development of this invention?

New cars that allowed drivers to go very fast made the streets unsafe and inspired the development of the traffic signal.

How were people's needs met, and by whom?

Garrett Morgan noticed how dangerous the roads were, so he invented a traffic signal that could tell drivers when to Go, Stop, and All-Stop. The last signal told drivers to stop for pedestrians to cross the street.

Background information about the
INVENTION

Explain why people needed or wanted this invention.

- Cars were new, and they made the streets more dangerous.
- People in cars went much faster than people riding horses or walking, so they caused a lot of accidents.

Background information about the INVENTOR(S)

Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

- Garrett Morgan was born on March 14, 1877, in Paris, Kentucky, to former slaves.
- He worked as an apprentice to a handyman and earned enough money to hire a tutor.
- He was a successful sewing machine repairman and business owner.
- "He would see a need for something and then go about trying to find something that filled that need; if that something didn't exist, then he would make it himself."
- He invented a gas mask and used it to rescue people who were trapped underground in an explosion.

Information about developing a SOLUTION

Explain how the inventor(s) solved the problem.

- Garrett Morgan invented "a T-shaped pole that had a signal on the top, with three positions. These three positions were Go, Stop, and All-Stop."
- The last position on his traffic signal told all drivers to stop so pedestrians could cross the street safely.
- He drew sketches of his plans.
- He received a patent for his invention in 1923.

Information about the IMPACT

Explain how this invention changed people's lives.

- Garrett Morgan's traffic signal made it much safer for people to drive and to cross the streets.
- "It was used throughout America until it was replaced by the traffic lights that are still used today."



Vocabulary Definitions: Lesson 4
(For Teacher Reference)

“The Twofold Genius of Garrett Morgan”	“Airplane”
apprentice – trainee, learner, beginner	unreliable – not able to depend on; untrustworthy
equipment - tools	destination – predetermined end to a trip
running – managing, operating, in charge of	accomplish – achieve, get done, complete
transportation – a way of traveling	efficient – not wasteful; cost effective
eventually - finally; in the end	requirement – necessity, a must



Locating Answers Quickly anchor chart

Traffic Signal Research Group	Airplane Research Group
How was Garrett Morgan's traffic signal different from other signals that had been developed?	Which of the Wright brothers flew the first flight?
Which article would be best to help you describe the physical structure of Garrett Morgan's traffic signal?	How do the features of a plane change based on its function?
How did Garrett Morgan earn money to pay for his education?	What experiences inspired the Wright brothers to build airplanes?"



Graphic Novel Sketch,
Part 2

Directions:

- Read and consider the information about the developing a SOLUTION to identify several details that explain how your inventor developed the invention.
- Use the panel provided to sketch an image that shows your inventor's process for developing the invention. Your sketch should include the relevant details you identified in Step 1.
- Include an information box that helps explain one of the steps the inventor took to develop the invention.
- Finish the sketch by adding different font sizes, styles, or colors to draw attention to the details or words that best help you explain how the invention was developed.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 5

Mid-Unit Assessment: On-Demand Note-Taking and Text-Dependent Questions



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7)
I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)
I can determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area. (RI.5.4)
I can draw on information from multiple print sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (RI.5.7)
I can paraphrase information in notes and finished work. (W.5.8)

Supporting Learning Targets

- I can conduct research to take notes about how an invention was developed to meet society's needs.
- I can explain what people needed and how their needs were met, using quotes from the text.
- I can answer a question quickly, drawing on information from multiple sources.
- I can determine the meaning of unfamiliar words and phrases from context.

Ongoing Assessment

- Graphic Novel Sketch, Part 2 (from homework)
- Mid-Unit Assessment A or B
- Tracking My Progress, Mid-Unit 3 recording forms



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Reader (10 minutes)B. Review Learning Targets (5 minutes)2. Work Time<ol style="list-style-type: none">A. Mid-Unit 3 Assessment (30 minutes)B. Reflection on Learning Targets (10 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief: Sharing Reflections on Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Read independently.	<ul style="list-style-type: none">• Note that for this mid-unit assessment, students will take either Mid-Unit Assessment A: Garrett Augustus Morgan or Mid-Unit Assessment B: How Did We Learn to Fly?, depending upon which invention and inventor they have been researching. Students who have been studying Garrett Morgan's invention of the traffic signal will take Mid-Unit Assessment A; students who have been studying the Wright brothers' invention of the airplane will take Mid-Unit Assessment B. The same standards are assessed in both option A and option B, but the information that students collect in their note-catchers will vary, depending on which invention and inventor they read about. These assessments serve not only as a formal opportunity to determine students' mastery toward NYS ELACSS RI.5.1, RI.5.4, RI.5.7, and W.5.8, but also as an additional opportunity for them to collect information about the invention and inventor to include in the graphic novelettes they will create for the final performance task in Lesson 16.• Post: Learning targets.



Lesson Vocabulary	Materials
develop, society, needs, quotes, drawing, sources, unfamiliar	<ul style="list-style-type: none">• Document camera• Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions: Garrett Augustus Morgan (one per student in traffic signal expert groups)• Mid-Unit Assessment B: Note-taking and Text-dependent Questions: How Did We Learn to Fly? (one per student in airplane expert groups)• Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions: Garrett Augustus Morgan (answers, for teacher reference)• Mid-Unit Assessment B: Note-taking and Text-dependent Questions: How Did We Learn to Fly? (answers, for teacher reference)• Traffic signal expert texts:<ul style="list-style-type: none">– “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)– “Garrett Morgan: Inventor Hero” (from Lesson 3)– “The Twofold Genius of Garrett Morgan” (from Lesson 4)• Airplane expert texts:<ul style="list-style-type: none">– “The Wright Brothers: Inventors of the Airplane” (from Lesson 2)– “The Invention of the Airplane” (from Lesson 3)– “Airplane” (from Lesson 4)• Tracking My Progress, Mid-Unit 3 recording forms (one per student)• Independent Reading Choice Board (from Lesson 1)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (10 minutes)</p> <ul style="list-style-type: none">• Gather students' whole group.• Ask them to take out their completed Graphic Novel Sketch, Part 2 and tell them they will participate in a mini Gallery Walk to display their sketches and see classmates' sketches.• Ask students to pay attention to strong examples of visual elements that will help the reader understand complex concepts. Remind them that because this is a mini Gallery Walk, they will not be able to see every student's sketch.• Provide 3 to 5 minutes for the mini Gallery Walk.• Invite a few students to call attention to a strong example of a visual element. Ask them to explain why they think this is a strong example and how it might help the reader understand the content. Display it under the document camera if time allows.• Say:<ul style="list-style-type: none">* "Today you will complete the mid-unit assessment. Because we have two different expert topics, we have two different assessments. If you have been studying Garrett Morgan's invention of the traffic signal, you will take Mid-Unit Assessment A. If you have studied the Wright brothers, you will take Mid-Unit Assessment B. Each test requires you to read a text, complete a graphic organizer, and answer text-dependent questions. Let's check in with the learning targets to get a sense of what you will be expected to do during this assessment."	<ul style="list-style-type: none">• Consider strategically partnering students (between expert groups, high-engagement with low-engagement, ELLs with the same home language) to allow all students an opportunity to process the visual elements they see in the Gallery Walk with support.



Opening (continued)	Meeting Students' Needs
<p>B. Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Read aloud each learning target. Ask students to pay attention to familiar vocabulary words and be ready to share their meaning.<ul style="list-style-type: none">* “I can conduct research to take notes about how an invention was developed to meet society’s needs.”* “I can explain what people needed and how their needs were met, using quotes from the text.”* “I can answer a question quickly, drawing on information from multiple sources.”* “I can determine the meaning of unfamiliar words and phrases from context. “• Ask students to discuss important vocabulary from the targets that they recognize from previous lessons. Invite them to rephrase these targets in their own words. Listen for restatements of the targets that reflect the following understanding of key vocabulary.<ul style="list-style-type: none">– <i>develop</i>: change or grow over time– <i>society</i>: civilization, people, group– <i>needs</i>: wishes, desires, requirements– <i>quotes</i>: written accounts of someone’s exact words– <i>drawing</i>: pulling something from– <i>sources</i>: providers of information– <i>unfamiliar</i>: new	



Work Time	Meeting Students' Needs
<p>A. Mid-Unit 3 Assessment 30 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their expert group texts from Lessons 2–4, as they will need to refer to these as well as a new text throughout the assessment:• Traffic signal expert texts:<ul style="list-style-type: none">– “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)– “Garrett Morgan: Inventor Hero” (from Lesson 3)– “The Twofold Genius of Garrett Morgan” (from Lesson 4)• Airplane expert texts:<ul style="list-style-type: none">– “The Wright Brothers: Inventors of the Airplane” (from Lesson 2)– “The Invention of the Airplane” (from Lesson 3)– “Airplane” (from Lesson 4)• Distribute the assessments:<ul style="list-style-type: none">– Mid-Unit Assessment A: Note-taking and Text-dependent Questions : Garrett Augustus Morgan or– Mid-Unit Assessment B: Note-taking and Text-dependent Questions: How Did We Learn to Fly?• Ask students to read the directions. Address any clarifying questions.• Give students 30 minutes to work independently. Circulate to supervise; since this is a formal on-demand assessment, do not provide support other than formally approved accommodations.• If students finish the assessment early, they may:<ol style="list-style-type: none">1. Work on draft sketches for their graphic novelette.2. Work on completing their vocabulary cards from Lessons 2–4. They may add new words from the text they just read for the mid-unit assessment or add synonyms, phrases, and/or pictures to any cards that are not complete.• Collect students' assessments to review and score (see Mid-Unit 3 Assessment A and B (answers, for teacher reference)).	<ul style="list-style-type: none">• ELLs receive extended time as an accommodation on NY State assessments.• For students who struggle with writing, consider allowing them to dictate their reflections to you or a partner. This allows all students to participate in the self-reflection in a meaningful way.



Work Time (continued)	Meeting Students' Needs
<p>B. Reflection on Learning Targets (10 minutes)</p> <ul style="list-style-type: none">• Distribute the Tracking My Progress, Mid-Unit 3 recording forms. Explain that this is a self-assessment and is very much like the ones they did in Module 1. They will reflect on their progress toward the learning targets. Read through the tracker and provide clarification as necessary.• Ask students to independently complete their Tracking My Progress forms. Ask them to hold on to them to refer to during the debriefing.	
Closing and Assessment	Meeting Students' Needs
<p>A. Debrief: Sharing Reflections on Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Pair students up. Ask them to share the reflections on their progress forms.• Invite several students to share out with the whole group.• Collect students' mid-unit assessments and Tracking My Progress forms to review.	<ul style="list-style-type: none">• Consider providing a sentence starter to ensure all students have access to the conversation: "On the (first, second, third) target, I circled _____ because _____."
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read independently for at least 30 minutes and respond to one question on your Independent Reading Choice Board. <p><i>Notes: Score students' Expert Text note-catchers from this assessment and be prepared to return them by Lessons 9</i></p> <p><i>Lessons 6–8 introduce students to the concept of using storyboards as a planning tool for writing a graphic novelette. These lessons use a variety of visuals and materials that require students to follow detailed, multistep directions, and include many suggestions for ways to support students in the creation of their storyboards. It is important to thoroughly review the lessons in advance to be prepared to offer support.</i></p>	<ul style="list-style-type: none">• For students who struggle with reading independently, provide an audio recording of the text if available.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 5

Supporting Materials



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Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions:
Garrett Augustus Morgan

Directions:

1. Independently, read through the article “Garrett Augustus Morgan” to determine the gist.
2. Reread the article to locate and record information that explains: the INVENTION, the INVENTOR(S), the SOLUTION, and the IMPACT of the invention. Be sure to include quotations *and* paraphrased information in your notes.
3. Refer to the information you recorded to explain in your own words:
 - “What need or want inspired the development of this invention?” in the thought bubble at the top left of your note-catcher. Remember to use key words from the question and article in your response.
 - “How were people’s needs met, and by whom?” in the speech bubble (below the thought bubble) at the top left of your note-catcher. Remember to use key words from the question and article in your response.
4. Refer to “Garrett Augustus Morgan,” your notes, and other informational texts you read during the first part of this unit to help you answer the multiple-choice and short-response questions below the note-catcher.

Criteria for Success:

- There are at least two pieces of *relevant* information from the article in each gray box on your note-catcher.
- There is a combination of both quotes and paraphrased information from the article on your note-catcher.



Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions:

Garrett Augustus Morgan

Garrett Augustus Morgan was born March 4, 1877 in Paris, Kentucky. He was an African American inventor and community leader. He invented many things including a traffic signal and a gas mask. He also helped to found the Cleveland Call newspaper in Cleveland, Ohio.

Garrett Morgan was very successful. Because of his success, he was one of very few people able to afford a car. One day, while driving in Cleveland, he saw a terrible accident at an intersection. Seeing this accident made him determined to find a way to make intersections safer for both pedestrians and drivers. Other inventors had tried to develop a traffic signal, but it was Garrett Morgan who was the first to patent his traffic signal on November 20, 1923.

Morgan's traffic signal was a T-shape pole with three arms that would pop out one of three signs. An electric mechanism inside the signal made the signs change. The signal would display either "Stop," "Go," or "Stop in all directions." The "Stop in all directions" sign prompted all vehicles to stop so pedestrians could cross an intersection safely. As a result of its popularity, Garrett Morgan was able to sell his traffic signal to the General Electric Corp for \$40,000, a very large sum of money at that time. His invention was used across the US until the three-light traffic light was developed.

Works Cited:

"Garrett Morgan." *The Black Inventor On-Line Museum*. Adscape International, LLC. n.d. Web. 28 Feb. 2014

"Garrett Morgan patents three-position traffic signal." *History.com*. A&E Television Networks, LLC, n.d. Web. 28 Feb. 2014

Paula Morrow, "Garrett Morgan: Inventor Hero," in *Ask* magazine (February 2008), 19–21.



Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions: A:

Garrett Augustus Morgan

Expert Text Note-catcher

What need or want inspired the development of this invention?

How were people's needs met, and by whom?

Background information about the
INVENTION

Explain why people needed or wanted this invention.

Background information about the
INVENTOR(S)

Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

Information about developing a
SOLUTION

Explain how the inventor(s) solved the problem.

Information about the **IMPACT**

Explain how this invention changed people's lives.



Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions: A:

Garrett Augustus Morgan

1. In the sentence “His traffic signal was a T-shaped pole with **arms** (but with no lights) that has three signs ...,” what does the word *arms* mean? Choose one.

- ☐ parts of the human body
- ☐ part of a shirt, dress, or other garment
- ☐ a part that sticks out
- ☐ to support

How did you determine the meaning of the word *arms* in this sentence based on context clues? Explain.

2. In the sentence “It was controlled by an electric **mechanism**,” what does the word *mechanism* mean? Choose one.

- ☐ a way of doing something
- ☐ a machine, or part of a machine
- ☐ the way something works
- ☐ a dial

How were you able to determine the meaning of the word *mechanism* using context clues? Explain.



Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions: A:

Garrett Augustus Morgan

3. Refer to each of the articles you have read about Garrett Morgan's invention of the traffic signal—"First Automatic Traffic Signal," "Garrett Morgan: Inventor Hero," "The Twofold Genius of Garrett Morgan," and "Garrett Augustus Morgan"—to help you respond to the question below.

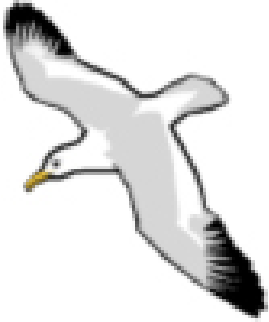
If you wanted to know what intersections were like *before* Garrett Morgan’s invention of the traffic light, which ONE of the four articles listed above would be best? Explain how you made your decision (refer to visual elements and text from the article).

Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions:
How Did We Learn to Fly?

Directions:

1. Independently, read through the article “How Did We Learn to Fly?” to determine the gist.
2. Reread the article to locate and record information that explains: the INVENTION, the INVENTOR(S), the SOLUTION, and the IMPACT of the invention. Be sure to include quotations *and* paraphrased information in your notes.
3. Refer to the information you recorded to explain in your own words:
 - a. “What need or want inspired the development of this invention?” in the thought bubble at the top left of your note-catcher. Remember to use key words from the question and article in your response.
 - b. “How were people’s needs met, and by whom?” in the speech bubble (below the thought bubble) at the top left of your note-catcher. Remember to use key words from the question and article in your response.
4. Refer to “How Did We Learn to Fly,” your notes, and other informational texts you read during the first part of this unit to help you answer the multiple-choice and short-response questions below the note-catcher.

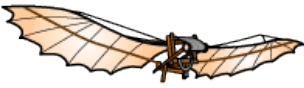




**Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions :
How Did We Learn to Fly?**



How Did We Learn to Fly?

Humans try to fly like birds

For many centuries, humans have tried to fly just like the birds. Wings made of feathers, or lightweight wood, have been attached to arms to test their ability to fly. The results were often disastrous, as the muscles of the human arms are not like a bird's and cannot move with the strength of a bird.

 <p>Leonardo da Vinci Ornithopter</p>	<p>1485 Leonardo da Vinci - The Ornithopter</p>
	<p>1783 Joseph and Jacques Montgolfier, the first hot air balloon</p>
 <p>George Cayley Glider with tail</p>	<p>1799–1850s George Cayley</p>
	<p>1891 Lilienthal's Glider in Flight</p>
 <p>Wright Brothers 1900 Glider Kite</p>	<p>A Drawing of a Wright Brothers Glider (1900)</p>

Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions:
How Did We Learn to Fly?

Orville and Wilbur Wright and the First Airplane

Orville and Wilbur Wright were very deliberate in their quest for flight. First, they read about all the early developments of flight. They decided to make "a small contribution" to the study of flight control by twisting their wings in flight. Then they began to test their ideas with a kite. They learned about how the wind would help with the flight and how it could affect the surfaces once up in the air.

The next step was to test the shapes of gliders, much like George Cayley did when he was testing the many different shapes that would fly. They spent three years testing and learning about how gliders could be controlled at Kitty Hawk, North Carolina.



The first heavier-than-air flight traveled one hundred twenty feet in twelve seconds. The two brothers took turns flying that day, with the fourth and last flight covering 850 feet in 59 seconds.

The Wright Brothers' Flyer



Humankind was now able to fly! During the next century, many new airplanes and engines were developed to help transport people, luggage, cargo, military personnel, and weapons. The 20th century's advances were all based on this first flight by the American brothers from Ohio.

Actual Flight of the Flyer at Kitty Hawk



Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions:

How Did We Learn to Fly?

Expert Text Note-catcher

What need or want inspired the development of this invention?

How were people's needs met, and by whom?

Background information about the
INVENTION

Explain why people needed or wanted this invention.

Background information about the
INVENTOR(S)

Explain the inventor(s) history, motivation to solve the problem, special skills, and/or preparation.

Information about developing a
SOLUTION

Explain how the inventor(s) solved the problem.

Information about the **IMPACT**

Explain how this invention changed people's lives.



Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions:

How Did We Learn to Fly?

1. In the sentence “During the next century, many new airplanes and engines were developed to help **transport** people, luggage, cargo, military personnel, and weapons,” what does the word *transport* mean? Choose one.

- ☐ a vehicle that carries people and goods
- ☐ to carry somebody or something
- ☐ makes someone imagine they are somewhere else
- ☐ to make someone feel happy, overjoyed

How did you determine the meaning of the word *transport* based on context clues? Explain.

2. In the sentence “The 20th century’s advances were all **based** on this first flight by the American brothers from Ohio,” what does the word *based* mean? Choose one.

- ☐ a place where something is located
- ☐ the lowest part of something
- ☐ measured
- ☐ used as a starting place for further development; a basis

How were you able to determine the meaning of the word *based* using context clues? Explain.



Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions:
How Did We Learn to Fly?

3. Refer to each of the articles you have read about the Wright brothers' invention of the airplane—"Wright Brothers: Inventors of the Airplane," "Invention of the Airplane," "Airplane," and "How Did We Learn to Fly?"—to help you respond to question below.

If you wanted to know how flight was developed over time, which ONE of the four articles listed above would be best? Explain how you made your decision (refer to visual elements and text from the article).



Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions :

Garrett Augustus Morgan
(Answers, for Teacher Reference)

Expert Text Note-catcher

What need or want inspired the development of this invention?

People needed a way to safely get across city streets.

How were people's needs met, and by whom?

After seeing an accident at an intersection, Garrett Morgan invented a traffic signal that could tell drivers when to Go, Stop, and All-Stop. The last signal told drivers to stop for pedestrians to cross the street.

Background information about the INVENTION
Explain why people needed or wanted this invention.

- Intersections were not safe; drivers and pedestrians needed a way to cross the street.

Background information about the INVENTOR(S)
Explain the inventor(s) history, motivation to solve problem, special skills and/or preparation.

- Garrett Morgan was born March 4, 1877 in Paris Kentucky.
- Invented many things including a gas mask and a traffic signal
- "an African American inventor and community leader"
- "the first to patent a traffic signal," on November 20, 1923
- He bought a car and saw an accident at an intersection; he "was determined to find a way to make intersections safe for both pedestrians and drivers."

Information about developing a SOLUTION
Explain how the inventor(s) solved the problem.

- Invented a traffic signal that was a "T-shape pole with three arms that "would display either "Stop," "Go," or "Stop in all directions."
- The stop in all directions signal let people cross the street.
- Controlled by an "electric mechanism"
- He sold the invention to General Electric Corporation.

Information about the IMPACT
Explain how this invention changed people's lives.

- "His invention was used across the US until the three-light traffic light was developed."



Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions :

Garrett Augustus Morgan
(Answers, for Teacher Reference)

1. In the sentence “His traffic signal was a T-shaped pole with **arms** (but with no lights) that has three signs ...,” what does the word *arms* mean? Choose one.

- ☐ parts of the human body
- ☐ part of a shirt, dress, or other garment
- ☒ **a part that sticks out**
- ☐ a support

How did you determine the meaning of the word *arms* in this sentence based on context clues? Explain.

The part of the paragraph that says the three signs “popped out” helps me understand that *arms* in this sentence means a part that sticks out; because the sentence describes a pole with signs that “popped out.”

2. In the sentence “It was controlled by an electric clock **mechanism**,” what does the word *mechanism* mean? Choose one.

- ☐ a way of doing something
- ☒ **a machine, or part of a machine**
- ☐ the way something works
- ☐ a dial

How were you able to determine the meaning of the word *mechanism* based on context clues?

The part of the paragraph that describes how arms would pop out of the pole and the word *controlled* in this sentence help me understand that a mechanism must be a machine or part of a machine that made the traffic signal work/made the signs pop out.



Mid-Unit 3 Assessment A: Note-taking and Text-dependent Questions:

Garrett Augustus Morgan
(Answers, for Teacher Reference)

3. Refer to each of the articles you have read about Garrett Morgan's invention of the traffic signal—"First Automatic Traffic Signal," Garrett Morgan: Inventor Hero," "The Twofold Genius of Garrett Morgan," and "Garrett Augustus Morgan"—to help you respond to the question below.

If you wanted to know what intersections were like *before* Garrett Morgan's invention of the traffic light, which ONE of the four articles listed above would be best? Explain how you made your decision (refer to visual elements and text from the article).

The article that would be best is "Garrett Morgan: Inventor Hero," because on the last page of the article it shows a historical photo of a busy intersection and a thought bubble that says, "Do pedestrians or horses have the right of way?" There is also an image above the photo with a speech bubble that asks, "When's my turn to go?"



Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions:

How Did We Learn to Fly?
(Answers, for Teacher Reference)

Expert Text Note-catcher

What need or want inspired the development of this invention?

How were people's needs met, and by whom?

Background information about the INVENTION
Explain why people needed or wanted this invention.

- For centuries, humans tried to fly like birds.
- People attached wings made of feather to their arms; was disastrous; human arms not like a bird's

Background information about the INVENTOR(S)
Explain the inventor(s) history, motivation to solve problem, special skills and/or preparation.

- Orville and Wilbur Wright were “deliberate in their quest for flight.”
- They read about early flight “developments.”
- They “decided to make a contribution.”

Information about developing a SOLUTION
Explain how the inventor(s) solved the problem.

- began testing with a kite; learned about how wind affected flight
- tested shapes that would fly
- three years of testing in Kitty Hawk, North Carolina
- “first heavier-than-air flight traveled one hundred twenty feet in twelve seconds.”
- brothers took turns flying
- last flight, 850 feet in 59 seconds

Information about the IMPACT
Explain how this invention changed people's lives.

- People were finally able to fly.
- New planes and engines were developed to transport people, luggage, cargo, military personnel, and weapons.



Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions:

How Did We Learn to Fly?
(Answers, for Teacher Reference)

1. In the sentence “During the next century, many new airplanes and engines were developed to help **transport** people, luggage, cargo, military personnel, and weapons,” what does the word *transport* mean? Choose one.

- ☐ a vehicle that carries people and goods
- ☐ **to carry somebody or something**
- ☐ to make someone imagine they are somewhere else
- ☐ to make someone feel happy, overjoyed

How did you determine the meaning of the word *transport* based on context clues? Explain.

The parts the sentence before and after the word *transport* helped me figure out what it means, because it says airplanes were developed to transport, which means they were developed to do something; then the sentence goes on to give examples of people and items that are carried onto planes.

2. In the sentence “The 20th century’s advances were all **based** on this first flight by the American brothers from Ohio,” what does the word *based* mean? Choose one.

- ☐ a place where something is located
- ☐ the lowest part of something
- ☐ measured
- ☐ **used as a starting place for further development; a basis**

How were you able to determine the meaning of the word *based* using context clues? Explain.

The last paragraph of the article discusses how new airplanes and engines were developed in the 20th century and says that those advances were based, or built off of, the Wright brothers’ airplane design.



Mid-Unit 3 Assessment B: Note-taking and Text-dependent Questions:

How Did We Learn to Fly?
(Answers, for Teacher Reference)

3. Refer to each of the articles you have read about the Wright brothers' invention of the airplane—"Wright Brothers: Inventors of the Airplane," "Invention of the Airplane," "Airplane," and "How Did We Learn to Fly?"—to help you respond to the question below.

If you wanted to know how flight was developed over time, which ONE of the four articles listed above would be best? Explain how you made your decision (refer to visual elements and text from the article).

The article "How Did We Learn to Fly?" would be best because it shows pictures of early types of flying machines that were developed and the captions show that these took place over time, starting centuries ago. It shows Leonardo da Vinci's Ornithopter, the hot air balloon, and different gliders that were invented before the Wright brothers' airplane.

Tracking My Progress, Mid-Unit 3

Name: _____

Date: _____

Learning target: I can take notes about how an invention was developed to meet society's needs.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to learn
this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, Mid-Unit 3

Learning target: I can explain what people needed and how their needs were met, using quotes from the text.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to learn
this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, Mid-Unit 3

Learning target: I can answer a question quickly, drawing on information from multiple sources.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to learn
this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, Mid-Unit 3

Learning target: I can determine the meaning of unfamiliar words and phrases from context.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to learn
this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 6

Summarizing Notes: Planning a Graphic Novelette, *Part I: The Invention of Television*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)

- a. I can introduce a topic clearly, provide a general observation and focus, and group related information logically.

I can write narratives to develop real experiences using effective technique, descriptive details, and clear event sequence. (W.5.3)

- a. I can orient the reader by establishing a situation and introducing characters.
- b. I can use narrative techniques such as dialogue to develop experiences and events.

I can summarize information in notes and finished work. (W.5.8)

I can use knowledge of language and its conventions when writing. (L.5.3)

- b. I can compare and contrast the varieties of English used in stories.

Supporting Learning Targets

- I can explain what life was like before television by summarizing my notes on a storyboard.
- I can explain how people's needs inspired the development of television and how people's needs were met, by using narrative techniques, including dialogue.
- I can introduce the character who invented television by including descriptive details.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- Storyboard, Section 1 charts



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Reader (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Introducing Storyboards: Writing a Summary Paragraph for Storyboard, Section 1: The Television (25 minutes) B. Using Narrative Techniques to Add to the Storyboard (20 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review Learning Targets (10 minutes) 4. Homework <ol style="list-style-type: none"> A. Independent reading. B. Homework task card. 	<ul style="list-style-type: none"> • This is the first in a series of three lessons in which students are introduced to storyboarding as a tool for planning and drafting a graphic novelette. This will help prepare them for the end of unit assessment, beginning in Lesson 9. These lessons use many visuals and materials, include detailed instructional actions, and involve complex student directions. It is important to thoroughly review these lessons in advance, particularly the materials and directions, to be prepared to efficiently support the needs of students. • In this lesson, students create the first of four storyboards about how Philo Farnsworth's invention of the television met the needs of society. The process requires them to identify and organize details from several note-catchers to support the ideas they wish to communicate through the storyboard. The students use color-coding to help organize their information. (This lesson requires them to use yellow highlighters; subsequent lessons ask them to use orange, blue, and green highlighters.) • This lesson intentionally infuses Standard W.5.3, parts a and b, with Standard L.5.3b to help students understand how to use both informative and narrative elements to orient readers to the situation and characters in their storyboards. This is also meant to call students' attention to how informational text and dialogue can be used to support readers' understanding of complex ideas. • This lesson includes an extended debrief. The concept of using storyboards as a planning tool for writing that involves both text and visuals is likely new to most students. The extended debrief allows them to share creative ideas and reflect on how this task demonstrates progress toward the learning targets. In addition, it provides students with the opportunity to brainstorm collaboratively and gain inspiration from exemplars to increase their success with the development of three more storyboards in Lessons 7 and 8. • In advance: <ul style="list-style-type: none"> – Create an Independent Reading Criteria anchor chart (see supporting materials). – Create a note-catcher packet for each student to simplify the distribution of materials in Work Time A. Each student will need Expert Text note-catchers about "The TV Guy" and <i>The Boy Who Invented TV</i>. – Create a chart-size version of Storyboard, Section 1 for each triad (see supporting materials). – Prepare storyboard images for each triad.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none"> – Note that this lesson requires a class set of yellow highlighters, and later lessons require a class set of orange, blue, and green highlighters. – Record and be prepared to display the multistep directions for Work Times A and B. • Post: Learning targets.

Lesson Vocabulary	Materials
summarizing, storyboard, inspired, development, dialogue, narrative techniques, introduce, character, including, descriptive details	<ul style="list-style-type: none"> • Independent Reading Criteria anchor chart (new; teacher-created) • <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> (book; from Unit 1; one per student) • Storyboard, Section 1 Chart: The Television (teacher-created; one per triad) • Yellow highlighters (one per student) • Loose-leaf paper (one sheet per triad) • Note-catcher packet (one per student) <ul style="list-style-type: none"> – Model Expert Text Note-catcher 1: “The TV Guy” – Model Expert Text Note-catcher 2: <i>The Boy Who Invented TV</i> • Writing a Summary Paragraph: Section 1 task card • Storyboard, Section 1 Chart: The Television (answers, for teacher reference) • Storyboard Image: Life before Television (one per triad) • Storyboard Image: Philo Farnsworth (one per triad) • Glue or glue sticks (one per triad) • Document camera • Storyboard, Section 1 Chart: The Television (pictorial example; one to display) • Sticky notes (two per student) • Homework Task Card: Unit 3, Lesson 6 (one per student) • Independent Reading Choice Board (from Lesson 1)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to quickly find a partner who is not in their expert group triad.• Refer to the Independent Reading Criteria anchor chart. Remind students that they used the criteria when selecting their independent reading texts in Lesson 1. Review and clarify the criteria as needed.• Encourage students to refer to the Independent Reading Criteria anchor chart as they consider and discuss:<ul style="list-style-type: none">* “Which has been your <i>best</i> independent reading choice during this module? Explain your thinking.”• Remind students to refer to the Independent Reading Criteria anchor chart and use specific details from their independent reading texts to help focus their discussions.• After 2 or 3 minutes, refocus students whole class. Cold call several to explain what their partners identified as their best independent reading choices.• Student responses will vary, but listen for them to identify specific criteria that their partners used to explain their choices.• Tell students it is important for them to recognize how aspects of a text engage them as readers both to enhance their enjoyment when reading and to provide them with ideas to fuel their writing. Tell them that in the next several lessons, they will plan and write their own graphic novelettes.	<ul style="list-style-type: none">• Consider providing sentence frames: “My best independent reading choice during this module has been _____ because ____.”• To support visual and second-language learners, consider displaying the discussion question and sentence starters for students’ reference.



Work Time	Meeting Students' Needs
<p>A. Introducing Storyboards: Writing a Summary Paragraph for Storyboard, Section 1: The Television (25 minutes)</p> <ul style="list-style-type: none"> • Ask students to quickly collect their book <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> and sit in their triads. • Read the first learning target aloud <ul style="list-style-type: none"> * “I can explain what life was like before television by summarizing my notes on a storyboard.” • Draw students’ attention to the term <i>summarizing</i>, which has been discussed in previous lessons. • Encourage students to use context clues, including their knowledge of the term <i>summarizing</i>, as they discuss the meaning of the new term, <i>storyboard</i>, in their triads. • After 1 minute, invite a few students to share possible definitions for the term <i>storyboard</i>. They may generate ideas such as: <ul style="list-style-type: none"> – “A storyboard is a board that summarizes the details of a story.” • Confirm or explain that a storyboard is a type of graphic organizer that can be used to plan and organize various kinds of stories that include visuals in addition to text or speech, such as television shows, movies, or, in this case, a graphic novelette. • Say something like: “You will use storyboards to organize the details of your graphic novelettes about the airplane or traffic signal during the end of unit assessment, but since the concept of a storyboard is new to us, we are going to work together to first create chart-sized storyboard sections about an invention with which we are all familiar, the television. Over the next several lessons, you will be working in triads to complete storyboards that organize details about how Philo Farnsworth developed television to meet the needs of society. This first storyboard chart will be used to organize details for a Splash Page, so let’s refresh our memories about the information included on the Splash Page of our graphic novel, <i>Max Axiom</i>.” • Direct students to open their <i>Max Axiom</i> texts to pages 4 and 5. • Ask them to consider the visual elements and text on page 4 <i>only</i>: <ul style="list-style-type: none"> * “What information is communicated to the reader on the left side of the Splash Page?” • Listen for students to identify that the left side of the splash page introduces information about the problem and characters. • Explain that the first section of their storyboards also needs to use information to orient the reader to the situation and characters that led to the invention of the television. • Distribute the Storyboard, Section 1 Chart: The Television to each triad and give every student a yellow highlighter. 	<ul style="list-style-type: none"> • Consider writing student-generated synonyms above or below key terms in the target to support ELLs. • To support visual learners, when asking students to report what information is communicated on the left side of the Splash Page, display it under the document camera and point to elements as students discuss them.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Ask students to highlight the title on the left side of their charts, “Why Invent Television?” • Give each triad a piece of loose-leaf paper and each student a note-catcher packet, which includes the Model Expert Text Note-catcher 1: “The TV Guy” and the Model Expert Text Note-catcher 2: “The Boy Who Invented TV.” • Explain that students will use the note-catchers to locate and highlight details related to the title of this section, “Why Invent Television?” Then they will work together to write a summary paragraph about the needs that inspired the invention of the television. Students will work as a triad to record a single draft summary on loose-leaf paper, allowing them to receive feedback from peers before writing their final summary paragraphs in the caption box on their storyboard charts. • Distribute the Writing a Summary Paragraph: Section 1 task card to each triad. Read the directions on the task card aloud. Pause after reading Step 2 to point out that the information in Parts A and B will help students identify the most important details. • Continue reading aloud. Pause again after reading Step 4 to draw attention to Part A. Remind students that, much like the summaries they have written in previous lessons, using key terms from the title in the first sentence of their summary will help readers understand what the paragraph will be mostly about. • Clarify additional directions as needed, then release students to work in triads. Circulate to support their work as needed. • After 12 to 15 minutes, refocus students' whole class. • Cold call a few from different triads to share their draft summary paragraphs whole class. Refer to the Storyboard, Section 1 Chart: The Television (answers, for teacher reference) for possible responses. • After each student shares, invite a few from other groups to provide positive and specific feedback related to how the summary paragraph orients the reader to the situation and problem clearly, includes relevant details from the note-catchers, and uses precise vocabulary. • Once students have shared out and received feedback, allow triads to revise their summary paragraphs as needed. • Direct students to choose a different member of their triad to act as recorder and transcribe the draft summary paragraph into the caption box on the lower-left side of their Storyboard, Section 1 charts. 	<ul style="list-style-type: none"> • To help visual learners and students who struggle to navigate text quickly, model on the document camera whatever you ask students to highlight. • Consider inviting readers and writers who struggle with locating information in text and synthesizing notes to a small group with you or an aide to provide guided support.



Work Time (continued)	Meeting Students' Needs
<p>B. Using Narrative Techniques to Add to the Storyboard (20 minutes)</p> <ul style="list-style-type: none">• Read the second learning target aloud:<ul style="list-style-type: none">* “I can explain how people’s needs inspired the development of television and how people’s needs were met, by using narrative techniques, including dialogue.”• Draw students’ attention to the familiar terms <i>inspired</i>, <i>development</i>, and <i>dialogue</i> and clarify definitions if needed.• Underline the phrase <i>narrative techniques</i>. Explain that narrative techniques are strategies, such as dialogue, that the author uses to communicate ideas that are important to the story.• Read the next learning target aloud:<ul style="list-style-type: none">* “I can introduce the character who invented television by including descriptive details.”• Focus students attention on the familiar terms <i>introduce</i>, <i>character</i>, <i>including</i>, and <i>descriptive details</i>. Clarify definitions as needed.• Ask students to consider and discuss how the key terms help them understand the intention of this learning target.• After 1 minute, cold call a few students to restate the target in their own words.• Direct the class to look back at page 4 of <i>Max Axiom</i>. Read the speech bubbles and thought bubbles on page 4 aloud, starting with “Hello, Max” and ending with “The city is counting on you.” Use the document camera to point to the text as you read aloud and ask students to follow along.• Direct students to look at the information listed in the panel on the top right corner of page 5.• Ask them to consider and discuss:<ul style="list-style-type: none">* “What similarities and differences do you notice between the text in the informational panel and the text in the speech and thought bubbles?”• After 1 minute, cold call several students to share their thinking. Listen for responses such as:<ul style="list-style-type: none">– “Both the information panel and the speech bubbles tell you important information about the story.”– “In the speech bubbles, the characters in the story are sharing information by talking to each other, but in the informational panel the details are a list of bulleted points.”	<ul style="list-style-type: none">• To support visual learners, display a working definition of <i>narrative techniques</i> for student reference.• To give all students access to the prompt and to feed ELLs standard comparison language, offer sentence starters: “Both the information panel and the speech bubbles _____” and “In the speech bubbles _____, but in the information panel _____.”



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Confirm or explain that the bulleted list is informational text and the speech and thought bubbles are narrative text. Explain that the storyboards and graphic novelettes students are writing in this unit use a blend of informational and narrative strategies to communicate details about a complex topic in an engaging way. Point out that the summary paragraphs from Work Time A are an example of informational text, but students will also use narrative elements, such as dialogue, on their storyboards. • Point out that Max Axiom's character is introduced on pages 4 and 5. Have students consider and discuss: <ul style="list-style-type: none"> * "What do you learn about Max Axiom from reading the dialogue on the Splash Page?" • After 1 or 2 minutes, cold call a few students to share their thinking whole class. Listen for: <ul style="list-style-type: none"> – "By reading the dialogue on page 4, you learn that Max Axiom thinks about many different aspects of a problem when he considers how to solve it." – "The dialogue shows you that people come to Max Axiom when they need help because he is good at solving problems." – "The dialogue shows you that Max cares about helping other people in need." • Explain that dialogue in a graphic novel adds descriptive details that help the reader better understand the main ideas and characters. Tell students they now have a chance to incorporate dialogue into their storyboards to more fully communicate the information from the summary paragraphs, emphasize the important points, and introduce Philo Farnsworth's character. • Distribute Storyboard Image: Life before Television, Storyboard Image: Philo Farnsworth, and glue sticks to each triad. • Use a document camera to display the Storyboard, Section 1 Chart: The Television (pictorial example) as a model so triads understand they should glue the Storyboard image: Life before Television on the left side of their storyboard and the Storyboard Image: Philo Farnsworth on the right side. • Invite several students to share observations about the image of life before television. Listen for: <ul style="list-style-type: none"> – "This seems like a picture from a long time ago." – "It looks like a family standing in front of a farmhouse." • Explain that this image is a picture of a family on a farm in the Midwest before televisions were available. 	<ul style="list-style-type: none"> • To support visual learners, display the images under the document camera as students share observations. Point to the specific details students name that cause them to make specific inferences.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to read the text in the thought bubbles on each of the note-catchers in their note-catcher packets before discussing:<ul style="list-style-type: none">* “How can you emphasize key details from your summary caption through a character’s thoughts?”* “What might the people in this image be thinking?”• After 1 or 2 minutes, invite a few students to share their thoughts whole group. Listen for ideas such as:• “Our summary paragraph has details about how far away people lived from one another and how much time they spent working with very few fun things to do, so we decided they might be thinking, ‘We spend so much time doing chores and live so far away from friends and family. I wish we had something fun to do.’”• Refer once again to the displayed Storyboard, Section 1 Chart pictorial example to show students how and where they might draw a thought bubble coming from one of the people in the photo.• Ask triads to create their own thought bubbles on the left side of their storyboards and then determine details they want to emphasize from their summary captions to create a thought coming from the image.• When group members reach consensus, ask them to add dialogue to the thought bubble near the picture of the Midwestern family.• After 2 minutes, refocus students whole class.• Direct them to look at page 5 of <i>Max Axiom</i> and read the speech bubbles aloud together.• Invite several students to explain what information is communicated on page 5 of <i>Max Axiom</i>.• Listen for them to say this is where Max explains how he is going to solve the problem.• Explain that the right side of their storyboard is where they will explain how the people’s needs were met, and by whom.• Ask students to examine the picture of Philo Farnsworth they pasted on the right side of their storyboard charts. Invite several to explain what they notice about the image. Listen for them to point out that there is an image dissector camera in the picture, and Philo appears to be talking.• Tell students that since it looks like Philo is talking, this might be a good place to use a speech bubble.• Ask students to consider and discuss:<ul style="list-style-type: none">* “What might Philo Farnsworth say to introduce himself and explain how he met people’s needs?”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 1 or 2 minutes, cold call several students to share their thinking aloud. Listen for ideas such as:<ul style="list-style-type: none">– “He might say, ‘My name is Philo Farnsworth. I invented television because I thought it would help bring people together and give them something fun to do.’”– “He could say, ‘Radio was a good way to bring people together, but I thought the television would be even better because it would allow people to see events taking place all over the world. My invention gave people a new form of entertainment, new ways to explore the world, and new ways to communicate across long distances.’”• Refer once again to the displayed Storyboard, Section 1 Chart pictorial example to show students how and where they might draw a speech bubble connected to the image of Philo Farnsworth. Write “My name is Philo Farnsworth. I invented the television because ...” in the speech bubble.• Direct triads to create their own speech bubbles and complete the dialogue prompt. Explain that the person in each triad who has not yet been the recorder should be the recorder for the speech bubble.• After 1 or 2 minutes, ask triads to post their storyboards in the front of the class and prepare for an extended debrief.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (10 minutes)</p> <ul style="list-style-type: none"> • Ensure that each triad's storyboard is displayed in an area that is visible to everyone in the class. • Tell students they will now review the work of their peers to provide feedback and gain inspiration. • Distribute two sticky notes to each student. • Tell them they should use the sticky notes to record two pieces of feedback for their classmates. On one sticky note, they should record a compliment they want to share, and on the other sticky note, they should record one question or suggestion. Encourage students to focus on feedback that addresses how the text and visual elements communicate information about life before television and how television met people's needs. Consider providing or having students help generate sentence starters for thoughtful feedback. Possible sentence starters could include: <ul style="list-style-type: none"> – "I like the way ..." – "I notice ..." – "I wonder why/how/if/what ..." – "It might help the reader understand better if ..." • Give students 2 or 3 minutes to silently review the work of other triads, then cold call several students to share their sticky notes aloud. • After several students have shared whole class, ask everyone to place their sticky notes on the storyboard to which they relate. • Refocus students whole class. • Display the learning targets: <ul style="list-style-type: none"> * "I can explain what life was like before television by summarizing my notes on a storyboard." * "I can explain how people's needs inspired the development of television and how people's needs were met, by using narrative techniques." * "I can introduce the character who invented television by including descriptive details." • Invite students to read each learning target aloud together, then consider and discuss with a nearby partner: <ul style="list-style-type: none"> * "How do the storyboards you created today demonstrate progress toward each of the learning targets?" 	<ul style="list-style-type: none"> • Consider strategically pairing students as they review the work of other triads to provide a model of whatever is needed (engagement, content knowledge, knowledge of visual elements). Allow these partners to whisper to communicate what they notice related to the prompt. • Provide an aide, another student, or yourself as a scribe for students who struggle with the physical act of writing to allow them to provide feedback to their peers. • Provide a sentence frame to allow all students to access the conversation related to the debrief prompt: "The storyboards we created today demonstrate progress toward the (first, second, third) target by _____."



Closing and Assessment (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 2 or 3 minutes, cold call several students to share their thinking whole class. Listen for responses such as:<ul style="list-style-type: none">– “The text box on the left side shows that we can summarize our notes to explain what life was like before television.”– “We used speech bubbles and thought bubbles to help explain what people needed and how people’s needs were met.”• Tell students that they will continue to build on these skills in upcoming lessons as they create new storyboards and revise those created today.• Distribute the Homework Task Card: Unit 3, Lesson 6 and read the directions aloud. Answer any clarifying questions.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read independently for at least 30 minutes and respond to one of the questions on your Independent Reading Choice Board.• Complete your Homework Task Card: Unit 3, Lesson 6.	<ul style="list-style-type: none">• For students who struggle with reading, consider providing an audio version of their independent reading book.• For students who struggle with writing, allow them to dictate their responses to the homework task card questions to someone at home to scribe for them.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 6

Supporting Materials



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Independent Reading Criteria Anchor Chart

Interest	Some ways interest can be detected: <ul style="list-style-type: none">• You talk about your book without being asked.• You become really animated when you answer questions about your book.• You're fascinated by the topic.
Understanding	Some ways understanding can be gauged: <ul style="list-style-type: none">• You could summarize the book for a friend or family member.• You can make connections between the text and other books you have read or experiences you have had.• You remember new facts about what you're reading without a lot of effort.
Readability	Some ways to know if a book has high readability for <i>you</i>: <ul style="list-style-type: none">• You know most but not all of the words.• You find yourself using words from your book when you talk or write.• You make some mistakes, but you can usually catch them without help and self-correct.• You are challenged, but you still understand.



Storyboard, Section 1 Chart:
The Television

Why Invent Television?

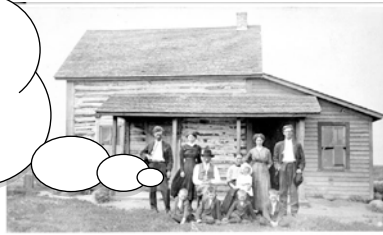
A storyboard template for 'The Television'. It features a large rounded rectangle divided by a vertical dashed line. On the left side, there is a smaller rounded rectangle at the top containing the text 'Why Invent Television?'. Below this is another empty rounded rectangle. The right side of the main rectangle is empty.



Storyboard, Section 1 Chart:
The Television (Answers, for Teacher Reference)

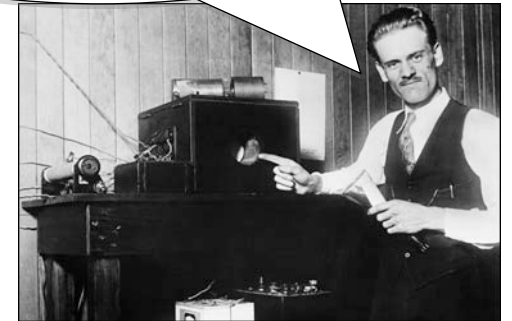
Why Invent Television?

We spend so much time doing chores and live so far away from friends and family. I wish we had something fun to do.



People wanted an invention like the television for entertainment and communication. People who lived on farms before the television was invented did not have very many things to do for fun. It was also hard for them to communicate with many other people or learn about things happening far away because travel and mail were very slow.

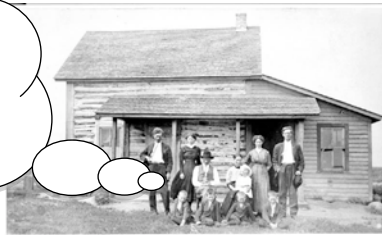
I'm Philo Farnsworth. I invented the television because I thought it would be a fun way to bring people together. My invention gave people a new form of entertainment, a new method of communication, and new ways to explore the world.



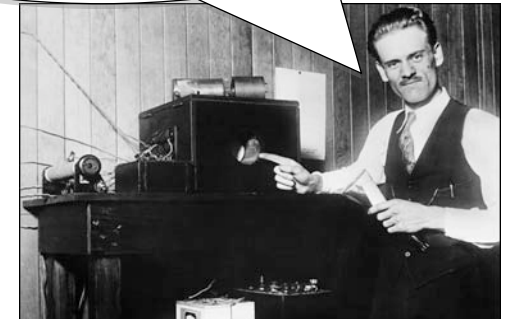


Storyboard, Section 1 Chart:
The Television (Pictorial Example)

Why Invent Television?



People wanted an invention like the television for entertainment and communication. People who lived on farms before the television was invented did not have very many things to do for fun. It was also hard for them to communicate with many other people or learn about things happening far away because travel and mail were very slow.





Model Expert Text Note-catcher 1:
"The TV Guy"

What need or want inspired the development of this invention?

People wanted new ways to entertain themselves and share information.

How were people's needs met, and by whom?

Philo Farnsworth's television allowed people to send images across long distances. It provided people with new forms of entertainment, and it allowed them to learn about and explore things that were far away.

Background information about the INVENTION
Explain why people needed or wanted this invention.

- People wanted new ways to entertain themselves.
- People were interested in exploring new things.
- Philo wanted a way to send images through the air.

Background information about the INVENTOR(S)
Explain the inventor(s) history, motivation to solve problem, special skills and/or preparation.

- Philo Farnsworth was a farm boy from Utah.
- His first house had no electricity.
- When he moved to a house in Idaho with electricity, Philo was fascinated by all of the electrical devices.
- "Farnsworth believed that he could transform electricity into pictures by controlling the speed and direction of fast-flying electrons."
- Farnsworth drew a design to show his high school science teacher his idea.

Information about developing a SOLUTION
Explain how the inventor(s) solved the problem.

- He found investors who gave him money to experiment with his device.
- After a lot of working, he was able to transfer his first image in 1921.
- The first image on the television was a line.
- He made the television work by inventing an image dissector camera tube.

Information about the IMPACT
Explain how this invention changed people's lives.

- The TV was a new form of entertainment.
- "Philo T. Farnsworth changed the way people all over the world talk to each other, learn about things, and entertain themselves."
- His invention made it possible for people to learn about and explore things that were very far away by seeing them on a television screen.



What need or want inspired the development of this invention?

People wanted new forms of entertainment and better ways to communicate over long distances.

How were people's needs met, and by whom?

Philo Farnsworth invented the television, which allows people to send images across long distances. People like to watch television for entertainment. In a way, people are more connected because they can learn about things happening far away and watch important events at the same time they are happening.

Model Expert Text Note-catcher 2:

The Boy Who Invented TV

Background information about the INVENTION

Explain why people needed or wanted this invention.

- People on farms didn't have lots of things to do for fun.
- It was hard for people to communicate over long distances because traveling was slow and expensive.
- It took a long time to get news because the mail was slow.

Background information about the INVENTOR(S)

Explain the inventor(s) history, motivation to solve problem, special skills and/or preparation.

- Philo Farnsworth lived on a farm in Utah that didn't have electricity.
- He was very curious and was always asking questions.
- He was inspired by inventors, such as Alexander Graham Bell and Thomas Edison.
- When he moved to a new house in Idaho, he learned about electricity and read lots of magazines about science.
- He became the family's electrical engineer.

Information about developing a SOLUTION

Explain how the inventor(s) solved the problem.

- When he was plowing a field he realized he could create a television by: "breaking down images into parallel lines of light, capturing them and transmitting them as electrons, and then reassembling them for a viewer."
- He drew a picture of his idea and showed it to his science teacher.
- He called his machine an image dissector.
- It took a long time, but he finally made it work.

Information about the IMPACT

Explain how this invention changed people's lives.

- People can watch shows for fun.
- People all over the world can watch an event, like a man walking on the moon or a president giving a speech, at the same time.
- About half the population of the United States watched the opening of Disneyland on TV in 1955.



Writing a Summary Paragraph: Section 1
Task Card

1. Locate the “Background Information about the INVENTION” box on each of your note-catchers.
2. With your group members, identify and highlight in yellow three or four important details from the “Background Information about the INVENTION” boxes that relate to what life was like before the invention of the television or what people’s problem was. Remember that important details:
 - Relate to the title you highlighted
 - Might be repeated on more than one note-catcher
3. Choose one member of your group to be the recorder.
4. Work together to synthesize the key details you highlighted by discussing then writing a three- to five-sentence summary paragraph that explains what life was like before television. Use your loose-leaf paper. Summary paragraphs should:
 - Orient the reader to the situation and problem
 - Include relevant details from the note-catchers
 - Use precise vocabulary



Storyboard Image:
1920s Midwest Family





Storyboard Image:

Philo Farnsworth

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Homework Task Card: Unit 3, Lesson 6

1. How could visual elements be added to the storyboard you created in class today to support readers' comprehension of key information?
2. What type of information could be included on a storyboard to help you organize your ideas before writing a graphic novelette?



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 7

Summarizing Notes: Planning a Graphic Novelette, *Part II: The Invention of Television*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RI.5.9)

I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)

b. I can develop the topic with facts, definitions, details, quotations, or other related information.

c. I can link ideas within and across categories of information using words, phrases, and clauses.

I can summarize information in notes and finished work. (W.5.8)

Supporting Learning Targets

- I can explain Philo Farnsworth's background by summarizing my notes on a storyboard.
- I can explain how Philo Farnsworth developed television by summarizing my notes on a storyboard.
- I can connect the ideas on my three storyboards by using linking words and phrases.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- Homework Task Card: Unit 3, Lesson 6 (from homework)
- Storyboard, Section 2 Chart: Background on the Inventor
- Storyboard, Section 3 Chart: Information about the Process and Solution



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Homework Review and Engaging the Reader (5 minutes)Work Time<ol style="list-style-type: none">Storyboard, Section 2: Explaining Philo Farnsworth's Background (20 minutes)Storyboard, Section 3: Explaining How Philo Farnsworth Developed a Solution (20 minutes)Revising to Add Linking Words (10 minutes)Closing and Assessment<ol style="list-style-type: none">Debrief and Review Learning Targets (5 minutes)Homework<ol style="list-style-type: none">Homework task card. Brainstorming Visual ElementsIndependent Reading	<ul style="list-style-type: none">The focus of this lesson is on clearly summarizing relevant details. Students build on their learning from Lesson 6 by working in triads to complete the summary paragraphs for two additional storyboard sections. Then they revise the text in all three storyboards to add linking words. Students will add visual elements to the storyboards in Lesson 8.This lesson requires students to follow a set of fairly complex directions while working on their storyboards in Work Times A and B. Although directions remain posted during Work Time and students have the support of their triad group members during this process, some may need additional support or clarification of directions.In advance:<ul style="list-style-type: none">Review Milling to Music in Checking for Understanding Techniques (see Appendix) to be prepared to facilitate student discussion in the Opening.Create Storyboard, Section 2 charts and Storyboard Section 3 charts for each triad (see supporting materials).Record and be prepared to display the multistep directions for Work Times A and B.Post: Learning targets.



Lesson Vocabulary	Materials
background, summarizing, storyboard, distinct, developed, television, connect, linking words and phrases	<ul style="list-style-type: none">• Note-catcher packets (from Lesson 6; one per student)• Storyboard, Section 2 Chart: The Television (one per triad)• Pink highlighters (one per student)• Writing Summary Paragraphs: Section 2 task card (one per triad)• Loose-leaf paper (two pieces per triad, one each for Work Times A and B)• Storyboard, Section 2 Chart: The Television (answers, for teacher reference)• Storyboard, Section 3 Chart: The Television (one per triad)• Blue highlighters (one per student)• Writing Summary Paragraphs: Section 3 task card (one per triad)• Storyboard, Section 3 Chart: The Television (answers, for teacher reference)• Linking Words anchor chart (begun in Unit 2, Lesson 11)• Homework Task Card: Unit 3, Lesson 7: Brainstorming Visual Elements (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their Homework Task Card: Unit 3, Lesson 6.• Review Milling to Music and clarify directions as needed. Then, ask students to “mill.”• When the music stops, have them quickly locate a partner and share their responses to the question:<ul style="list-style-type: none">* “How could visual elements be added to the storyboard you created during the previous lesson, to support readers’ comprehension of key information?”• After 1 minute, cold call a few students to share what they learned from their partner.• Have students continue to mill until the music stops and then quickly find a partner and discuss their responses to the final question on their homework task card:<ul style="list-style-type: none">* “What might you include on a storyboard to help you organize your ideas before writing a graphic novelette?”• After 1 minute, cold call several students to share their thinking. Listen for examples such as speech bubbles, thought bubbles, a summary statement, close-up images, information boxes, etc.• Remind students that in today’s lesson, they will continue to work in their triads to design storyboards about how Philo Farnsworth’s television met the needs of society.	<ul style="list-style-type: none">• Consider providing sentence starters to support all students in accessing the Milling to Music prompts. (“The visual elements I used on my storyboard support readers’ comprehension by ...” and “To help me organize my ideas before writing my graphic novelette, I might include....”)



Work Time	Meeting Students' Needs
<p>A. Storyboard, Section 2: Explaining Philo Farnsworth's Background (20 minutes)</p> <ul style="list-style-type: none"> • Ask students to collect their note-catcher packets and meet in their triads. • Explain that in the first part of today's lesson, they will work in triads to begin Section 2 of their storyboards. • Direct their attention to the posted learning targets and read the first target aloud: <ul style="list-style-type: none"> * "I can explain Philo Farnsworth's background by summarizing my notes on a storyboard." • Draw students' attention to the terms <i>background</i>, <i>summarizing</i>, and <i>storyboard</i>, discussed in previous lessons. Clarify terms if needed. Ask one or two students to restate the target in their own words. • Encourage students to consider the learning target as they discuss these questions in their triads: <ul style="list-style-type: none"> * "What information will need to be communicated in Section 2 of your storyboard?" * "Why is this information important to telling the story of how Philo Farnsworth's invention of television met the needs of society?" • After 1 minute, invite a few students to share their thinking whole class. Listen for: <ul style="list-style-type: none"> – "Our storyboard will need to communicate relevant information about Philo Farnsworth's background." – "It's important because if people know about Philo Farnsworth's background, they will understand what inspired him to invent the television." – "Understanding Philo Farnsworth's background helps you realize that he understood the needs of his community." • Distribute one Storyboard, Section 2 Chart: The Television and three pink highlighters to each triad. • Direct students to highlight in pink the section title, "Who was Philo Farnsworth?" • Distribute the Writing Summary Paragraphs: Section 2 task cards and a piece of loose-leaf paper to each triad. • Explain that the directions on the task card are similar to those from Lesson 6 but include some important differences. • Read the directions aloud. Pause after the second step to invite students to share out strategies for identifying the most important details. Listen for them to identify that referring back to the title and highlighting details that are repeated often helps when looking for the most important information. 	<ul style="list-style-type: none"> • Consider displaying student-restated learning targets to support all students, especially ELLs. • Offer sentence starters to support all students in accessing the prompts: "Our storyboard will need to include _____" and "It's important because _____." • To support visual learners and students who struggle to locate information quickly in text, when asking students to highlight, model on a teacher version under the document camera. • When triads share their work, encourage them to place it under the document camera to support visual learners.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Continue reading aloud, but pause after the fourth step. Clarify the meaning of the term <i>distinct</i>. Highlight the difference between writing one summary paragraph, as in Section 1, and splitting details into two paragraphs.• Consider inviting students to share out strategies for using key vocabulary to help express ideas clearly.• Ask students to begin working in their triads. Circulate to provide support. Consider asking probing questions such as:<ul style="list-style-type: none">* “How could you group the details you highlighted into two distinct paragraphs?”* “If the reader is likely to read the left side first, which information do you think belongs in the paragraph on the left and which information should be on the right?”• After 10 to 12 minutes, refocus students whole class.• Cold call a few students from different triads to share their group’s work. Encourage them to explain how they organized the information to clearly communicate two aspects of Philo Farnsworth’s background.• Student responses will vary, but refer to Storyboard, Section 2 Chart: The Television (answers, for teacher reference) for examples of possible student paragraphs.• After a few groups have shared, give triads 2 or 3 minutes to revise their paragraphs and record them in the caption boxes on their Storyboard, Section 2 Chart. Encourage groups to have a new student act as the recorder.	



Work Time (continued)	Meeting Students' Needs
<p>B. Storyboard, Section 3: Explaining How Philo Farnsworth Developed a Solution (20 minutes)</p> <ul style="list-style-type: none"> Read the second learning target aloud or invite a student to read it aloud: <ul style="list-style-type: none"> * "I can explain how Philo Farnsworth developed television by summarizing my notes on a storyboard." Point out the familiar terms <i>developed</i>, <i>television</i>, <i>summarizing</i>, and <i>storyboard</i>. Clarify them if needed, and invite a few students to use their understanding of the key terms to restate the learning target in their own words. Encourage triads to consider the learning target as they discuss these questions: <ul style="list-style-type: none"> * "What information will need to be communicated in your third storyboard section?" * "Why is this information important to telling the story of how Philo Farnsworth's television met the needs of society?" After 1 minute, invite a few students to share their thinking whole class. Listen for responses such as: <ul style="list-style-type: none"> – "Our storyboard will need to explain relevant information about how Philo Farnsworth developed his idea for the television." – "It's important for people to understand the way Philo Farnsworth invented the television because it explains why he was successful, even though other scientists had been trying to make a working television for a long time." Distribute the following to each triad: <ul style="list-style-type: none"> – Storyboard, Section 3 Chart: The Television – three blue highlighters – Writing Summary Paragraphs: Section 3 task card – a piece of loose-leaf paper to each triad. Ask students to highlight in blue the section title, "Philo Farnsworth Invents the Television," on their chart. Explain that students will locate, and add to their storyboards, information relating to the section title. Review and clarify directions on the task card, as needed. Consider asking students to point out the similarities and differences between this set of directions and those used in Work Time A, helping them to recognize that the directions are similar but require the use of a different color highlighter to identify new content required for the storyboard. Give triads 10 to 12 minutes to work. Circulate to support as needed. 	<ul style="list-style-type: none"> Consider displaying a strong example of this target restated to support all students, especially ELLs. Offer sentence starters to support all students in accessing the prompts: "The third section of our storyboard will need to include _____" and "It's important because _____." To support visual learners, as triads share their examples of Section 3 of their storyboards, encourage them to display their work under the document camera as they discuss the decisions they made and the information they decided to include.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Refocus students whole class. Cold call several students to share their triad's paragraphs with the class. Encourage them to explain how they decided to organize the information to help readers understand how Philo Farnsworth developed a solution. Refer to the Storyboard: Section 3 Chart: The Television (answers, for teacher reference) for possible responses. • Ask triads to revise their paragraphs and record them in the caption boxes on the Storyboard, Section 3 Chart. Encourage students to continue rotating recorders. 	
<p>C. Revising to Add Linking Words (10 minutes)</p> <ul style="list-style-type: none"> • Direct students' attention to the posted learning targets and read the third one aloud: <ul style="list-style-type: none"> * "I can connect the ideas on my three storyboards by using linking words and phrases." • Invite a few students to consider the familiar terms <i>connect</i>, <i>storyboards</i>, and <i>linking words and phrases</i> as they restate the target in their own words. • Refer to the Linking Words anchor chart and ask students to recall the four types of linking words they discussed in previous lessons. • Ask them to consider and discuss: <ul style="list-style-type: none"> * "How can the addition of linking words improve the quality of your writing?" • After 1 minute, cold call several students to share their responses whole class. Listen for suggestions such as: <ul style="list-style-type: none"> – "Linking words make your sentences flow together instead of sounding like a list of unrelated details." – "Using linking words can help the reader understand how sentences are related to each other." – "If you use linking words, your writing won't sound as repetitive." • Conduct a quick review of the Linking Words anchor chart. Consider using the following process for review to help students begin thinking about the use of linking words on their storyboards: • Direct students to focus first on the Addition linking words as they consider: "When would you use an Addition linking word to improve the writing on your storyboards?" • Invite a few students to share their thinking. Listen for students to suggest ideas such as: <ul style="list-style-type: none"> – "Addition linking words would be helpful to combine two similar details in one paragraph." – Cold call a few students to share an example of an Addition linking word. 	<ul style="list-style-type: none"> • Consider displaying a strong example of this target restated to support all students, especially ELLs. • Offer a sentence starter to support all students in accessing the prompt: "Linking words improve the quality of my writing because_____."



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– Ask students to focus on the Contrast section of the Linking Words anchor chart as they consider when this type of linking word would be most useful in their storyboards.– Invite a few students to share their ideas whole class. Listen for responses such as:<ul style="list-style-type: none">– “Contrast linking words could be helpful if you have two details that are opposites of one another, like ‘Many scientists had been working to make a television using spinning disks, but Philo Farnsworth thought electricity would be a more effective way to make a television.’”• Cold call a few students to share an example of a Contrast linking word.• Tell students to consider the Cause section of the Linking Words anchor chart:<ul style="list-style-type: none">* “When might you use Cause linking words in your storyboards?”• Invite a few students to share their thinking whole class. Listen for them to say that Cause linking words might be useful for pointing out how one event led to another.• Ask students to refer to the final category on the Linking Words anchor chart as they consider:<ul style="list-style-type: none">* “How could Time linking words be used to improve the writing on your storyboards?”• Invite a few students to share their thinking whole class. Listen for ideas such as:<ul style="list-style-type: none">– “Time linking words might be really good for making transitions from one storyboard to the next so that they all flow together.”– “Time linking words could help you connect the different paragraphs on your storyboards.”• Refer back to the learning target and explain that students should work in their triads to revise the informational summaries in all three storyboards, adding at least one linking word to each paragraph of text to improve the flow and readability.• Give students approximately 7 minutes to revise their work. Circulate to support them as needed, pointing out sections of text that might benefit from the inclusion of linking words and encouraging them to determine which linking words would best connect their ideas.• After 6 or 7 minutes, refocus students whole class. Cold call a few students to share sentences they revised with the addition of linking words. Encourage them to explain why they think the revision improves the flow or readability of the text. Their responses will vary.• Have students display all three of their storyboards together in one area of the classroom.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none"> • Ask students to quickly find and sit with a partner who is not in their triad. • Invite them to read each of the learning targets aloud together: <ul style="list-style-type: none"> * "I can explain Philo Farnsworth's background by summarizing my notes on a storyboard." * "I can explain how Philo Farnsworth developed television by summarizing my notes on a storyboard." * "I can connect the ideas on my three storyboards by using linking words and phrases." • Ask students to consider and discuss: <ul style="list-style-type: none"> * "How does using a specific color to highlight information help when summarizing?" • After 1 minute, cold call a few students to share their thinking. Listen for ideas such as: <ul style="list-style-type: none"> – "Highlighting in one color helps me to organize the details so I know what I want to include in my summary." – "Using different colors for different paragraphs helps me to keep the details organized so when I look back at my notes I can quickly find the details I used in each part of my storyboard." • Ask students to consider and discuss: <ul style="list-style-type: none"> * "How did the addition of linking words and phrases improve your triad's writing?" • After 1 or 2 minutes, cold call a few students to share their thinking. Listen for responses such as: <ul style="list-style-type: none"> – "The linking words helped us connect ideas between the different storyboards so that it flows clearly from one idea to the next." – "The linking words made our writing sound clearer and less choppy." • Explain that triads will continue revising their storyboards in the next lesson, including adding visual elements. Tell students they will begin brainstorming ideas for specific visual elements that might support their group's work as a homework task. • Distribute the Homework Task Card: Unit 3, Lesson 7: Brainstorming Visual Elements. Preview as needed. 	<ul style="list-style-type: none"> • Offer sentence frames to provide all students access to the debrief prompts: "Highlighting in one color helps me _____" and "Linking words improved our writing by _____."



Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete the Homework Task Card: Unit 3, Lesson 7: Brainstorming Visual Elements.• Read independently for at least 30 minutes.	<ul style="list-style-type: none">• Consider reviewing the homework task card whole group or with individuals who may need support. Make sure students understand they are selecting only two boxes from the graphic organizer to complete.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 7

Supporting Materials



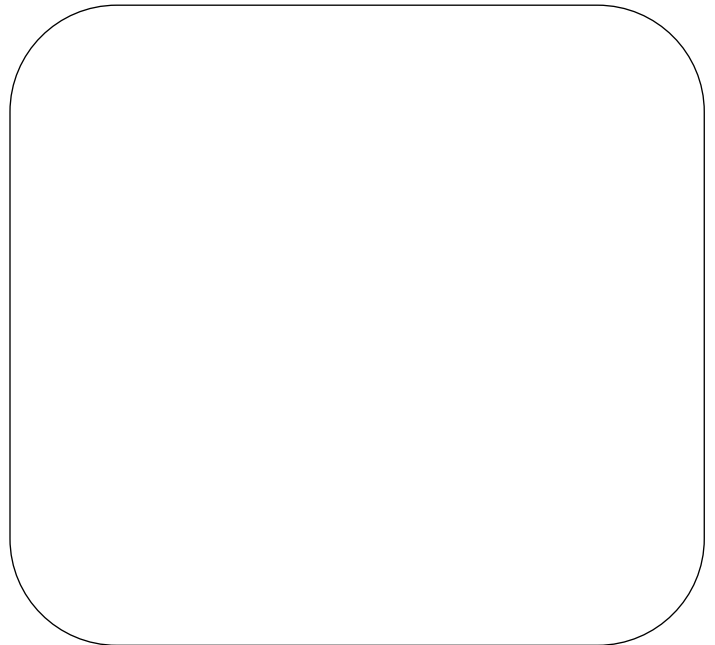
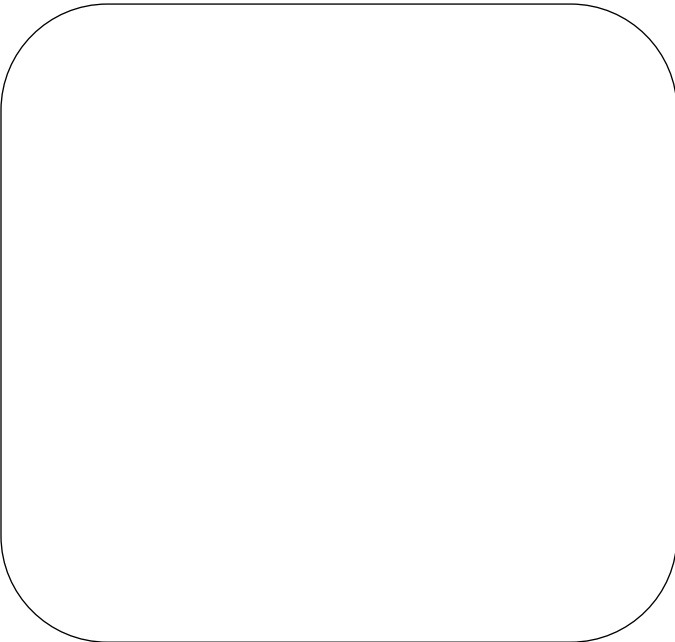
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Storyboard, Section 2 Chart:
The Television

Who Was Philo Farnsworth?





Story Board, Section 2 Chart:
The Television (Answers, for Teacher Reference)

Philo Farnsworth grew up on a farm in Utah that did not have electricity. Even when he was very young, Philo was curious and was always asking questions. When he moved to a house in Idaho with electricity, he was fascinated by the

Philo Farnsworth was inspired by inventions like the telephone and the phonograph. He thought these inventions brought people together in new ways. He wanted to be an inventor, and he believed that he could use electricity to develop a television that would bring people



Writing Summary Paragraphs: Section 2
Task Card

1. Locate the “Background Information about the INVENTOR” box on each of your note-catchers.
2. With your group members, identify and highlight in pink three or four important details from the “Background Information about the INVENTOR” boxes that relate to Philo Farnsworth’s background. Remember that important details:
 - Relate to the title you highlighted
 - Might be repeated on more than one note-catcher
3. Choose one member of the group to be the recorder.
4. Work together to synthesize the key details you highlighted by discussing and then writing two three- to five-sentence summary paragraphs that explain two aspects of Philo Farnsworth’s background. Use your loose-leaf paper. Summary paragraphs should:
 - Clearly explain two distinct aspects of Philo Farnsworth’s background
 - Include relevant details from the note-catchers
 - Use precise vocabulary



Storyboard, Section 3 Chart:
The Television

Philo Farnsworth Invents the Television

A storyboard template with a large rounded rectangle divided by a vertical dashed line. On the left side, there is a small arrow-shaped box at the top containing the text 'Philo Farnsworth Invents the Television'. Below this, there is a large empty rounded rectangle. On the right side, there is a large empty rounded rectangle. At the bottom of each side, there is another large empty rounded rectangle, creating a total of four panels for a storyboard.



Storyboard, Section 3 Chart:
The Television (Answers, for Teacher Reference)

Philo Farnsworth Invents the Television

Philo Farnsworth learned a lot about electricity. He read lots of magazines about science, including articles about people trying to build televisions. Many scientists thought they could make televisions using moving disks, but Philo thought it was a better idea to use electrons instead.

After learning about electricity, Philo developed an idea for an image dissector camera. It could make a television work by transmitting parallel lines of light as electrons and then reassembling them on a television screen. He found some investors and spent a lot of time trying to make his invention work. Finally he succeeded and invented the television!



Writing Summary Paragraphs: Section 3
Task Card

1. Locate the “Information about developing a SOLUTION” box on each of your note-catchers.
2. With your group members, identify and highlight in blue three or four important details from the “Information about developing a SOLUTION” boxes that relate to how Philo Farnsworth invented television. Remember that important details:
 - Relate to the title you highlighted
 - Might be repeated on more than one note-catcher
3. Choose one member of the group to be the recorder.
4. Work together to synthesize the key details you highlighted by discussing and then writing two distinct three- to five-sentence summary paragraphs that explain Philo Farnsworth’s process and solution. Use your loose-leaf paper. Summary paragraphs should:
 - Clearly explain how Philo Farnsworth developed a solution
 - Include relevant details from the note-catchers
 - Use precise vocabulary



Homework Task Card: Unit 3, Lesson 7

Directions:

- Consider how you could use visual elements to support readers' comprehension of the main ideas from Section 2 of your storyboard, "Who was Philo Farnsworth?"
- **Select two visual elements** from the chart below.
- For each visual element you select, **write a description or draw a sketch** of an idea your triad could use **to support readers' comprehension** of the information on your storyboard.

Image	Close-up Image
Speech Bubble	Thought Bubble
Diagram	Ambient Noise



Homework Task Card: Unit 3, Lesson 7

Directions:

- Consider how you could use visual elements to support readers' comprehension of the main ideas in Section 3 of your storyboard, "Philo Farnsworth Invents the Television."
- **Select two visual elements** from the chart below.
- For each visual element you select, **write a description or draw a sketch** of an idea your triad could use **to support readers' comprehension** of the information on your storyboard.

Image	Close-up Image
Speech Bubble	Thought Bubble
Diagram	Ambient Noise



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 8

Summarizing Notes: Planning a Graphic Novelette, *Part III: The Invention of Television*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RI.5.9)

I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)

- a. I can include illustrations to aid comprehension.
- d. I can use precise language and domain-specific vocabulary to explain a topic.
- e. I can provide a concluding section related to the information presented.

I can summarize information in notes and finished work. (W.5.8)

Supporting Learning Targets

- I can explain how television changed people's lives by summarizing my notes on a storyboard.
- I can support readers' comprehension of the information on my storyboard by including illustrations.
- I can use precise language and scientific vocabulary to explain the invention of television.

Ongoing Assessment

- Homework Task Card: Unit 3, Lesson 7: Brainstorming Visual Elements (from homework)
- Storyboard, Section 4 Chart: How Television Changed People's Lives



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Reader (5 minutes)2. Work Time<ol style="list-style-type: none">A. Storyboard, Section 4: Explaining How Television Changed People's Lives (15 minutes)B. Peer Critique and Adding Visual Elements (20 minutes)C. Revising to Incorporate Precise Vocabulary (15 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Review Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Independent reading.	<ul style="list-style-type: none">• In this lesson, students complete their storyboards about how Philo Farnsworth's invention of the television met the needs of society. They create their fourth and final storyboard, add visual elements to storyboards 2–4, and incorporate relevant vocabulary definitions.• In Work Time B, students participate in a peer review to provide feedback to their classmates and generate ideas for the addition of visual elements. The purpose of this activity is for students to learn from one another and brainstorm collaboratively so they can work efficiently to add meaningful visual elements to the storyboards.• As students have limited time to incorporate images and diagrams, it is important to emphasize that their focus should be on the content, not on the quality of the art. Remind them that storyboards are planning documents, and rough sketches are an effective way to plan for images and diagrams. Consider locating planning sketches from graphic novelists to use as examples for student reference.• In advance:<ul style="list-style-type: none">– Determine and display triad partners for peer review in Work Time B. Consider pairing triads to ensure that each peer review group includes students with different strengths and academic levels.– Prepare Storyboard: Section 4 Charts for each triad (see the supporting materials).– Review the Quiz-Quiz-Trade protocol (see Appendix) to be prepared to facilitate Work Time C.– Cut apart vocabulary definition strips (see Supporting Materials).• Post: Learning targets.



Lesson Vocabulary	Materials
television, summarizing, storyboard, distinct, comprehension, illustrations, precise language, scientific vocabulary	<ul style="list-style-type: none">• Storyboard, Section 4 Chart: The Television (one per triad)• Green highlighters (one per student)• Writing Summary Paragraphs: Section 4 task card (one per triad)• Loose-leaf paper (one per triad)• Storyboard, Section 4 Chart: The Television (answers, for teacher reference)• Peer Critique task card (one per triad)• Timer• Vocabulary definition strips (cut apart; one definition strip per student)• Chart paper labeled: Academic Terms (teacher-created)• Chart paper labeled: Scientific Terms (teacher-created)• <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> (book; one for teacher use)• Document camera• Sticky notes (three per student)• Independent Reading Choice Board (from Lesson 1)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Reader (5 minutes)</p> <ul style="list-style-type: none">• Ask students to locate their Homework Task Card: Unit 3, Lesson 7: Brainstorming Visual Elements and meet with their triads.• Ask them to share ideas they recorded on their task card with their triads. Encourage them to explain how a specific visual element might improve the readers' comprehension of the key ideas on the storyboard.• After 2 or 3 minutes, cold call several students to share out an idea for an effective visual element generated by one of their group members.• Tell students that today is the final lesson for working on the Philo Farnsworth storyboards. In this lesson, triads will have the opportunity to add visual elements to Sections 2, 3, and 4 of their storyboards after they write summary paragraphs for Section 4 and participate in a peer review to help clarify their thinking and generate new ideas.	<ul style="list-style-type: none">• Display sentence frames to help all students access the conversation: "I chose to think about the visual elements ____ and _____. I think _____ will improve readers' comprehension because_____, and I think _____ will improve readers' comprehension because _____."



Work Time	Meeting Students' Needs
<p>A. Storyboard, Section 4: Explaining How Television Changed People's Lives (15 minutes)</p> <ul style="list-style-type: none"> • Direct students' attention to the posted learning targets and have them read the first one aloud together: <ul style="list-style-type: none"> * "I can explain how television changed people's lives by summarizing my notes on a storyboard." • Point out the terms <i>television</i>, <i>summarizing</i>, and <i>storyboard</i>. Cold call a few students to use their understanding of these familiar terms to restate the target in their own words. • Distribute one Storyboard, Section 4 Chart: The Television and three green highlighters to each triad. • Direct students to highlight in green the title of Section 4, "How the Television Changed People's Lives." • Ask them to consider the learning target and title as they discuss: <ul style="list-style-type: none"> * "What information does your Storyboard, Section 4 need to communicate?" * "Why is this information important to telling the story of the invention of the television?" • After 1 or 2 minutes, cold call several students to share their thinking whole class. Listen for responses such as: <ul style="list-style-type: none"> – "Our storyboard needs to explain how the television changed people's lives." – "It's important to explain how the television changed people's lives so we can teach people about why the television was an important invention." • Distribute a Writing Summary Paragraphs: Section 4 task card and piece of loose-leaf paper to each triad. • Review and clarify the directions as needed, pointing out similarities and differences between this task card and those from Lessons 6 and 7. • Release students to work in their triads. Circulate to support them as needed. Consider probing student thinking with prompts such as: <ul style="list-style-type: none"> * "Describe two different ways that television changed people's lives." * "How has television changed people's individual experiences, and how has it changed society as a whole?" * "If the reader will read your storyboard from left to right, which information do you want to come at the beginning of your page and what do you want to come at the end?" 	<ul style="list-style-type: none"> • Consider displaying a strong example of a student-restated learning target to support all learners, especially ELLs. • To support visual learners, display a teacher version of the chart and demonstrate highlighting the title "How the Television Changed People's Lives" under the document camera. • Display a sentence frame to support all students in accessing the prompt: "Our storyboard needs to explain_____" and "It's important because_____." • Be vigilant about student participation in triads. If you notice an imbalance of airtime and shared thinking, consider the use of talking tokens (giving each student a certain number of "tokens" that they turn in each time they share out; when all tokens are gone, they may no longer share ideas until the next round of the discussion). • To support visual learners, consider asking triads to display their work under the document camera as they share. Encourage them to point to relevant details in their work as they explain the decisions they made.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> After 7 or 8 minutes, refocus students whole class and cold call a few students to share their triad's work. Encourage them to explain how their group decided to organize the details to explain two distinct ideas. Refer to the Storyboard, Section 4 Chart: The Television (answers, for teacher reference) for possible responses. After a few students have shared, direct triads to revise their paragraphs and record them on their Storyboard: Section 4 Charts. 	
<p>B. Peer Critique and Adding Visual Elements (20 minutes)</p> <ul style="list-style-type: none"> Read the second learning target aloud: <ul style="list-style-type: none"> "I can support readers' comprehension of the information on my storyboard by including illustrations." Point out the familiar terms <i>comprehension</i>, <i>storyboard</i>, and <i>illustrations</i>. Cold call a few students to use their knowledge of the key terms to restate the target in their own words. Explain that students will meet with another triad to participate in a peer critique that is a variation of the Praise-Question-Suggest protocol. Tell students the peer critique provides them with the opportunity to receive feedback from their peers and to gain inspiration from reviewing the work of others before they revise the paragraphs on their storyboards and add illustrations and other visual elements. Distribute the Peer Critique task cards. Clarify directions as needed and explain that students will have only 4 minutes for each triad to present. Remind them of the importance of providing feedback quickly and respectfully. Direct triads to meet in pairs for peer critique. Set a timer to ensure that both groups have a chance to present. Circulate to ensure that students are moving through the peer critique at an appropriate pace and to encourage students to provide feedback on specific visual elements that could be added to the storyboards to aid reader comprehension of details in each paragraph. Consider asking questions such as: <ul style="list-style-type: none"> "Is there a diagram you might add to this storyboard that would help to explain the details in your summary paragraph?" "Are there any close-up images that might help readers to understand the key ideas from this section?" "How could you use dialogue in this section to clarify or expand upon the information in your summary paragraph?" 	<ul style="list-style-type: none"> Consider displaying a strong version of a student-restated learning target to support all students, especially ELLs. Be vigilant about student participation in triads. If you notice an imbalance of airtime and shared thinking, consider the use of talking tokens. Students this age will want to revise as soon as they get feedback instead of waiting until their partner triad has had a turn to present. Circulate and take action if one triad isn't getting the level of feedback they deserve.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After both groups have shared, display these directions:<ol style="list-style-type: none">1. With your triad, use feedback from your partner group to discuss and plan three visual elements for Storyboard, Section 2, three additional visual elements for Section 3, and three more for Section 4.<ul style="list-style-type: none">• Each visual element should improve the readers' comprehension by adding new details or calling attention to key points.• Visual elements could include: images, close-up images, diagrams, speech bubbles, thought bubbles, ambient noises, or information boxes.2. Work with your triad to add the visual elements you discussed to your Section 2, 3, and 4 storyboards.• Clarify directions as needed. Explain that triads have only 8 minutes to work on this task, and that with their limited time, they should consider how to share the workload among the three group members. Students might want to consider having each group member work on one storyboard section, each member work on one or two types of visual elements, or each student add one visual element to each storyboard section. Remind them that their focus should be on the content expressed through the images, not the quality of the artwork.• Direct students to begin working. Set a timer. Consider giving them a reminder of the time after 5 minutes have passed.• At the end of 8 minutes, refocus students whole class.• Cold call a few students from different groups to present a visual element their group sketched onto their storyboards. Answers will vary, but listen for them to identify how the visual element adds to the readers' comprehension of that section of the storyboard.	<ul style="list-style-type: none">• Circulate to ensure that all students are engaged in the drawing process. Stress that there are many ways to stay involved, even if they are not the one doing the drawing. Encourage triads to take turns adding visual elements to the charts or share the pencil so that each member can add something to individual drawings.



Work Time (continued)	Meeting Students' Needs
<p>C. Revising to Incorporate Precise Vocabulary (15 minutes)</p> <ul style="list-style-type: none"> • Explain that to finalize their revisions, triads need to ensure that the vocabulary they used clearly communicates information to the reader. • Ask students to read the third learning target aloud together: <ul style="list-style-type: none"> * “I can use precise language and scientific vocabulary to explain the invention of television.” • Point out the familiar phrases <i>precise language</i> and <i>scientific vocabulary</i>. Invite students to provide definitions of each phrase. Listen for: <ul style="list-style-type: none"> – “<i>Precise language</i> means words that are specific and mean exactly what you want them to mean.” – “<i>Scientific vocabulary</i> means words that have a specific meaning in the field of science.” • Cold call a few students to restate the target in their own words. • Review the Quiz-Quiz-Trade protocol with students and clarify directions as needed. Explain that this protocol is designed to help them review key terms that may be helpful on their storyboards. • Distribute a vocabulary definition strip to each student. • Give students 5 minutes to participate in Quiz-Quiz-Trade, and then refocus them whole class. • Ask students to look at the key term they now hold and consider whether it is academic or scientific. • Direct those with academic terms to meet on one side of the room and those with scientific terms to meet on the other side. • Ask students to share their terms with their assembled group and discuss why they think the term is academic or scientific. Encourage them to move from one group to the other if they change their minds about the term they are holding. • Display two sheets of chart paper, one labeled “Academic Terms” and the other labeled “Scientific Terms.” • When all students are satisfied with their location, direct students to display their term by taping it to the appropriate chart paper. • Ask students to return to their triad groups to determine one scientific and one academic term from the list that would help readers comprehend their storyboards. • After 1 minute, refocus students whole class. • Display page 5 of <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i> under a document camera. 	<ul style="list-style-type: none"> • To support ELLs, consider writing synonyms or drawing pictures above or below key words as they appear in the learning target. • To support students who struggle to differentiate between academic and scientific vocabulary, consider displaying a working definition of each of these terms. • To support visual learners, as triads present the information boxes they added to highlight important vocabulary, encourage them to display their work under the document camera and point to specific details as they share.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Call students' attention to the information box used to define the term <i>levee</i>. Explain that providing definitions in information boxes is one way to draw attention to key terms and clarify their meaning for readers.• Direct triads to add two information boxes to their storyboards, one for each key term they selected. Explain that students will have 5 minutes to complete this task, and if they finish early they can continue to add to their visual element sketches.• After 5 minutes, refocus students whole class.• Cold call a few members of different triads to present one of the information box definitions they added to their storyboards. Encourage them to explain how the definition they chose will improve readers' comprehension of the important ideas on the storyboard.• After a few students have shared, direct triads to post all of their storyboards, in order, in a visible space in the room to prepare to debrief.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to read the learning targets aloud together:<ul style="list-style-type: none">* “I can explain how television changed people’s lives by summarizing my notes on a storyboard.”* “I can support readers’ comprehension of the information on my storyboard by including illustrations.”* “I can use precise language and scientific vocabulary to explain the invention of television.”• Distribute three sticky notes to each student. Direct them to record each learning target on its own sticky note.• Tell students they will now review their own work and the work of their classmates in a silent Gallery Walk. Explain that students should identify and mark with the appropriate sticky note parts of the storyboards that demonstrate strong work toward each learning target.• Ask students to begin silently reviewing the storyboards.• After 2 or 3 minutes, or when students seem to have placed their sticky notes, refocus them whole class.• Cold call a few students to share where they placed one of their sticky notes and to explain why.• Responses will vary, but listen for them to use key terms from the learning targets to explain how specific elements on a storyboard address the target.	<ul style="list-style-type: none">• To support students who struggle with the physical act of writing, provide sticky notes with the targets already written on them.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read independently for at least 30 minutes.• Complete a new box on your Independent Reading Choice Board.	<ul style="list-style-type: none">• For students who struggle with reading, consider providing an audio version of their independent reading book.• For students who struggle with writing, allow them to dictate their response to the choice board question to someone at home to scribe for them.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 8

Supporting Materials



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Storyboard, Section 4 Chart:
The Television

How the Television Changed
People's Lives



Storyboard, Section 4 Chart:
The Television (Answers, for Teacher Reference)

How the Television Changed
People's Lives

Television created a new form of entertainment. People can watch television shows and movies in their homes. They can explore places all over the world without even needing to travel.

Philo Farnsworth's television made it possible for people to learn about things that were very far away by seeing them on a television screen. News and information can spread very quickly. People all over the world can watch events at the same time. The television changed the way people communicate.



Writing Summary Paragraphs: Section 4
Task Card

1. Locate the “Information about the IMPACT” box on each of your note-catchers.
2. With your group members, identify and highlight in green three or four important details from the “Information about the IMPACT” boxes that relate to how the television changed people’s lives. Remember that important details:
 - Relate to the title you highlighted
 - Might be repeated on more than one note-catcher
3. Choose one member of the group to be the recorder.
4. Work together to synthesize the key details you highlighted by discussing and then writing two three- to five-sentence summary paragraphs that explain two distinct ways the television changed people’s lives. Summary paragraphs should:
 - Clearly explain two distinct ways the television changed people’s lives
 - Include relevant details from the note-catchers
 - Use precise vocabulary



Peer Critique Task Card

1. One triad presents their storyboards by taking turns reading summary paragraphs aloud.
2. Each member of the presenting triad then shares an idea from their homework task card for a visual element that would improve the readers' comprehension of their storyboards.
3. Each member of the listening triad shares at least one piece of praise for the storyboards or suggested visual elements.
4. Members of the listening triad provide feedback on ideas for visual elements that might add to the readers' comprehension by building on the ideas presented, asking clarifying questions, or sharing additional suggestions.
5. Think about how images, diagrams, speech bubbles, thought bubbles, and ambient noises might help readers understand the main points in the text.
6. Each member of the listening triad should contribute at least one piece of feedback.
7. When the timer sounds, triads switch roles.



Vocabulary Definition Strips

Make enough copies of the vocabulary strips so after they are cut apart each student will have one strip (some students may have the same strip.)

television	a system for sending visual images and sound from one place to another
image dissector	a camera tube that creates an electron image
electricity	a form of energy created by charged particles, like electrons or protons
communication	sharing information or news
transmitting	sending from one part or place to another
reassembling	assembling again; putting together again
captivated	interested; fascinated
parallel (lines)	straight coplanar lines that never intersect
device	a piece of equipment designed to serve a specific purpose
electron	a subatomic particle



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 9

End of Unit Assessment, Part I: Text-Dependent Questions and Storyboard Draft: “You Can Do a Graphic Novel” Excerpt



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from the text when explaining what the text says explicitly and when making inferences. (RI.5.1)

I can determine the meaning of general academic and domain-specific words. (RI.5.4)

I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RI.5.9)

I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)

- a. I can introduce a topic clearly, provide a general observation and focus, and group related information logically.
- a. I can include illustrations to aid comprehension.
- c. I can link ideas within and across categories of information using words, phrases, and clauses.
- d. I can use precise language and domain-specific vocabulary to explain a topic.

I can write narratives to develop real experiences using effective technique, descriptive details, and clear event sequence. (W.5.3)

- a. I can orient the reader by establishing a situation and introducing characters.
- b. I can use narrative techniques such as dialogue to develop experiences and events.

I can produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (W.5.4)

I can summarize information in notes and finished work. (W.5.8)

Supporting Learning Targets

- I can determine the meaning of unfamiliar words, using context clues and other strategies.
- I can explain how to create a graphic novel, using evidence from the text.
- I can summarize information about why people wanted or needed an invention in the caption box of my storyboard Splash Page.
- I can describe what people needed or wanted and how their needs were met, using dialogue in my storyboard Splash Page.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- End of Unit Assessment, Part I, A: Text-Dependent Questions
- End of Unit Assessment, Part I, B: Storyboard, Section 1



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Introduction of Learning Targets and Engaging the Writer (5 minutes)2. Work Time<ol style="list-style-type: none">A. End of Unit Assessment, Part I, A: Text-Dependent Questions: “You Can Do a Graphic Novel” Excerpt (15 minutes)B. Chalk Talk and End of Unit Assessment, Part B (35 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Review of Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Complete the Unit 3, Lesson 9 homework task.B. Independent reading and choice board response.	<ul style="list-style-type: none">• This is the first of three lessons during which students take the end of unit assessment. This assessment has been divided into three parts so students are able to attend to the creation of individual sections of their storyboards without becoming overwhelmed by the number of steps required to complete the text-dependent questions as well as all four storyboard sections.• In this lesson, students take the End of Unit Assessment Part 1, A and B. During Work Time A, students complete Part A of the assessment by responding to text-dependent questions about the “You Can Do a Graphic Novel” excerpt.• During Work Time B, students first participate in the Chalk Talk protocol to help them review their notes and articles about either the airplane or the traffic signal before completing Part B of the assessment, the creation of Storyboard, Section 1, a Splash Page about the invention they studied. Students are asked to write an informational caption using details from their articles and the note-catchers they completed during Lessons 2–5 to explain why people needed or wanted the invention. Then, students complete the thought and speech bubble sentence starters on each side of the storyboard to demonstrate their ability to use narrative techniques that further describe what people needed and how their needs were met.



	Teaching Notes (continued)
	<ul style="list-style-type: none">• In advance:<ul style="list-style-type: none">– Be prepared to return students’ scored mid-unit assessment Expert Text note-catchers (from Lesson 5).– Review the Chalk Talk protocol and Thumb-O-Meter in Checking for Understanding Techniques (see Appendix).– Prepare Chalk Talk charts for each triad for Opening A (see an example chart in the supporting materials).– Be sure that students have the materials they will need for the assessment (see materials list)– Display relevant anchor charts for students’ ongoing reference during the assessment: Vocabulary Strategies anchor chart (from Unit 1, Lesson 2); Storyboard, Section 1–4 Charts: The Television (from Lessons 6–8); Linking Words anchor chart (from Unit 2, Lesson 11).• Post: Learning targets.



Lesson Vocabulary	Materials
meaning, context clues, strategies, explain, graphic novel, summarize, information, invention, caption, storyboard, Splash Page, describe, needs, met, dialogue	<ul style="list-style-type: none">• End of Unit Assessment, Part I, A: Text-Dependent Questions: “You Can Do a Graphic Novel” excerpt (one per student)• End of Unit Assessment, Part I, A: Text-Dependent Questions: “You Can Do a Graphic Novel” excerpt (answers, for teacher reference)• Chalk Talk chart (one per triad)• Traffic signal expert group resources:<ul style="list-style-type: none">– “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)– “Garrett Morgan: Inventor Hero” (from Lesson 3)– “The Twofold Genius of Garrett Morgan” (from Lesson 4)– “Garrett Augustus Morgan” (from Lesson 5)– Expert Text Note-catchers: The Traffic Signal (from Lessons 2, 4, 5)– Vocabulary cards (from Lessons 2–4)• Airplane expert group resources:<ul style="list-style-type: none">– “Wright Brothers: Inventors of the Airplane” (from Lesson 2)– “The Invention of the Airplane” (from Lesson 3)– “Airplane” (from Lesson 4)– “How Did We Learn to Fly?” (from Lesson 5)– Expert Text Note-catchers: The Airplane (from Lessons 2, 3, 5)– Vocabulary cards (from Lessons 2–4)• End of Unit Assessment, Part I, B: Storyboard, Section 1: Directions and Criteria for Success (one per student)• Storyboard, Section 1: The Traffic Signal (one per student in traffic signal expert groups)• Storyboard, Section 1: The Airplane (one per student in airplane expert groups)• Yellow highlighters (one per student)• Storyboard, Section 1–4 Charts: The Television (from Lessons 6–8)• Linking Words anchor chart (from Unit 2, Lesson 11)



Lesson Vocabulary	Materials (continued)
	<ul style="list-style-type: none"> Homework: Unit 3, Lesson 9 (one per student) Independent Reading Choice Board (from Lesson 1)

Opening	Meeting Students’ Needs
<p>A. Introduction of Learning Targets and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none"> Direct students’ attention to the posted learning targets and ask for volunteers to read them aloud: <ul style="list-style-type: none"> * “I can determine the meaning of unfamiliar words, using context clues and other strategies.” * “I can explain how to create a graphic novel, using evidence from the text. * “I can summarize information about why people wanted or needed an invention in the caption box of my storyboard Splash Page.” * “I can describe what people needed or wanted and how their needs were met, by using dialogue in my storyboard Splash Page.” Cold call a few students to share out how they have used context clues and other strategies to determine the meaning of unfamiliar words during this unit and module. Listen for them to explain how they have referred to familiar words and phrases around the word to determine the meaning from context; their familiarity with Greek and Latin prefixes, affixes, and suffixes; and the use of reference materials. Explain that the second target is related to the text-dependent questions students will answer about a new text that gives information about how to create a graphic novel. Focus students on the last two targets and ask them to consider, then discuss in triads: <ul style="list-style-type: none"> * “How did you meet these targets in Lesson 6 when you created the first storyboard section, a Splash Page about Philo Farnsworth’s invention of television?” 	<ul style="list-style-type: none"> To support visual learners, consider capturing on the board a list of the strategies students name for identifying the meaning of unknown words and answering text-dependent questions.



Opening (continued)	Meeting Students’ Needs
<ul style="list-style-type: none">• After about 1 minute, cold call a few students to share their group’s thinking with the class. Listen for responses such as:<ul style="list-style-type: none">– “We highlighted the most relevant notes in the ‘Background about the INVENTION’ boxes on our expert text note-catchers, then we summarized those details in the caption box of the Splash Page.”– “The notes we used were taken from more than one text about Philo Farnsworth’s invention of TV.”– “We used dialogue in the thought and speech bubbles to help the reader understand what people wanted or needed and how Philo Farnsworth’s invention of TV met their needs.”– “We used dialogue to help establish and emphasize the problem, how the problem was solved, and who solved the problem.”• Explain that during the first part of Work Time today, students will take Part I of the end of unit assessment. They will first read a new text about how to create a graphic novel and then answer text-dependent questions. Once they complete the first portion of the assessment, they will demonstrate what they have learned about how to create a storyboard Splash Page that contains summarized information from their notes, as well as narrative dialogue in the form of thought and speech bubbles, to explain how either the airplane or the traffic signal was developed to meet the needs of society.	

Work Time	Meeting Students’ Needs
<p>A. End of Unit Assessment, Part I, A: Text-Dependent Questions: “You Can Do a Graphic Novel” Excerpt (15 minutes)</p> <ul style="list-style-type: none">• Distribute the End of Unit Assessment, Part I, A: Text-Dependent Questions: “You Can Do a Graphic Novel” Excerpt.• Read the directions aloud and answer any clarifying questions.• Allow students 10 to 12 minutes to complete Part I, A.• Circulate to supervise; since this is a formal on-demand assessment, do not provide support other than formally approved accommodations.• Once students complete Part 1, A, collect their assessments and ask them to join their triads, if they are not already seated together, to prepare for a Chalk Talk before completing Part B of the assessment.	<ul style="list-style-type: none">• ELLs receive extended time as an accommodation on New York State assessments.



Work Time (continued)	Meeting Students’ Needs
<p>B. Chalk Talk and End of Unit Assessment, Part B (35 minutes)</p> <ul style="list-style-type: none"> Remind students that during the second part of Work Time, they will use their expert texts, note-catchers, and knowledge of their assigned invention to demonstrate their ability to create a storyboard Splash Page that explains why people needed or wanted the invention and how people’s needs were met. Go on to explain that because students have not recently revisited their notes about their invention, they will participate in a Chalk Talk to help refresh their memories. Distribute a Chalk Talk chart to each triad. Help students gather resources from Lessons 2–5: <ul style="list-style-type: none"> Traffic signal expert groups: “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal,” “Garrett Morgan: Inventor Hero,” “The Twofold Genius of Garrett Morgan,” “Garrett Augustus Morgan,” Expert Text Note-catchers: The Traffic Signal, and vocabulary cards. Airplane expert groups: “Wright Brothers: Inventors of the Airplane,” “The Invention of the Airplane,” “Airplane,” “How Did We Learn to Fly?” Expert Text Note-catchers: The Airplane, and vocabulary cards. Explain the Chalk Talk protocol and clarify directions as needed. Focus students on the question in the center of their charts: <ul style="list-style-type: none"> * “Why did people need or want this invention?” Allow them 1 or 2 minutes to independently consider the question and refer to their resources to help them formulate a response. Direct triad members to quickly write their responses to the question on different areas of the chart. After each student has written an answer to the question, ask triads to move around the chart and silently read, then respond to fellow members’ ideas by writing a question, suggestion, or connection next to each statement. 	<ul style="list-style-type: none"> Consider providing a scribe for students who struggle with the physical act of writing during the Chalk Talk protocol.



Work Time (continued)	Meeting Students’ Needs
<ul style="list-style-type: none">• After 3 or 4 minutes, ask triads to whisper read each response to the question and accompanying comments and then discuss:<ul style="list-style-type: none">* “How were your responses to the question similar?”* “How were your responses to the question different?”* “What questions do you have?”* “What suggestions or connections were you able to share?”• After 2 minutes, invite a few students from different expert groups to share out ideas from their charts that they feel will help them create the first section of their storyboards.• Ask students to quickly return to their seats with their expert texts, note-catchers, and other resources.• Once they are ready, distribute these materials to each student:<ul style="list-style-type: none">– End of Unit Assessment, Part I, B: Storyboard, Section 1: Directions and Criteria for Success– Storyboard, Section 1: The Traffic Signal (to students in traffic signal expert groups)– Storyboard, Section 1: The Airplane (to students in airplane expert groups)– One yellow highlighter• Read the directions and criteria for success from End of Unit Assessment, Part I, B, aloud and provide clarification as needed.• Tell students they may also refer to their Chalk Talk charts, the Storyboard, Section 1–4 charts: The Television they created during Lessons 6–8, and the Linking Words anchor chart as needed for support during the assessment. Then ask them to begin.• Give students 15 to 20 minutes to complete their storyboards.• Circulate to supervise; since this is a formal on-demand assessment, do not provide support other than formally approved accommodations.• Once students have completed their storyboards, ask them to hold on to them for the debrief.	<ul style="list-style-type: none">• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.



Closing and Assessment	Meeting Students’ Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take their storyboards and mingle to quickly find a partner who is <i>not</i> an expert on the same invention.• Once each student finds a partner, ask pairs to think about and then discuss:<ul style="list-style-type: none">* “What part of your storyboard do you feel particularly proud of and why?”• After 1 or 2 minutes, invite a few students to share out something their partner is proud of.• Collect students’ storyboards to review and assess (see Teaching Note below).• Tell students that because this assessment is broken into three parts, they will not use a progress tracker to reflect upon their mastery of the targets until they have completed all of their storyboards. Then, say something like:<ul style="list-style-type: none">* “However, it is always a good idea to reflect on our work for the day, so I would like you to use a Thumb-O-Meter to demonstrate what you feel your level of mastery is for the targets assessed during Part I of the end of unit assessment.”• Ask students to read aloud together through each of the learning targets and pause to show with their thumbs how close they are to mastering each target.• Distribute a Homework: Unit 3, Lesson 9 to each student.	<ul style="list-style-type: none">• To provide all students access to the debrief prompt, display a sentence starter: “I’m particularly proud of _____ on my storyboard because_____.”



Homework	Meeting Students’ Needs
<ul style="list-style-type: none">• Complete your Homework: Unit 3, Lesson 9.• Read your independent reading book for at least 30 minutes and then respond to one of the questions on your Independent Reading Choice Board. <p><i>Notes: Consider making copies of students’ Storyboard, Section 1, for them to refer to as they complete the homework assignment. Students will also need the storyboard for a peer critique session during the Opening of Lesson 10. Make copies of students’ storyboards to review and assess (using the “criteria for success”) so you are able to return students’ original storyboards at the beginning of the next lesson.</i></p> <p><i>If you have not done so already, review Lessons 14–16 to determine whether you will have students use Option A, the technology (W.5.6) option for creating graphic novelettes, or Option B, which does not require the use of technology. Also consider following the steps described in those lessons to make your own model graphic novelette and become familiar with the process so that you are able to effectively guide students in their work. It is strongly recommended that you coordinate with a media specialist, technology teacher, and/or art instructor to both support students in the creation of their graphic novelettes and to provide additional opportunities and time for students to complete each element of their novelettes.</i></p>	



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 9

Supporting Materials



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End of Unit Assessment, Part I, A:
Text-Dependent Questions:
“You Can Do a Graphic Novel” Excerpt

Part I, A Directions

Independently read the “You Can Do a Graphic Novel” excerpt to determine the gist.

Read through each of the text-dependent questions.

Reread the “You Can Do a Graphic Novel” excerpt to help you determine an answer to each of the questions.

What is a graphic novel?

A graphic novel is a comic book, only longer. The big difference is that when you write a comic book, it is usually put out in monthly installments. In graphic novel form, the book is complete. Whatever you call it, it’s simply storytelling with the art *advancing* the story, rather than illustrating the text, as in the classic storybook.

Do you have to know how to draw to do a graphic novel?

You do not have to know how to draw, but you do need to find your unique style. The art in *Diary of a Wimpy Kid*, one of the most popular graphic novels out today, is all stick figures. It’s the *combination* of art style and writing that is unique to graphic novels.

What is more important, art or story?

Of course you need a good story because nobody likes a boring one, and you need interesting art to keep the reader intrigued.

How do you know what to write about?

Write what you *know* about.

End of Unit Assessment, Part I, A:
Text-Dependent Questions:
“You Can Do a Graphic Novel” Excerpt

1. What is the main difference between a graphic novel and a classic storybook? Use quotes from the text to support your answer.

2. Is it important to know how to draw well to create a graphic novel? Support your answer with evidence from the text.

3. In the sentence “It’s the *combination* of art style and writing that is unique to graphic novels,” what does the word *combination* mean? Explain how you used context clues and/or other strategies to determine the meaning of this word.



End of Unit Assessment, Part I, A:
Text-Dependent Questions:
“You Can Do a Graphic Novel” Excerpt

4. Why are *both* the story and the art in a graphic novel important? Use evidence from the text to support your answer.

End-of-Unit Assessment, Part I, A:
Text-Dependent Questions:
“You Can Do a Graphic Novel” Excerpt
(Answers, for Teacher Reference)

1. What is the main difference between a graphic novel and a classic storybook? Use quotes from the text to support your answer. (RI.5.1)

A graphic novel has a stronger emphasis on the art than the text. The article says, “It’s simply storytelling with the art advancing the story, rather than illustrating the text, as in the classic storybook.”

2. Is it important to know how to draw well to create a graphic novel? Support your answer with quotes from the text. (RI.5.1)

It is not important to know how to draw to make a graphic novel. You have to develop your own style. The article says, “The art in *Diary of a Wimpy Kid*, one of the most popular graphic novels out today, is all stick figures.”

3. In the sentence “It’s the *combination* of art style and writing that is unique to graphic novels,” what does the word *combination* mean? Explain how you used context clues and/or other strategies to determine the meaning of this word. (RI.5.4)

***Combination* means putting two or more things together. I used context clues because the sentence says that art style and writing are combined in a graphic novel, and those are two different things. The word combination looks and sounds like the word *combine*, which means to put things together.**

4. Why are *both* the story and the art in a graphic novel important? Use quotes from the text to support your answer. (RI.5.1)

You need a good story so your readers won’t get bored, and you need interesting art to keep the reader intrigued. The article states, “Of course you need a good story because nobody likes a boring one, and you need interesting art to keep the reader intrigued.”



Chalk Talk Chart

**Why did people need or want
this invention?**



End of Unit Assessment, Part I, B:
Storyboard, Section 1:
Directions and Criteria for Success

Part I, B Directions

You will need: a Storyboard graphic organizer, your expert texts, and your Expert Text note-catchers for this activity. Please be sure you have the necessary materials listed below.

Traffic signal expert groups will need:

- Storyboard, Section 1: The Traffic Signal
- “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)
- “Garrett Morgan: Inventor Hero” (from Lesson 3)
- “The Twofold Genius of Garrett Morgan” (from Lesson 4)
- “Garrett Augustus Morgan” (from Lesson 5)
- Expert Text Note-catchers: The Traffic Signal (from Lessons 2, 4, 5)
- Vocabulary cards (from Lessons 2–4)

Airplane expert groups will need:

- Storyboard, Section 1: The Airplane
- “Wright Brothers: Inventors of the Airplane” (from Lesson 2)
- “The Invention of the Airplane” (from Lesson 3)
- “Airplane” (from Lesson 4)
- “How Did We Learn to Fly?” (from Lesson 5)
- Expert Text Note-catchers: The Airplane (from Lessons 2, 3, 5)
- Vocabulary cards (from Lessons 2–4)

End of Unit Assessment, Part I, B:
Storyboard, Section1:
Directions and Criteria for Success

Independently complete the following:

SECTION 1:

Page 1

1. Read and highlight the title on page 1 of your Storyboard, Section 1 in **yellow**. Silently restate the title in your own words. Think about:
 - “What type of information from my notes should I use for the caption on page 1 of my storyboard?”
2. Review the articles you have read and the “Background about the INVENTION” boxes on your Expert Text note-catchers from Lessons 2–5, then highlight three or four key details that are related to the title for Section 1 of your storyboard in **yellow**.
3. Use the notes you highlighted in **yellow** to write a three- to five-sentence summary paragraph in the caption box at the bottom of page 1 of your storyboard.
4. Be sure to use linking words and key terms from your vocabulary cards in your summary paragraph.

Pages 1–2

1. Read the sentence starter in the thought bubble on page 1 of your storyboard.
2. Use your notes to write a sentence in the thought bubble to explain how people’s needs or wants inspired the development of the invention.
4. Read the sentence starter in the speech bubble on page 2 of your storyboard.
5. Use your notes to complete the sentence in the speech bubble to explain how people’s needs were met, and by whom.



End of Unit Assessment, Part I, B:
Storyboard, Section 1:
Directions and Criteria for Success

VISUAL ELEMENTS: Choose at least one of the following to add to your Storyboard, Section 1 to support readers' understanding of key ideas.

- Sketch of a **close-up image**
- A scientific key word from one of your summaries defined in a **definition box** (refer to your vocabulary cards from Lessons 2–4 for help)
- An academic key word from one of your summaries defined in a **definition box** (refer to your vocabulary cards from Lessons 2–4 for help)
- Sketch of an important person, place, thing, or idea inside a **frame/panel**
- A **diagram**
- An appropriate **ambient noise**

Criteria for Success:

SECTION 1:

- A three- to five-sentence paragraph in the page 1 caption box that clearly summarizes key details from the “Background information about the INVENTION” boxes on note-catchers from Lessons 2–5 (RI.5.9, W.5.2a, W.5.8)
- Thought bubble includes a complete sentence that helps the reader understand why people wanted or needed the invention (W.5.3a, b)
- Speech bubble includes a complete sentence that helps the reader understand how the invention met people’s needs (W.5.3a, b)
- Summary includes linking words that clearly connect ideas (W.5.2c)
- Summary, thought bubble, and speech bubble include key terms from vocabulary cards created during Lessons 2–4 (W.5.2d)



End of Unit Assessment, Part I, B:
Storyboard, Section 1:
Directions and Criteria for Success

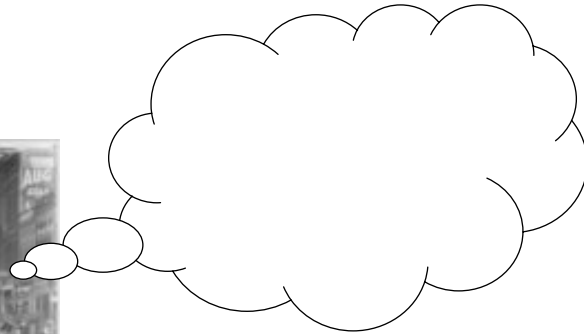
VISUAL ELEMENTS: (W.5.2a)

- *At least one of these visual elements is added to Storyboard, Section 1:*
 - close-up image (W.5.2a)*
 - definition box (academic and/or scientific) (W.5.2a, d)*
 - frame/panel (with image of important person/people, thing, and/or idea) (W.5.2a)*
 - diagram (W.5.2a)*
 - ambient noise (W.5.2a)*



Storyboard, Section 1: The Traffic Signal

Why Do We Need a Traffic Signal?



{caption box}

1



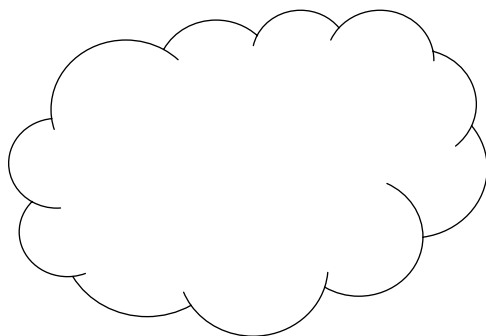
I'm Garrett Morgan. I invented the traffic signal because

2



Storyboard, Section 1: The Airplane

Why fly?



{caption box}

1

We're the Wright brothers. We
invented the airplane, which made it
possible for people to



2



Homework: Unit 3, Lesson 9

Reflect on the Storyboard, Section 1 you completed for Part I of the end of unit assessment to help you respond to these questions:

1. What part of your Storyboard, Section 1 do you feel would *most* help readers understand why people needed or wanted the invention? Explain.
2. What would you add to or change about Section 1 of your storyboard so readers would better understand why people needed or wanted the invention? Explain.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 10

End of Unit Assessment, Part II: Storyboard Draft, Sections 2 and 3



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RI.5.9)

I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)

- a. I can include illustrations to aid comprehension.
- b. I can develop the topic with facts, definitions, details, quotations, or other related information.
- c. I can link ideas within and across categories of information using words, phrases, and clauses.
- d. I can use precise language and domain-specific vocabulary to explain a topic.

I can produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (W.5.4)

I can summarize information in notes and finished work. (W.5.8)

Supporting Learning Targets

- I can summarize information about the inventor's background in the caption box of my Storyboard, Section 2.
- I can summarize information about the process for developing an invention in the caption box of my Storyboard, Section 3.
- I can support readers' understanding of the key ideas on my storyboards by adding visual elements that emphasize important details.

Ongoing Assessment

- Homework: Unit 3, Lesson 9 (from homework)
- Independent Reading Choice Board response (from homework)
- End of Unit Assessment, Part II, A: Storyboard, Section 2
- End of Unit Assessment, Part II, B: Storyboard, Section 3



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Homework Review and Engaging the Writer (12 minutes)Introduction of Learning Targets (3 minutes)Work Time<ol style="list-style-type: none">End of Unit Assessment, Part II, A: Storyboard, Section 2 (20 minutes)End of Unit Assessment, Part II, B: Storyboard, Section 3 (20 minutes)Closing and Assessment<ol style="list-style-type: none">Debrief and Review of Learning Targets (5 minutes)Homework<ol style="list-style-type: none">Complete the Homework: Unit 3, Lesson 10.Independent reading and choice board response.	<ul style="list-style-type: none">In this lesson, students complete Part II, A and B of the end of unit assessment. Use the criteria for success to guide your evaluation of students' work.During the Opening, students participate in a peer critique to provide and receive informal feedback on the Storyboard, Section 1, Splash Pages they completed during Part I, B of the assessment in Lesson 9. They are then given a brief opportunity to make minor revisions to their work.During Work Time A, students complete Storyboard, Section 2.During Work Time B, students complete Storyboard, Section 3.In advance:<ul style="list-style-type: none">Review the Peer Critique protocol and Glass, Bugs, Mud in Checking for Understanding Techniques (see Appendix).Ensure that students have the materials they will need for the assessment (see materials list).Display relevant anchor charts for students' ongoing reference during the assessment: Storyboard, Section 1–4 Charts: The Television (from Lessons 6–8) and the Linking Words anchor chart (from Unit 2, Lesson 11).Post: Learning targets.



Lesson Vocabulary	Materials
	<ul style="list-style-type: none">• Storyboard, Section 1: The Traffic Signal or Storyboard, Section 1: The Airplane (from Lesson 9)• Traffic signal expert group resources:<ul style="list-style-type: none">– “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)– “Garrett Morgan: Inventor Hero” (from Lesson 3)– “The Twofold Genius of Garrett Morgan” (from Lesson 4)– “Garrett Augustus Morgan” (from Lesson 5)– Expert Text Note-catchers: The Traffic Signal (from Lessons 2, 4, 5)– Vocabulary cards (from Lessons 2–4)• Airplane expert group resources:<ul style="list-style-type: none">– “Wright Brothers: Inventors of the Airplane” (from Lesson 2)– “The Invention of the Airplane” (from Lesson 3)– “Airplane” (from Lesson 4)– “How Did We Learn to Fly?” (from Lesson 5)– Expert Text Note-catchers: The Airplane (from Lessons 2, 3, 5)– Vocabulary cards (from Lessons 2–4)• End of Unit Assessment, Part II, A: Storyboard, Section 2: Directions and Criteria for Success (one per student)• Storyboard, Section 2: The Traffic Signal (one per student in traffic signal expert groups)• Storyboard, Section 2: The Airplane (one per student in airplane expert groups)• Pink highlighters (one per student)• Storyboard, Section 1–4 Charts: The Television (from Lessons 6-8; one set per group)• Linking Words anchor chart (from Unit 2, Lesson 11)• End of Unit Assessment, Part II, B: Storyboard, Section 3: Directions and Criteria for Success (one per student)• Storyboard, Section 3: The Traffic Signal (one per student in traffic signal expert groups)• Storyboard, Section 3: The Airplane (one per student in airplane expert groups)



Lesson Vocabulary	Materials (continued)
	<ul style="list-style-type: none">• Blue highlighters (one per student)• Homework: Unit 3, Lesson 10• Independent Reading Choice Board (from Lesson 1)

Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (12 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their homework: Unit 3, Lesson 9.• Return their completed Storyboard, Section 1: The Traffic Signal or Storyboard, Section 1: The Airplane.• Direct students to find a partner who is <i>not</i> studying the same invention.• Review the Peer Critique protocol and clarify any directions as needed.• Give students 6 or 7 minutes to complete the following with their partners:<ol style="list-style-type: none">1. Partner A shares his or her Storyboard, Section 1 and entry ticket reflections with Partner B.2. Partner B provides specific and positive praise and suggestions to Partner A about his or her Storyboard, Section 1.3. Partner B shares her or his Storyboard, Section 1 and entry ticket reflections.4. Partner A provides specific and positive praise and suggestions to Partner B about her or his Storyboard, Section 1.• Once partners have shared and discussed their storyboards, invite students to briefly revise their Storyboard, Section 1, based on the peer critique.• After 2 or 3 minutes, invite a few students to share out how they revised their storyboards based on peer feedback.• Explain that today students will take Part II of the end of unit assessment, which asks them to demonstrate what they have learned about creating storyboards that summarize information about the inventor's background and process for developing the invention. Tell students they will also be able to infuse visual elements into their storyboards to support readers' understanding of key ideas.	<ul style="list-style-type: none">• Some students will not be able to make minor changes in 2 or 3 minutes due to physical restrictions. Consider allowing partners to write up the feedback for students to take with them into Work Time.• To provide all students access to the learning target prompt, display a sentence starter: "I met the (first, second, third) target with my Philo storyboard when I_____."



Opening (continued)	Meeting Students' Needs
<p>B. Introduction of Learning Targets (3 minutes)</p> <ul style="list-style-type: none">• Invite students to read each of the learning targets aloud together:<ul style="list-style-type: none">* “I can summarize information about the inventor’s background in the caption box of my Storyboard, Section 2.”* “I can summarize information about the process for developing an invention in the caption box of my Storyboard, Section 3.”* “I can support readers’ understanding of the key ideas on my storyboards by adding visual elements that emphasize important details.”• Ask students to consider and then discuss with partners:<ul style="list-style-type: none">* “How did you meet these targets when you created storyboards about Philo Farnsworth’s background and process for developing television?”• After 1 minute, invite a few students to share their thinking whole group. Listen for ideas such as:<ul style="list-style-type: none">– “For Section 2 of our storyboards about Philo’s invention of TV, we highlighted and summarized notes from the ‘Background information about the INVENTOR’ boxes on our note-catchers.”– “For Section 3 of our storyboards about Philo’s invention of television, we highlighted and summarized notes from the ‘Information about developing a SOLUTION’ boxes on our note-catchers.”– “We made quick sketches of different types of visual elements on our storyboards to support readers’ comprehension of important ideas.”• Briefly explain that during Work Time A, students will create Storyboard, Section 2 to summarize and visually express important background information about either Garrett Morgan or the Wright brothers. In Work Time B, they will create Storyboard, Section 3 to summarize and visually express important information about the process either the Wright brothers or Garrett Morgan used to develop their invention.	



Work Time	Meeting Students' Needs
<p>A. End of Unit Assessment, Part II, A: Storyboard, Section 2 (20 minutes)</p> <ul style="list-style-type: none">• Help students gather their resources from Lessons 2–5:<ul style="list-style-type: none">– Traffic signal expert groups: “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal,” “Garrett Morgan: Inventor Hero,” “The Twofold Genius of Garrett Morgan,” “Garrett Augustus Morgan,” Expert Text Note-catchers: The Traffic Signal, and vocabulary cards.– Airplane expert groups: “Wright Brothers: Inventors of the Airplane,” “The Invention of the Airplane,” “Airplane,” “How Did We Learn to Fly?” Expert Text Note-catchers: The Airplane, and vocabulary cards.• Once they have what they need, distribute these materials to each student:<ul style="list-style-type: none">– End of Unit Assessment, Part II, A: Storyboard, Section 2: Directions and Criteria for Success– Storyboard, Section 2: The Traffic Signal (to students in traffic signal expert groups)– Storyboard, Section 2: The Airplane (to students in airplane expert groups)– One pink highlighter• Read the directions and criteria for success from End of Unit Assessment, Part II, A, aloud and provide clarification as needed.• Tell students they may also refer to the Storyboard, Section 1–4 Charts: The Television created during Lessons 6–8 and the Linking Words anchor chart as needed for support during the assessment. Ask students to begin.• Give them 15 minutes to complete their storyboards.• Circulate to supervise; since this is a formal on-demand assessment, do not provide support other than formally approved accommodations.• Once students have completed their storyboards, ask them to hold on to them for the debrief at the end of the lesson.	<ul style="list-style-type: none">• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.• ELLs receive extended time as an accommodation on New York State assessments.



Work Time (continued)	Meeting Students' Needs
<p>B. End of Unit Assessment, Part II, B: Storyboard, Section 3 (20 minutes)</p> <ul style="list-style-type: none">• Tell students they will now complete Part B of the assessment by creating Storyboard, Section 3 about the process either Garrett Morgan or the Wright brothers used to develop an invention that met people's needs.• Ask students to set aside their Storyboards for Section 2, if they have not done so already. Distribute these materials to each student:<ul style="list-style-type: none">– End of Unit Assessment, Part II, B: Storyboard, Section 3: Directions and Criteria for Success– Storyboard, Section 3: The Traffic Signal (to students in traffic signal expert groups)– Storyboard, Section 3: The Airplane (to students in airplane expert groups)– One blue highlighter• Read the directions and criteria for success from End of Unit Assessment, Part II, B, aloud while students follow along silently. Answer any clarifying questions.• Remind students to refer to their expert texts, note-catchers, vocabulary cards, and anchor charts for support during the assessment.• Give them 15 minutes to complete their storyboards.• Circulate to supervise; since this is a formal on-demand assessment, do not provide support other than formally approved accommodations.• Once students have completed their storyboards, ask them to hold on to them for the debrief.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to discuss with a nearby partner:<ul style="list-style-type: none">* “What types of visual elements did you include on your storyboards to support readers’ understanding of important ideas?”• After 1 or 2 minutes, invite a few students to share an example of a visual element their partner added to her or his storyboards that was particularly useful for supporting readers’ understanding of the key ideas.• Collect students’ Storyboards, Sections 2 and 3, to review and assess (see Teaching Note below).• Remind students that they will not formally reflect on their progress toward the targets until they complete all their storyboards. However, they will informally consider their individual mastery of today’s learning targets.• Invite students to read each target aloud together and demonstrate the level of mastery they feel toward individual targets using Glass, Bugs, Mud.• Distribute the Homework: Unit 3, Lesson 10 to each student.	<ul style="list-style-type: none">• To give all students access to the debrief prompt, display a sentence starter: “The visual elements I included in my storyboard were_____.”
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete your Homework: Unit 3, Lesson 10.• Read your independent reading book for at least 30 minutes and then respond to one of the questions on your Independent Reading Choice Board. <p><i>Notes: Consider making copies of students’ Storyboards, Sections 2 and 3, for them to refer to as they complete the homework assignment. They will also need the storyboards for a peer critique session during the Opening of Lesson 11. Make copies of their storyboards to review and assess (using the criteria for success) so you are able to return their original storyboards at the beginning of the next lesson.</i></p> <p><i>Remember to thoroughly review Lessons 14–16 to determine whether you will have students use Option A, the technology (W.5.6) option for creating graphic novelettes, or Option B, which does not require the use of technology. Begin planning for the delivery of those lessons (see Teaching Note in Lesson 9 for more details).</i></p>	<ul style="list-style-type: none">• Consider encouraging students who struggle with remembering things to write down the visual elements they included on their entry ticket homework assignment before they turn in their storyboards.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 10

Supporting Materials



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End of Unit Assessment, Part II, A:
Storyboard, Section 2:
Directions and Criteria for Success

Part II, A Directions

You will need: a Storyboard graphic organizer, your expert texts, and your Expert Text note-catchers for this activity. Please be sure you have the necessary materials listed below.

Traffic signal expert groups will need:

- Storyboard, Section 2: The Traffic Signal
- “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)
- “Garrett Morgan: Inventor Hero” (from Lesson 3)
- “The Twofold Genius of Garrett Morgan” (from Lesson 4)
- “Garrett Augustus Morgan” (from Lesson 5)
- Expert Text Note-catchers: The Traffic Signal (from Lessons 2, 4, 5)
- Vocabulary cards (from Lessons 2–4)

Airplane expert groups will need:

- Storyboard, Section 2: The Airplane
- “Wright Brothers: Inventors of the Airplane” (from Lesson 2)
- “The Invention of the Airplane” (from Lesson 3)
- “Airplane” (from Lesson 4)
- “How Did We Learn to Fly?” (from Lesson 5)
- Expert Text Note-catchers: The Airplane (from Lessons 2, 3, 5)
- Vocabulary cards (from Lessons 2–4)



End of Unit Assessment, Part II, A:
Storyboard, Section 2:
Directions and Criteria for Success

Independently complete the following:

SECTION 2:

1. Read and highlight the title for pages 3 and 4 of your Storyboard, Section 2, in pink. Silently restate the title in your own words. Think about:
 - “What type of information from my notes should I use for the caption on page 4 of my storyboard?”
2. Review the articles you have read and the “Background information about the INVENTOR(S)” boxes on your Expert Text note-catchers from Lessons 2–5, and then highlight three or four key details that are related to the title for Section 2 of your storyboard in pink.
3. Use the notes you highlighted in pink to write a three- to five-sentence summary paragraph in the caption box at the bottom of page 4 of your storyboard.
4. Be sure to use linking words and key terms from your vocabulary cards (from Lessons 2–4) in your summary paragraph.

VISUAL ELEMENTS: Choose at least one of the following to add to your Storyboard, Section 2 to support readers’ understanding of key ideas.

- Sketch of a **close-up image**
- A scientific key word from one of your summaries defined in a **definition box** (refer to your vocabulary cards from Lessons 2–4 for help)
- An academic key word from one of your summaries defined in a **definition box** (refer to your vocabulary cards from Lessons 2–4 for help)
- Sketch of an important person, place, thing, or idea inside a **frame/panel**
- A **diagram**
- An appropriate **ambient noise**



End of Unit Assessment, Part II, A:
Storyboard, Section 2:
Directions and Criteria for Success

Criteria for Success:

SECTION 2:

- A three- to five-sentence paragraph in the page 4 caption box that clearly summarizes key details from the “Background information about the INVENTOR(S)” boxes on note-catchers from Lessons 2–5 (RI.5.9, W.5.8, W.5.2b)
- Summary includes linking words that clearly connect ideas (W.5.2c)
- Summary includes key terms from vocabulary cards created during Lessons 2–4 (W.5.2d)

VISUAL ELEMENTS: (W.5.2a)

- *At least one* of these visual elements is added to Storyboard, Section 2:

close-up image (W.5.2a)

definition box (academic and/or scientific) (W.5.2a, d)

frame/panel (with image of important person/people, thing, and/or idea) (W.5.2a)

diagram (W.5.2a)

ambient noise (W.5.2a)



Storyboard, Section 2: The Traffic Signal

What Was Garrett Morgan's Background?

{caption box}

3

4



Storyboard, Section 2: The Airplane

What Was the Wright Brothers'

{caption box}

3

4



End of Unit Assessment, Part II, B:
Storyboard, Section 3:
Directions and Criteria for Success

Part II, B Directions

You will need: a Storyboard graphic organizer, your expert texts, and Expert Text note-catchers for this activity. Please be sure you have the necessary materials listed below.

Traffic signal expert groups will need:

- Storyboard, Section 3: The Traffic Signal
- “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)
- “Garrett Morgan: Inventor Hero” (from Lesson 3)
- “The Twofold Genius of Garrett Morgan” (from Lesson 4)
- “Garrett Augustus Morgan” (from Lesson 5)
- Expert Text Note-catchers: The Traffic Signal (from Lessons 2, 4, 5)
- Vocabulary cards (from Lessons 2–4)

Airplane expert groups will need:

- Storyboard, Section 3: The Airplane
- “Wright Brothers: Inventors of the Airplane” (from Lesson 2)
- “The Invention of the Airplane” (from Lesson 3)
- “Airplane” (from Lesson 4)
- “How Did We Learn to Fly?” (from Lesson 5)
- Expert Text Note-catchers: The Airplane (from Lessons 2, 3, 5)
- Vocabulary cards (from Lessons 2–4)



End of Unit Assessment, Part II, B:
Storyboard, Section 3:
Directions and Criteria for Success

Independently complete the following:

SECTION 3:

1. Read and highlight the title for pages 5 and 6 of your Storyboard, Section 3, in **blue**. Silently restate the title in your own words. Think about:
 - “What type of information from my notes should I use for the caption on page 5 of my storyboard?”
2. Review the articles you have read and the “Information about developing a SOLUTION” boxes on your Expert Text note-catchers from Lessons 2–5, and then highlight three or four key details that are related to the title for Section 3 of your storyboard in **blue**.
3. Use the notes you highlighted in **blue** to write a three- to five-sentence summary paragraph in the caption box at the bottom of page 5 of your storyboard.
4. Be sure to use linking words and key terms from your vocabulary cards (from Lessons 2–4) in your summary paragraph.

VISUAL ELEMENTS: Choose at least one of the following to add to your Storyboard, Section 3 to support readers’ understanding of key ideas.

- Sketch of a **close-up image**
- A scientific key word from one of your summaries defined in a **definition box** (refer to your vocabulary cards from Lessons 2–4 for help)
- An academic key word from one of your summaries defined in a **definition box** (refer to your vocabulary cards from Lessons 2–4 for help)
- Sketch of an important person, place, thing, or idea inside a **frame/panel**
- A **diagram**
- An appropriate **ambient noise**



End of Unit Assessment, Part II, B:
Storyboard, Section 3:
Directions and Criteria for Success

Criteria for Success:

SECTION 3:

- A three- to five-sentence paragraph in the page 5 caption box that clearly summarizes key details from the “Information about developing a SOLUTION” boxes on note-catchers from Lessons 2–5 (RI.5.9, W.5.8, W.5.2b)
- Summary includes linking words that clearly connect ideas (W.5.2c)
- Summary includes key terms from vocabulary cards created during Lessons 2–4 (W.5.2d)

VISUAL ELEMENTS: (W.5.2a)

- *At least one* of these visual elements is added to Storyboard, Section 2:

close-up image (W.5.2a)

definition box (academic and/or scientific) (W.5.2a, d)

frame/panel (with image of important person/people, thing, and/or idea) (W.5.2a)

diagram (W.5.2a)

ambient noise (W.5.2a)



Storyboard, Section 3: The Traffic Signal

How Did Garrett Morgan Invent the Traffic

{caption box}

5

6



Storyboard, Section 3: The Airplane

How Did the Wright Brothers Invent the

{caption box}

5

6



1. What visual elements did you choose to add to your storyboards? Name them.

2. Why did you choose to add those particular visual elements? Explain.

3. In what ways do the visual elements you added to your storyboards support readers' understanding of the ideas you are trying to convey? Explain.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 11

End of Unit Assessment, Part III: Storyboard Draft, Section 4



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can integrate information from several texts on the same topic in order to write about the topic knowledgeably. (RI.5.9)

I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)

- a. I can include illustrations to aid comprehension.
- c. I can link ideas within and across categories of information using words, phrases, and clauses.
- d. I can use precise language and domain-specific vocabulary to explain a topic.
- e. I can provide a concluding section related to the information presented.

I can summarize information in notes and finished work. (W.5.8)

I can use knowledge of language and its conventions when writing. (L.5.3)

- a. I can expand, combine, and reduce sentences for meaning, reader/listener interest, and style.

Supporting Learning Targets

- I can edit a storyboard caption to address readers' understanding and interest by expanding, combining, or reducing sentences for meaning and style.
- I can summarize information about how an invention met society's needs in the caption box of my Storyboard, Section 4.
- I can reflect on my learning about how to make a plan for a graphic novelette..

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- Homework: Unit 3, Lesson 10 (from homework)
- Edited storyboard caption
- End of Unit Assessment, Part III: Storyboard, Section 4
- Tracking My Progress, End of Unit 3 recording form



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Writer (5 minutes)2. Work Time<ol style="list-style-type: none">A. Language: Editing Sentences (15 minutes)B. End of Unit Assessment, Part III: Storyboard, Section 4 (25 minutes)C. Tracking My Progress (10 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief: Tracking My Progress (5 minutes)4. Homework<ol style="list-style-type: none">A. Independent reading and choice board response.	<ul style="list-style-type: none">• In this lesson, students complete the final part of the end of unit assessment, Storyboard, Section 4, after receiving language instruction that is embedded within the first part of Work Time.• During Work Time A, students learn about how to combine, reduce, or expand sentences to support readers' understanding and address reader interest. Then, they apply what they learned to edit at least one caption from their end of unit Storyboard, Sections 1, 2, or 3. This work serves as a scaffold for the revision and editing process students will engage in upon completion of the end of unit assessment, before creating their graphic novelettes for the final performance task.• During Work Time B, students complete Part III of the end of unit assessment by writing a summary caption about how either the traffic light or the airplane met people's needs and adding one visual element to Storyboard, Section 4.• In the final part of Work Time, students use the Tracking My Progress form to reflect on their mastery toward each of the assessment targets from Lessons 9–11. Students are asked to reflect upon only three targets. The targets chosen represent the more complex concepts students have worked to master during this unit and module.• In advance:<ul style="list-style-type: none">– Review the Back-to-Back, Face-to-Face protocol (see Appendix).– Be prepared to return students' completed and original versions of their end of unit storyboards, Sections 1, 2, and 3 for Work Time A.– Review and become familiar with Editing Sentence Length, Examples to support students during Work Time A.– Each triad will need a white board, dry erase marker, and eraser for Work Time A.– Ensure that students have the materials they will need for the assessment (see Materials list).– Display relevant anchor charts for students' ongoing reference during the assessment: Storyboard, Section 1–4 Charts: The Television (from Lessons 6–8) and the Linking Words anchor chart (from Unit 2, Lesson 11).• Post: Learning targets.



Lesson Vocabulary	Materials
edit, address, interest, expanding, combining, reducing, meaning, style, summarize, met, needs, caption, reflect	<ul style="list-style-type: none">• Document camera• Editing Sentence Length, Examples (one to display)• White boards (one per triad)• Dry erase markers (one per triad)• White board erasers (one per triad)• Students' completed end of unit assessment Storyboards, Sections 1, 2, and 3: The Traffic Signal or The Airplane (from Lessons 9 and 10)• Journals (begun in Unit 1, Lesson 1; one per student)• Traffic signal expert group resources:<ul style="list-style-type: none">– “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)– “Garrett Morgan: Inventor Hero” (from Lesson 3)– “The Twofold Genius of Garrett Morgan” (from Lesson 4)– “Garrett Augustus Morgan” (from Lesson 5)– Expert Text Note-catchers: The Traffic Signal (from Lessons 2, 4, 5)– Vocabulary cards (from Lessons 2–4)• Airplane expert group resources:<ul style="list-style-type: none">– “Wright Brothers: Inventors of the Airplane” (from Lesson 2)– “The Invention of the Airplane” (from Lesson 3)– “Airplane” (from Lesson 4)– “How Did We Learn to Fly?” (from Lesson 5)– Expert Text Note-catchers: The Airplane (from Lessons 2, 3, 5)– Vocabulary cards (from Lessons 2–4)• End of Unit Assessment, Part III: Storyboard, Section 4: Directions and Criteria for Success (one per student)• Storyboard, Section 4: The Traffic Signal (one per student in traffic signal expert groups)



Lesson Vocabulary	Materials (continued)
	<ul style="list-style-type: none">• Storyboard, Section 4: The Airplane (one per student in airplane expert groups)• Green highlighters (one per student)• Storyboard, Section 1–4 Charts: The Television (from Lessons 6–8)• Linking Words anchor chart (from Unit 2, Lesson 11)• Tracking My Progress, End of Unit 3 recording form (one per student)• Independent Reading Choice Board (from Lesson 1)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their completed Homework: Unit 3, Lesson 10.• Review directions for the Back-to-Back, Face-to-Face protocol. Ask students to quickly mingle to find a partner to turn back-to-back with.• Read the first two entry ticket questions aloud:<ul style="list-style-type: none">* “What visual elements did you choose to add to your storyboard?”* “Why did you choose to add those particular visual elements?”• Direct students to briefly review their responses to these questions, then turn face-to-face to discuss their ideas with their partner.• After 1 or 2 minutes, invite a few students to share out whole group.• Tell students to turn back-to-back with their partners again. Read the third entry ticket question aloud:<ul style="list-style-type: none">* “In what ways do the visual elements you added to your storyboards support readers’ understanding of the ideas you are trying to convey?”• Once again, allow students a moment to review their responses, then turn face-to-face to discuss their thinking with partners.• After 1 or 2 minutes, ask a few students to share out with the class. Listen for them to say that visual elements call attention to, emphasize, or clarify key ideas the author wants the reader to understand.• Collect students’ entry tickets to review. Say something like:<ul style="list-style-type: none">* “In this lesson, you will complete the final section of your storyboards by summarizing information about how either the airplane or the traffic light met society’s needs and adding at least one visual element to the storyboard that supports readers’ understanding of the ideas you are trying to convey. However, before you get started on Section 4, you will learn about and practice another effective method for supporting readers’ understanding and interest, by discussing and editing sentences from our graphic novel about Max Axiom.”	<ul style="list-style-type: none">• To give all students access to the prompts, display a sentence starter: “The visual elements I chose to add to my storyboard were _____because_____” and “(Visual element name) supports readers’ understanding by_____.”



Work Time	Meeting Students' Needs
<p>A. Language: Editing Sentences (15 minutes)</p> <ul style="list-style-type: none">• Ask students to join their triad members.• Tell them to read the first learning target aloud together:<ul style="list-style-type: none">* “I can edit a storyboard caption to address readers’ understanding and interest by expanding, combining, or reducing sentences for meaning and style.”• Point out the key words <i>edit</i>, <i>address</i>, <i>interest</i>, <i>expanding</i>, <i>combining</i>, <i>reducing</i>, <i>meaning</i>, and <i>style</i>.• Ask students to think about each term, try to determine meaning from context clues or other strategies, and then discuss their thinking with their triad.• After 2 minutes, invite members from each group to share out what they think each word means in the context of this target.<ul style="list-style-type: none">– <i>edit</i>: correct individual sentences for grammar, spelling, or punctuation– <i>address</i>: attend to; take into consideration– <i>interest</i>: attention, curiosity, attentiveness– <i>expanding</i>: increasing, making longer– <i>combining</i>: joining, merging, linking– <i>reducing</i>: making shorter, smaller– <i>meaning</i>: the main point, main idea being conveyed– <i>style</i>: flair, elegance• If students are unable to determine the meaning of any key terms from the target, provide definitions.• Ask triads to discuss:<ul style="list-style-type: none">* “Why would an author edit his or her work by expanding, combining, or reducing sentences?”• Listen for students to share ideas such as:<ul style="list-style-type: none">– “Sometimes a sentence is so long that it confuses the readers, so they stop reading the book or text.”– “Sentences can sometimes be too short and lack details the reader needs to understand the complex ideas the author is trying to convey.”	<ul style="list-style-type: none">• Consider displaying a synonym or quick sketch of key words above or below where they appear in the target to support ELLs.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">– “One or two short sentences can be combined into one stronger sentence, so the focus of the text is not confusing or unclear.”• Explain that students will work in triads to practice combining, reducing, or expanding sentences from information boxes found in the graphic novel <i>Investigating the Scientific Method with Max Axiom, Super Scientist</i>. Explain that because the information contained in the boxes is similar to the captions they have been writing for their storyboards, this activity supports their ability to edit their own storyboard captions to aid readers' understanding of key ideas.• Using a document camera, display the Editing Sentence Length, Examples and distribute white boards, dry erase markers, and white board erasers to each triad.• Invite students to read the first example aloud together:<ul style="list-style-type: none">* “Ask a question.”• Say something like: “If we wanted to help our readers better understand the importance of asking questions during a process of scientific inquiry, how could we expand upon this simple statement?”• Ask students to consider and discuss this question with triad members and then record a new expanded sentence on their white board.• After 1 or 2 minutes, cold call students to share out the edited sentence their group recorded. Listen for ideas such as:<ul style="list-style-type: none">– “This sentence could be expanded to read ‘Scientists sometimes start an experiment by asking a question’ or ‘Scientists ask questions to help guide their research.’”• Invite students to explain how the expanded version supports readers' understanding and interest. Listen for responses like:<ul style="list-style-type: none">– “The original sentence doesn’t really explain why someone would ask a question; it sounds more like a command.”– “The expanded sentences provide more details to help the reader understand who is asking questions and why.”• If students struggle to effectively edit the sentence and explain their reasoning, provide an expanded sentence example and explanation for them.• Ask students to read the second example aloud together:<ul style="list-style-type: none">– “Aquarius allows scientists to stay underwater for an extended period of time. The extra time allows longer research, including coral reef monitoring and NASA equipment testing.”• This time, ask students to discuss in triads how they could combine these two sentences to support readers' understanding and interest. Direct them to once again record a new, combined sentence on the group's white board.	<ul style="list-style-type: none">• Consider using a protocol or an established system to make sure each student has a voice in revising the sample sentences.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 2 minutes, cold call various triads to share out their edited sentences. Listen for suggestions such as:<ul style="list-style-type: none">– “These sentences could be combined to read ‘Aquarius allows scientists to stay underwater for a long time, which means they can conduct more research.’”• Invite students to explain why the combined version might be more interesting or meaningful for the reader. Listen for ideas such as:<ul style="list-style-type: none">– “The new sentence isn’t as repetitive. Both of the original sentences use the word ‘allow,’ which is sort of boring.”– “The combined sentence gives the reader the same important information in one clear sentence, instead of two.”• If students struggle to effectively edit the sentence and explain their reasoning, provide a combined sentence example and explanation for them.• Ask students to read the last example aloud together:<ul style="list-style-type: none">* “With more than 100 million websites, the Internet is an information gold mine.”• Ask triads to discuss how this sentence could be reduced to address audience interest and understanding. Tell them to record their idea on the group’s white board and be prepared to share out.• After 2 minutes, cold call triad members to share out their ideas for an edited sentence. Listen for ideas such as:<ul style="list-style-type: none">– “The Internet is a gold mine of information.”– “The Internet has more than 100 million websites you can use for research.”• Invite students to explain why the reduced version may be more appealing or better support readers’ understanding of the ideas presented. Listen for:<ul style="list-style-type: none">– “The reduced sentence provides the same information in a more concise way.”• If students struggle to effectively edit the sentence and explain their reasoning, provide a reduced sentence example and explanation for them.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Distribute students' Storyboards, Sections 1, 2, and 3 from Parts I and II of the end of unit assessment. Then, provide these directions:<ol style="list-style-type: none">1. Independently read through each of the captions you wrote for your storyboards.2. Choose at least one caption you want to edit by reducing, combining, and/or expanding sentences.3. Edit to write a new caption, with at least one sentence reduced, combined, or expanded, on a blank page in your journal.4. Share your original and edited versions of the caption with group members for feedback about how your new sentence(s) support readers' understanding and interest. Then, edit further as necessary, based on peer feedback.5. Write the new caption in the margin of the storyboard where the original caption is recorded.• Ask students to begin. Allow them approximately 5 minutes to edit at least one sentence from one of the captions on their storyboards. Circulate to offer guidance and support as needed.• As time permits, invite them to share out the edits they made and explain how the new sentences better support readers' understanding of complex ideas and address reader interest.• Ask students to set aside their storyboards from Sections 1–3 and prepare to take the final part of the end of unit assessment.• If they are not able to complete all steps of the task or edit as much as they would like, reassure them that they will have ample opportunity to revise and edit their storyboards during subsequent lessons.	<ul style="list-style-type: none">• To support visual learners and students who struggle with multistep directions, consider displaying these directions or providing a checklist to ensure each item is completed.• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.• ELLs receive extended time as an accommodation on New York State assessments.



Work Time (continued)	Meeting Students' Needs
<p>B. End of Unit Assessment, Part III: Storyboard, Section 4 (25 minutes)</p> <ul style="list-style-type: none"> Ask students to read aloud the second learning target: <ul style="list-style-type: none"> * “I can summarize information about how an invention met society’s needs in the caption box of my Storyboard, Section 4.” Point out that this target is similar to targets students have been working with to complete the first three sections of their storyboards. Ask them to predict with a nearby partner what they think they will do to meet this target today. After 1 or 2 minutes, cold call a few students to share out whole group. Listen for ideas such as: <ul style="list-style-type: none"> – “I think we will summarize our notes about how the invention affected people’s lives to write a caption for our last storyboard section.” Confirm students’ predictions or clarify the target as needed. Help students locate their resources from Lessons 2–5: <ul style="list-style-type: none"> – Traffic signal expert groups: “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal,” “Garrett Morgan: Inventor Hero,” “The Twofold Genius of Garrett Morgan,” “Garrett Augustus Morgan,” Expert Text Note-catchers: The Traffic Signal, and vocabulary cards. – Airplane expert groups: “Wright Brothers: Inventors of the Airplane,” “The Invention of the Airplane,” “Airplane,” “How Did We Learn to Fly?” Expert Text Note-catchers: The Airplane, and vocabulary cards. Once students have their reference materials, distribute the following to each of them: <ul style="list-style-type: none"> – End of Unit Assessment, Part III: Storyboard, Section 4: Directions and Criteria for Success – Storyboard, Section 4: The Traffic Signal (to students in traffic signal expert groups) – Storyboard, Section 4: The Airplane (to students in airplane expert groups) – One green highlighter Read the assessment’s directions and criteria for success aloud and clarify as needed. Tell students they may also refer as needed to the Storyboard, Section 1–4 Charts: The Television created during Lessons 6–8 and the Linking Words anchor chart. Ask students to begin. 	<ul style="list-style-type: none"> To support all learners, especially ELLs, consider displaying a strong example of a student prediction about what they will be doing to meet this target today.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Give them 15 minutes to complete their storyboards.• Circulate to supervise; since this is a formal on-demand assessment, do not provide support other than formally approved accommodations.• If students finish early, they may begin filling out their progress trackers or continue editing their storyboard captions from Work Time A.	
<p>C. Tracking My Progress (10 minutes)</p> <ul style="list-style-type: none">• Ask students to read the final learning target aloud:<ul style="list-style-type: none">* “I can reflect on my learning about how to make a plan for a graphic novelette.”• Remind students that they have reflected on their progress toward learning targets upon completion of each mid-unit and end of unit assessment. Explain that they will do the same thing now.• Distribute the Tracking My Progress, End of Unit 3 recording form then allow students 10 to 12 minutes to complete their progress trackers. Circulate to support as necessary.• Once students have completed the form, ask them to hang on to their trackers for the debrief.	<ul style="list-style-type: none">• To support students who struggle with the physical act of writing, consider scribing their reflections for them to ensure an accurate reflection of their perceived progress.



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief: Tracking My Progress (5 minutes)</p> <ul style="list-style-type: none">• Congratulate students on the completion of their storyboard drafts.• Ask them to share the reflections on their Tracking My Progress recording form with triad members.• Invite several students to share out whole class.• Collect the End of Unit Assessment, Part III and Tracking My Progress forms to review.	<ul style="list-style-type: none">• Provide a sentence starter to give all students access to the conversation with a peer: "On the first target, I circled _____. The evidence I have to support that is _____."
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read your independent reading book for at least 30 minutes and respond to one of the questions on your Independent Reading Choice Board. <p><i>Notes: Students will need their storyboards for peer critique and revision during Lesson 12. Make copies of the storyboards to review and assess (using the criteria for success) so you are able to return the original storyboards in the next lesson.</i></p> <p><i>Review Lessons 12–16 in advance to familiarize yourself with the process students will use to create their graphic novelettes and to begin coordinating with other instructors to support students during and/or beyond the implementation of those lessons (see the Teaching Note in Lesson 9 for more details).</i></p>	



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 11

Supporting Materials



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Editing Sentence Length, Examples

Example 1:

“Ask a question.”

Example 2:

“Aquarius allows scientists to stay underwater for an extended period of time. The extra time allows longer research, including coral reef monitoring and NASA equipment testing.”

Example 3:

“With more than 100 million websites, the Internet is an information gold mine.”



End of Unit Assessment, Part III:
Storyboard, Section 4:
Directions and Criteria for Success

Part III Directions

You will need: a Storyboard graphic organizer, your expert texts, and your Expert Text note-catchers for this activity. Please be sure you have the necessary materials listed below.

Traffic signal expert groups will need:

- Storyboard, Section 4: The Traffic Signal
- “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2)
- “Garrett Morgan: Inventor Hero” (from Lesson 3)
- “The Twofold Genius of Garrett Morgan” (from Lesson 4)
- “Garrett Augustus Morgan” (from Lesson 5)
- Expert Text Note-catchers: The Traffic Signal (from Lessons 2, 4, 5)
- Vocabulary cards (from Lessons 2–4)

Airplane expert groups will need:

- Storyboard, Section 4: The Airplane
- “Wright Brothers: Inventors of the Airplane” (from Lesson 2)
- “The Invention of the Airplane” (from Lesson 3)
- “Airplane” (from Lesson 4)
- “How Did We Learn to Fly?” (from Lesson 5)
- Expert Text Note-catchers: The Airplane (from Lessons 2, 3, 5)
- Vocabulary cards (from Lessons 2–4)



End of Unit Assessment, Part III:
Storyboard, Section 4:
Directions and Criteria for Success

Independently complete the following:

SECTION 4:

1. Read and highlight the title for pages 7 and 8 of your Storyboard, Section 4, in **green**. Silently restate the title in your own words. Think about:
 - “What type of information from my notes should I use for the caption on page 8 of my storyboard?”
2. Review the articles you have read and the “Information about the IMPACT” boxes on your Expert Text note-catchers from Lessons 2–5, then highlight three or four key details in your notes that are related to the title for pages 7 and 8 of your storyboard in **green**.
3. Use the notes you highlighted in **green** to write a three- to five-sentence summary paragraph in the caption box at the bottom of page 8 of your storyboard.
4. Be sure to use linking words and key terms from your vocabulary cards (from Lessons 2–4) in your summary paragraph.

VISUAL ELEMENTS: Choose at least one of the following to add to your Storyboard, Section 4 to support readers’ understanding of key ideas.

- Sketch of a **close-up image**
- A scientific key word from one of your summaries defined in a **definition box** (refer to your vocabulary cards from Lessons 2–4 for help)
- An academic key word from one of your summaries defined in a **definition box** (refer to your vocabulary cards from Lessons 2–4 for help)
- Sketch of an important person, place, thing, or idea inside a **frame/panel**
- A **diagram**
- An appropriate **ambient noise**



End of Unit Assessment, Part III:
Storyboard, Section 4: Directions and Criteria for Success

Criteria for Success:

SECTION 4:

- A three- to five-sentence paragraph in the page 8 caption box that clearly summarizes key details from the “Information about the IMPACT” boxes on note-catchers from Lessons 2–5 (RI.5.9, W.5.8, W.5.2e)
- Summary includes linking words that clearly connect ideas (W.5.2c)
- Summary includes key terms from vocabulary cards created during Lessons 2–4 (W.5.2d)

VISUAL ELEMENTS: (W.5.2a)

- *At least one* of the following visual elements is added to Storyboard, Section 4:
 - close-up image (W.5.2a)*
 - definition box (academic and/or scientific) (W.5.2a, d)*
 - frame/panel (with image of important person/people, thing, and/or idea) (W.5.2a)*
 - diagram (W.5.2a)*
 - ambient noise (W.5.2a)*



Storyboard, Section 4: The Traffic Signal

How Did the Invention of the Traffic Signal Meet
People's Needs?

7

{caption box}

8



Storyboard, Section 4: The Airplane

How Did the Invention of the Airplane Meet
People's Needs?

{caption box}

7

8



Tracking My Progress, End of Unit 3

Name:

Date:

Learning target: I can explain how to create a graphic novel using evidence from the text.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to learn
this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, End of Unit 3

Learning target: I can describe what people needed or wanted and how their needs were met, by using dialogue in my storyboard Splash Page.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to learn
this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



Tracking My Progress, End of Unit 3

Learning target: I can support readers' understanding of the key ideas on my storyboards by adding visual elements that emphasize important details.

1. The target in my own words is:

2. How am I doing? Circle one.

**I need more help to learn
this**



**I understand some
of this**



**I am on my
way!**



3. The evidence to support my self-assessment is:



EXPEDITIONARY
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Grade 5: Module 2B: Unit 3: Lesson 12

Peer Critique and Revision: Storyboard, Sections 1–4



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)
With support from peers and adults, I can use a writing process to produce clear and coherent writing. (W.5.5)
I can follow our class norms when I participate in a conversation. (SL.5.1)

Supporting Learning Targets

- I can follow our group norms when working with partners to give and receive feedback.
- I can use feedback from peers to revise my storyboards to better meet the criteria.

Ongoing Assessment

- Independent Reading Choice Board response (from homework)
- End of Unit 3 Assessment: Storyboards (1-4) revised
- Storyboard Criteria for Success form
- Group Norms checklist



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Writer (5 minutes)2. Work Time<ol style="list-style-type: none">A. Peer Critique Protocol (25 minutes)B. Revise Storyboard, Sections 1–4 (20 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Storyboard Gallery Walk (8 minutes)B. Review of Learning Targets (2 minutes)4. Homework<ol style="list-style-type: none">A. Independent reading and choice board response.	<ul style="list-style-type: none">• In the Opening, students participate in the Four Corners protocol to discuss the ways in which their independent reading author best supports their understanding of the ideas he or she is trying to convey. This provides them with the opportunity to, yet again, think about how best to convey key ideas. This will help them as they continue to revise and strengthen their storyboards.• In addition, students refer to the Storyboard Criteria for Success (from the End of Unit Assessment Parts I, II, and III: Directions and Criteria for Success) and use the Peer Critique protocol to provide and receive feedback about the content of their storyboards. This and successive lessons support students in preparing for the final performance task in Lesson 17, when they will share their graphic novelettes with members of their triad.• In advance:<ul style="list-style-type: none">– Review and prepare for the Four Corners protocol (see Appendix).– Review and post directions for the Peer Critique protocol (see Appendix).– Review the Gallery Walk protocol (see Appendix)– Review the Group Norms checklist (from Unit 2, Lesson 1).– Be prepared to return students' Storyboards, Sections 1–4 (from Lessons 9–11)



Lesson Vocabulary	Materials
norms, feedback, criteria, revise	<ul style="list-style-type: none">• Four Corners sheets (one of each; displayed in different areas of the room)• Group Norms anchor chart (begun in Unit 2, Lesson 1)• Storyboard Criteria for Success form (two per student)• Group Norms checklist (from Unit 2, Lesson 1; for teacher reference)• Storyboard Revision task card (one per student)• Sticky notes (three per student)• Independent Reading Choice Board (from Lesson 1)

Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out the Independent Reading Choice Boards they have been completing for homework.• Review the Four Corners protocol.• Ask students to consider:<ul style="list-style-type: none">* “How does the author of your independent reading book <i>best</i> support your understanding of the ideas she or he is trying to convey?”• Focus students' attention on and read aloud each of the Four Corners sheets and clarify if necessary.• Give students 1 minute to refer to the responses on their choice boards to help them make a decision about which sheet to stand near. Ask them to move to their chosen sheet.• Direct students to discuss their thinking with others who chose the same corner.• After 2 minutes, cold call individuals from each Four Corners sheet to share ideas from the group discussion with the class.• Then say something like: “Now that you have successfully created four complete storyboard drafts, you will share your work with peers to receive and provide feedback so that you can refine your storyboards before using them to create a graphic novelette for the final performance task.”	<ul style="list-style-type: none">• To support visual learners, display the Four Corners question.• To give all students access to the Four Corners discussion, display a sentence starter: “I chose to stand in this corner because the author of my independent reading book _____ by _____.”



Work Time	Meeting Students' Needs
<p>A. Peer Critique Protocol (25 minutes)</p> <ul style="list-style-type: none">• Ask students to join their triads. Read aloud the first learning target:<ul style="list-style-type: none">* “I can follow our group norms when working with partners to give and receive feedback.”• Refer students to criteria listed on the Group Norms anchor chart, developed during Unit 1. Ask them to consider:<ul style="list-style-type: none">* “How have you used group norms throughout this module to successfully engage in conversations with peers?”* “How can you use group norms to give and receive feedback about your storyboard drafts?”• After 2 minutes, invite a few students to share their ideas whole group.• Review the Peer Critique protocol with students.• Explain that they will exchange their storyboard drafts with both members of their triad to give and receive feedback about the content and visual elements for Sections 1–4. Provide clarification as needed.• Remind students that as they work to offer and receive critiques, it is important to:<ul style="list-style-type: none">– Be specific.– Be kind.– Stay on topic (talk about the criteria).– Thank your partner.• Distribute two Storyboard Criteria for Success forms per student.• Tell them they will use these forms to provide written feedback to each partner about the content of her or his storyboards. Point out that this form is based on the criteria they used to create each of their storyboard drafts in Lessons 9–11. Read through the directions and each of the criteria. Clarify as needed.• Tell students that during this part of Work Time, they will have two exchanges to review, critique, and offer written feedback on. They should provide written feedback on all four storyboard sections.• Tell students they will use the peer feedback they receive to revise their storyboards during the final part of Work Time.	<ul style="list-style-type: none">• To support visual learners, display the criteria under the document camera as you review.• Consider allowing students who struggle with the physical act of writing to type their feedback or dictate to a scribe to ensure all participants get quality feedback.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• For the first exchange:<ul style="list-style-type: none">– Give students 7 or 8 minutes to review and provide feedback about one triad member's storyboards, using one of the feedback forms.– Circulate to support as needed.• As you move throughout the room, use the Group Norms checklist (for teacher reference) to evaluate students' use of group norms and their ability to offer effective feedback.• After the first round of peer feedback is complete, direct student reviewers to return both the storyboards and feedback form to student writers.• Then, ask students to exchange their storyboards with the other member of their triad.• For the second exchange:<ul style="list-style-type: none">– Give students 7 or 8 minutes to review and provide feedback about their partner's storyboards, using the second feedback form.– Circulate to support as needed.• As you move throughout the room, continue to use the Group Norms checklist to evaluate students' use of group norms and their ability to offer effective feedback.• After the second round of critique, direct student reviewers to return the storyboards and feedback form to student writers.• Tell students that during the next part of Work Time, they will be able to review peer feedback and revise their storyboards accordingly.	



Work Time (continued)	Meeting Students' Needs
<p>B. Revise Storyboard, Sections 1–4 (20 minutes)</p> <ul style="list-style-type: none">• Ask students to read the second learning target aloud together:<ul style="list-style-type: none">* “I can use feedback from peers to revise my storyboards to better meet the criteria.”• Point out the key terms <i>revise</i> and <i>criteria</i>.• Ask students to consider and discuss in groups what it means to use feedback and criteria to revise.• After 1 or 2 minutes, invite a few triads to share their ideas with the class. Listen for responses such as:<ul style="list-style-type: none">– “We think this means to use the feedback our peers provided and specific criteria described in the Criteria for Success forms to improve our storyboards.”• Distribute and read aloud the Storyboard Revision task card. Answer any clarifying questions and then ask the class to begin work.• Allow students 13-15 minutes to complete the steps on their task card. Circulate to provide guidance and support as needed.• As time permits, invite several students to share out examples and explanations about of their storyboard revisions.• Allow students to hold on to their storyboard drafts for homework.	<ul style="list-style-type: none">• Consider building in a few minutes for students to confer with the authors of their feedback to get more details to aid in the revision process.• As students share out examples and explanations about their storyboard revisions, consider asking them to display their work under the document camera.



Closing and Assessment	Meeting Students' Needs
<p>A. Storyboard Gallery Walk (8 minutes)</p> <ul style="list-style-type: none">• Invite students to celebrate the completion and initial revision of their storyboards by displaying and sharing them through a Gallery Walk.• Distribute three sticky notes to each student and give these directions:<ol style="list-style-type: none">1. Display your storyboards so peers can read and view each section.2. Independently and silently, move throughout the room to view and read your classmates' storyboards.3. Write a short comment of "positive praise" for two to three of your peers' storyboards, on each of your sticky notes.4. Leave the sticky notes on or near other students' storyboards for them to read at the conclusion of the Gallery Walk.• Clarify directions as needed, then ask students to begin.• Circulate to facilitate and offer support.• After 4 or 5 minutes, ask students to return to their storyboards and read the feedback provided on sticky notes.• As time allows, invite students to share comments that were particularly noteworthy.	<ul style="list-style-type: none">• Consider allowing students who struggle with the physical act of writing, or whose writing is often illegible, to dictate their praise to a scribe.
<p>B. Review of Learning Targets (2 minutes)</p> <ul style="list-style-type: none">• Read each of the learning targets aloud and ask students to show a thumbs-up or thumbs down to demonstrate their mastery toward each target.• Note students who show a thumbs-down, as they may need more support working with peers or revising their work.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Revise your storyboards as needed, based on peer critiques.• Read your independent reading book for at least 20 or 30 minutes and respond to one question on your Independent Reading Choice Board. <p><i>Note: In Lessons 13–16, students will create their graphic novelettes one section at a time. Review these lessons in advance to ensure that students have access to technology and other materials they may need to create their novelettes. Also consider collaborating with a technology teacher, art instructor, and/or media specialist to support students as they develop their novelettes.</i></p>	



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 12

Supporting Materials



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Four Corners Sheets

**My independent reading text has a clear
organizational structure.**



Four Corners Sheets

**My independent reading text includes
visual elements.**



Four Corners Sheets

**My independent reading text provides
information.**



**My independent reading text
contains dialogue.**



Storyboard Criteria for Success Form

Name of Author: _____ Date: _____

Name of Peer Reviewer: _____

Directions: Place a check mark (✓) next to criteria that are met.

Place a minus sign (-) next to criteria that are not met.

Write specific and helpful feedback in the Reviewer Comments column so your partner knows what elements of her/his storyboard are strong and which areas may need to be revised to meet the criteria.

Section	Informational Caption	Narrative Dialogue	Visual Elements	Reviewer Comments
1 – Splash Page Background: Invention	<ul style="list-style-type: none"> _ Three- to five-sentence summary that explains what people needed or wanted _ Summary includes linking words _ Summary includes key terms 	<ul style="list-style-type: none"> _ Thought bubble is a complete sentence that helps the reader understand what people wanted or needed _ Speech bubble is a complete sentence that helps the reader understand how people's needs were met and by whom. 	<p>Includes at least one of the following visual elements <i>in addition to</i> the thought and speech bubble:</p> <ul style="list-style-type: none"> _ Close-up image _ Definition box (scientific) _ Definition box (academic) _ Frame/panel with image _ Diagram _ Ambient noise 	



Storyboard Criteria for Success Form

Section	Informational Caption	Narrative Dialogue	Visual Elements	Reviewer Comments
2 – Background: Inventor(s)	<ul style="list-style-type: none"> _ Three- to five-sentence summary that provides information about the inventor(s) _ Summary includes linking words _ Summary includes key terms 		<p>Includes at least one of the following visual elements:</p> <ul style="list-style-type: none"> _ Close-up image _ Definition box (scientific) _ Definition box (academic) _ Frame/panel with image _ Diagram _ Ambient noise 	
3 – Developing a Solution	<ul style="list-style-type: none"> _ Three- to five-sentence summary that provides information about the inventor(s) developing a solution _ Summary includes linking words _ Summary includes key terms 		<p>Includes at least one of the following visual elements:</p> <ul style="list-style-type: none"> _ Close-up image _ Definition box (scientific) _ Definition box (academic) _ Frame/panel with image _ Diagram _ Ambient noise 	



Storyboard Criteria for Success Form

Section	Informational Caption	Narrative Dialogue	Visual Elements	Reviewer Comments
4 - Impact	<ul style="list-style-type: none">_ Three- to five-sentence summary that provides information about the impact of the invention: how it met society's needs/changed people's lives_ Summary includes linking words_ Summary includes key terms		<p>Includes at least one of the following visual elements:</p> <ul style="list-style-type: none">_ Close-up image_ Definition box (scientific)_ Definition box (academic)_ Frame/panel with image_ Diagram_ Ambient noise	



Storyboard Revision Task Card

Complete the following:

1. Review the comments each of your reviewers made.
2. Ask your reviewers any clarifying questions about the comments.
3. Revise each section of your storyboard based on the feedback from your reviewers.
4. Share your revisions with the reviewers to see whether you addressed their feedback.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 13

Storyboard Revision: Managing the Sequence of Events and Using Sensory Details



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (W.5.3)

c. I can use a variety of transitional words, phrases, and clauses to manage the sequence of events.

d. I can use concrete words and phrases and sensory details to convey experiences and events precisely.

With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5)

Supporting Learning Targets

- I can use a variety of transitional words and phrases to manage the sequence of events in my storyboard drafts.
- I can use sensory details to convey experiences and events precisely in my storyboard drafts.

Ongoing Assessment

- Storyboard revisions (from homework)
- Independent Reading Choice Board response (from homework)
- End of Unit Assessment Storyboards(1–4) revised



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Writer (5 minutes)2. Work Time<ol style="list-style-type: none">A. Peer Critique and Revision: Using Transitions to Manage the Sequence of Events (25 minutes)B. Peer Critique and Revision: Using Sensory Details to Convey Experiences and Events Precisely (25 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Review of Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Finish storyboard revisions.	<ul style="list-style-type: none">• In this lesson, students focus on revising their storyboards to include transitions, as well as sensory details. These changes are meant to help support readers' understanding of the events and experiences described in each section of their storyboards.• To help students understand how transitions are used in stories to manage the sequence of events and experiences that take place, they revisit the storyboard charts they created during Lessons 6–8, about the invention of television, to identify and discuss transitions that could be added between sections to signal the reader that settings (time and location) and events will change. Students make revisions to their storyboard drafts based on their new learning. After this, they share their work with triad members for feedback. Then, they revise further, to prepare for the creation and presentation of their graphic novelettes in Lessons 14–17.• During Work Time B, students add sensory details to various sentences for the purpose of helping them understand how authors make their writing “come alive” for readers through the use of descriptions that emphasize what a character sees, hears, feels (touches), tastes, and smells. The focus for students in this lesson is on how to help readers more fully experience the story through the use of sensory details related specifically to sight and sound. Narrowing the focus to two rather than all five senses helps to keep students from becoming overwhelmed and losing focus. They make revisions to their storyboard drafts, based on their new learning, and share them with their triads for feedback. Then, they revise further, as needed, to prepare for the creation and presentation of their graphic novelettes in Lessons 14–17.• Consider working with individuals and/or small groups beyond the time allotted for this lesson to offer instruction on Language conventions L.5.1 and L.5.2. Then, provide an opportunity for students to apply what they learn by editing their storyboards further to address any issues related to grammar and/or punctuation before creating their graphic novelettes beginning in the next lesson.• In advance:<ul style="list-style-type: none">– Review Milling to Music and Fist-to-Five in Checking for Understanding Techniques (see Appendix).– Make sure triads have access to their Storyboard, Section 1–4 Charts: The Television (from Lessons 6–8).– Create the Narrative Transitions anchor chart for Work Time C (see the supporting materials).• Post: Learning targets.



Lesson Vocabulary	Materials
transitional, sequence of events, sensory details, experiences, events, revise	<ul style="list-style-type: none">• Storyboard, Section 1 Chart: The Television (from Lesson 6; one per triad)• Storyboard, Section 2 Chart: The Television (from Lesson 7; one per triad)• Which Transition Works? (one to display)• Storyboard, Section 3 Chart: The Television (from Lesson 7; one per triad)• Storyboard, Section 4 Chart: The Television (from Lesson 8; one per triad)• End of unit Storyboard, Sections 1–4 drafts (from Lessons 9–11)• Storyboard Revision Task Card: Transitions (one per student)• Narrative Transitions anchor chart (new; teacher-created)• Adding Sensory Details handout (one per student and one to display)• Storyboard Revision Task Card: Sensory Details (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none"> • Ask students to take out the storyboards they revised for homework. • Briefly review the directions for Milling to Music, then ask students to move throughout the room to find a partner who is from the same expert group but <i>not the same triad</i>. • Once students are partnered, ask them to consider and discuss: <ul style="list-style-type: none"> * “What revisions did you make to your storyboards, based on peer feedback?” * “How do you think the revisions you made will better support readers’ understanding of the ideas on your storyboards?” • After 2 minutes, focus students’ attention whole group and invite individuals to share out. Listen for them to refer to specific feedback they received and changes they made to their storyboards to better meet the Storyboard Criteria for Success from Lesson 12. • Ask students to take their storyboards and join their triads. • Say something like: “Today we are going to zoom in on two specific elements of your writing that will support readers’ understanding of the events and experiences described in your storyboards: using transitions to support readers’ understanding of the shifts that take place from one section of a storyboard to the next, and how to use sensory details to enhance readers’ engagement and help them more fully experience the events that are described in your story. Then, you will have an opportunity to revise your work and receive peer critique. This work helps prepare you to create your graphic novelettes in the next lesson. 	<ul style="list-style-type: none"> • To give all students access to the prompt during Milling to Music, offer a sentence starter: “One piece of feedback I got was _____, so I revised by _____. I think readers will better understand _____ because _____.”). • Consider displaying this workflow agenda in a prominent place to help students understand how each part leads to the final product: <ol style="list-style-type: none"> 1. Transitions – supporting readers’ understanding of shifting information 2. Sensory details – supporting reader engagement 3. Revision – incorporating transitions and sensory details 4. Peer critique – preparing for final product: graphic novelette



Work Time	Meeting Students' Needs
<p>A. Peer Critique and Revision: Using Transitions to Manage the Sequence of Events (25 minutes)</p> <ul style="list-style-type: none">• Read the first learning target aloud:<ul style="list-style-type: none">* “I can use a variety of transitional words and phrases to manage the sequence of events in my storyboard drafts.”• Underline the word <i>transitional</i> in this target. Point out the “transition” part of this word, which students should be familiar with from the Painted Essay structure introduced in Unit 2. Ask them to think about and discuss in triads:<ul style="list-style-type: none">* “Why are transitions used in writing; what is their purpose?”• After 1 or 2 minutes, invite a few students to share their ideas aloud. Listen for suggestions such as:<ul style="list-style-type: none">– “A transition connects one point to the next.”– “A transition is like a bridge between ideas.”• If students are not able to explain why transitions are used or their purpose, offer a brief reminder.• Then, circle the phrase <i>sequence of events</i>. Ask students to think about and discuss:<ul style="list-style-type: none">* “What sequence of events did you plan out on your storyboards?”• If students are unfamiliar with the word <i>sequence</i> or <i>events</i>, provide a simple definition for each term and then ask students to consider the question again.• After 1 or 2 minutes, cold call a few students to share ideas whole group. Listen for responses such as:<ul style="list-style-type: none">– “In the first storyboard section, we explain what people wanted and how their needs were met. In the second section, we give background information about the inventor, then move on to explain his process for developing the invention and end with how the invention changed people’s lives.”• If students are not able to clearly articulate the shifts in information from one section of their storyboard to the next, remind them of how each storyboard section corresponds to the notes they recorded in different boxes of their Expert Text note-catchers during Lessons 2–5.• Explain that authors use transitional words and phrases to help readers recognize when the story is not only going to shift from one idea to another, but also from one setting (time and location) to another. The use of transitions helps establish a logical sequence of events, which supports readers’ understanding of when and where different experiences are taking place.• Tell students that before they revise their own storyboards, they will review the storyboard charts they created during Lessons 6–8 about Philo Farnsworth’s invention of television, in order to identify transitions.	<ul style="list-style-type: none">• Consider displaying a working definition of <i>transition</i> for student reference.• Consider providing a sentence starter to give all students access to the prompt: “The sequence of events I planned out in my storyboard is _____.”• Consider displaying students’ storyboards as they discuss the sequence of events. Point out the details that help communicate that sequence of events.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> Ask students to refer to their Storyboard, Section 1 Chart: The Television and Storyboard, Section 2 Chart: The Television about Philo's invention of TV and discuss in triads: <ul style="list-style-type: none"> * "What is Section 1 mostly about?" * "What is Section 2 mostly about?" After 1 or 2 minutes, cold call a few students to share out. Listen for them to explain that <ul style="list-style-type: none"> – Section 1 is about life before television, what people wanted or needed, how their needs were met, and by whom; – Section 2 is about the inventor's background, inspiration for developing the invention. Then ask students to consider and discuss: <ul style="list-style-type: none"> * "How are the events and experiences that are described in Section 1 different from those of Section 2?" * "How does the setting, time and location, change from one section to the next?" After 2 minutes, invite a few triads to share out with the class and listen for: <ul style="list-style-type: none"> – "In Section 1, Philo is saying he already invented television, but in Section 2 it describes a time before Philo invented TV, when he was young, living in Utah or Idaho." – "Section 2 explains how Philo became motivated to invent television, and his special skills, talents, and interests." Display only the first of the three examples from Which Transition Works? Keep the other two examples covered. Ask students to read each option aloud together. Point out that the transition in each sentence is in bold. Ask students to review each example with group members and discuss: <ul style="list-style-type: none"> * "Which of these transitions would be <i>best</i> to use in the speech bubble of Section 1, to signal the reader that Section 2 takes place in the past and will describe how Philo became motivated to invent television? Explain your thinking." Allow students 2 or 3 minutes to discuss, then invite members from different triads to share their group's thinking aloud. Listen for ideas such as: <ul style="list-style-type: none"> – "The third example is the best: 'I'm Philo Farnsworth. I invented television because I thought it would be a fun way to bring people together. Let me take you back in time to tell you about how I became motivated to invent TV.'" – "The third transition is the best because it tells the reader the next section will be set in the past and explains why Philo was motivated to invent TV." – "The other options don't make it clear that there will be information about Philo's motivation to invent TV." If students are unable to identify the best transition, identify it for them and explain why it is the best choice of the three. 	<ul style="list-style-type: none"> Offer two sentence starters: "Section 1 is mostly about _____. Section 2 is mostly about _____" and "The _____ transition is best because _____."



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • Ask students to review and explain what the Storyboard, Section 3 chart is mostly about. Listen for them to say that it's about how Philo developed or invented television. • Ask students to discuss with their triad how the ideas and settings change from Section 2 to Section 3. • After 1 or 2 minutes, cold call a few triads to share out. Listen for them to say that Section 2 is about when Philo was young and describes why he wanted to invent TV, whereas Section 3 takes place at a later time, when Philo is grown and in the process of developing his idea. • Display the second example from Which Transition Works? Ask students to read each option aloud together. • Ask them to review each example with triad members, then think about and discuss: <ul style="list-style-type: none"> * "Which of these transitions would be <i>best</i> to include in the caption at the end of Section 2, to signal the reader that Section 3 takes place at a later time and describes the process Philo used to invent television? Explain your thinking." • Allow students 2 or 3 minutes to review and discuss each transition, then invite members from various triads to share their group's thinking aloud. Listen for ideas such as: <ul style="list-style-type: none"> – "The first option is best: 'Philo Farnsworth wanted to be an inventor, and he believed that he could use electricity to develop an idea that would bring people together. As soon as he was old enough and could find the right investors, Philo began working on a way to make television a reality.'" – "The first option is best because it tells the reader that Section 3 will take place a time later than Section 2, when Philo is older, and will explain how he started working on his idea, which signals the reader that it will describe his process and how he worked on his idea." • If students struggle with identifying and explaining which transition is best, clarify for them. • Ask students to review and explain what the Storyboard, Section 4 chart is mostly about. Listen for them to say that it's about how television affected or changed people's lives. • Ask them to consider and discuss in groups how the ideas and setting change from Section 3 to Section 4. • After 1 or 2 minutes, cold call various triads to share out. Listen for them to say that Section 3 is about Philo's process, but Section 4 describes what life was like after television was invented and how it changed people's lives. • Then, display the final example from Which Transition Works? Ask students to read each option aloud together. 	<ul style="list-style-type: none"> • Offer two sentence frames here to allow all students to access the prompts and to provide a model of the conventional use of the comparison word <i>whereas</i>: "Storyboard, Section 3 is mostly about _____" and "The ideas/setting changes. In Section 2, _____, whereas in Section 3, _____." • Remind students of the sentence starter that supports them in responding to the prompt: "Section 4 is mostly about _____." • Consider displaying the restated learning targets to support all students, especially ELLs. • Consider offering a checklist to students to guide the completion of their revisions: <ol style="list-style-type: none"> 1. Effective transition between 1 and 2 and 2 and 3 2. Effective transition between 2 and 3 and 3 and 4 3. Asked for and received feedback from a triad member about my use of transitions



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Then ask students to once again review each option, think about, and discuss:<ul style="list-style-type: none">* “Which of these transitions would be <i>best</i> to include in the caption at the end of Section 3, to cue the reader that Section 4 will be about what happened after Philo invented television? Explain your thinking.”• Allow students 2 or 3 minutes to review and discuss each transition, then invite members from various triads to share their group’s thinking aloud. Listen for responses such as:<ul style="list-style-type: none">– “The third option is best: ‘Philo found some investors and spent a lot of time trying to make his invention work. Finally he succeeded and invented the television! After that, people’s lives changed a great deal.’”– “It’s the best option because it included the word ‘after,’ which tells the reader Section 4 is about after TV was invented. It also mentions that people’s lives were changed, which is what Section 4 describes.”• Provide clarification and modeling through a think-aloud, if necessary to help students understand which is the best transition and why.• Congratulate students on their identification and analysis of effective storyboard transitions.• Tell them to take out their End of unit Storyboards, 1–4 drafts.• Distribute the Storyboard Revision Task Card: Transitions and display the Narrative Transitions anchor chart. Point out that several of the transitional words and phrases listed on the anchor chart were used in the transition examples students just reviewed and evaluated.• Read through the directions on the task card and clarify as needed. Ask students to begin and circulate to offer guidance and support.	



Work Time (continued)	Meeting Students' Needs
<p>B. Using Sensory Details to Convey Experiences and Events Precisely (15 minutes)</p> <ul style="list-style-type: none"> Read the third learning target aloud: <ul style="list-style-type: none"> * “I can use sensory details to convey experiences and events precisely in my storyboard drafts.” Underline the phrase <i>sensory details</i> and tell students that authors also use sensory details to help readers connect to and experience what the characters are feeling, seeing, hearing, smelling, or tasting. Explain that during Work Time C, they will focus on incorporating sensory details in their storyboards. These details will describe in greater detail what the characters <i>see</i> and <i>hear</i> and serve the purpose of engaging readers more fully with their story. However, first they will have an opportunity to practice adding sensory details to a few simple sentences. Distribute and display the Adding Sensory Details <i>handout</i>. Ask students to read Sentence 1 aloud with you: <ul style="list-style-type: none"> * “Philo Farnsworth tried to make himself look older.” Ask students to consider and discuss: <ul style="list-style-type: none"> * “What do you recall from Unit 2 about how Philo tried to make himself look older?” * “How could we add sensory details to this sentence to help the reader ‘see’ what Philo did to make himself look older?” After 2 or 3 minutes, invite a few students to share their ideas with the class. Listen for ideas such as: <ul style="list-style-type: none"> – “We could change the sentence to read, ‘Philo grew a mustache to make himself look older.’” – “The sentence could say, ‘Philo grew a mustache and wore a suit and tie to make himself look older, or other descriptive examples that would help the reader ‘see’ what Philo did to make himself look older.” If students are unable to come up with descriptive sentences, provide examples for them and explain how the addition of sensory details helps the reader “see” this. Ask students to read Sentence 2 aloud with you: <ul style="list-style-type: none"> * “The crowd was very loud.” 	<ul style="list-style-type: none"> Consider displaying original sentences next to the rewritten, detailed sentences for comparison and reference throughout this lesson. Consider displaying the restated learning targets to support all students, especially ELLs. Consider offering a checklist to students to guide the completion of their revisions: <ol style="list-style-type: none"> Added sensory details to at least one sentence in each section, 1–4 Asked for and received feedback from a triad member about my use of sensory details



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask them to discuss:<ul style="list-style-type: none">* “What exactly does a loud crowd sound like?”* “How could we add sensory details to this sentence to help the reader ‘hear’ the crowd?”• After 2 or 3 minutes, invite various triads to share out whole group. Listen for ideas such as:<ul style="list-style-type: none">– “The roar of the crowd could be heard from a mile away!”– “The crowd whistled and cheered so loudly, it hurt my ears.”• If students have difficulty changing the sentence to be more descriptive, provide an example and explanation for them.• Ask students to read the final sentence aloud with you:<ul style="list-style-type: none">* “The people were silent.”• Again, ask them to consider and then discuss:<ul style="list-style-type: none">* “How could we describe silent?”* “How could we add sensory details to this sentence to help the reader understand what silent people ‘sound’ like?”• After 2 or 3 minutes, cold call several students to share their thinking with the class. Listen for descriptive sentences such as:<ul style="list-style-type: none">– “The people were so quiet I could hear myself breathing.”– “The people were quieter than a whisper.”• Again, if students struggle with revising the sentence, provide examples and explanations for them.• Tell students they will now apply what they have learned to further revise their Storyboard, Sections 1–4 drafts to include sensory details.• Distribute the Storyboard Revision Task Card: Sensory Details and read through each of the directions. Clarify as needed.• Ask students to begin and circulate to offer support.• Once students have completed their revisions, praise them for their ability to add sensory details that support readers’ understanding of the experiences the author is trying to convey.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none"> • Pair up triads so one airplane triad is matched with one traffic signal triad. • Tell mixed triads to discuss: <ul style="list-style-type: none"> * “How does the addition of transitions to your storyboard make the sequence of events clearer to the reader?” * “How does the use of sensory details make your story more engaging for the reader?” * “What would you still like to revise on your storyboards to be prepared to begin creating the graphic novelette in the next lesson?” • Give mixed triads 2 or 3 minutes to discuss their ideas, then invite a few students to share their thinking whole group. • Read each of the learning targets aloud and ask students to use Fist-to-Five to show their level of mastery toward each target. Note students who show a 3 or less, as they may need more one-on-one or small group support to complete the revisions on their storyboards before creating their graphic novelettes beginning in the next lesson. 	<ul style="list-style-type: none"> • To give all students access to the debrief prompts, offer sentence frames: “Adding transitions makes the sequence of events clearer because _____,” “Using sensory details makes my story more engaging to the reader by _____,” and “One revision I’d still like to make to my storyboard is _____.”
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> • Complete your storyboard revisions to include all Criteria for Success (from Lesson 12). Make sure you have effective transitions between sections and sensory details (sight and sound) that make your writing ‘come alive’ for the reader. <p><i>Note: Thoroughly review Lessons 14–16 to familiarize yourself with the process students will use to create their graphic novelettes and to ensure you have the necessary materials and resources for either the Technology or Non-technology option.</i></p>	<ul style="list-style-type: none"> • For students who struggle to independently revise their work or who have difficulty with the process of writing, allow them to dictate their ideas to someone at home to act as a scribe.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 13

Supporting Materials



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Which Transition Works?

Example 1: Transitioning from Section 1 to Section 2

*I'm Philo Farnsworth. I invented television because I thought it would be a fun way to bring people together. **Now I'm going to tell you about my childhood.***

*I'm Philo Farnsworth. I invented television because I thought it would be a fun way to bring people together. **Now let me tell you about my past.***

*I'm Philo Farnsworth. I invented television because I thought it would be a fun way to bring people together. **Let me take you back in time to tell you about how I became motivated to invent TV.***

Example 2: Transitioning from Section 2 to Section 3

*Philo Farnsworth wanted to be an inventor, and he believed that he could use electricity to develop an idea that would bring people together. **As soon as he was old enough and could find the right investors, Philo began working on a way to make television a reality.***

*Philo Farnsworth wanted to be an inventor, and he believed that he could use electricity to develop an idea that would bring people together. **Many years later he invented TV.***

*Philo Farnsworth wanted to be an inventor, and he believed that he could use electricity to develop an idea that would bring people together. **Right after he left home, he invented TV.***

Example 3: Transitioning from Section 3 to Section 4

*Philo found some investors and spent a lot of time trying to make his invention work. Finally he succeeded and invented the television! **Things were different now.***

*He found some investors and spent a lot of time trying to make his invention work. Finally he succeeded and invented the television! **It was great.***

*Philo found some investors and spent a lot of time trying to make his invention work. Finally he succeeded and invented the television! **After that, people's lives changed a great deal.***



Adding Sensory Details Handout

Sentence 1: *Philo tried to make himself look older.*

Sentence 2: *The crowd was very loud.*

Sentence 3: *The people were silent.*



Storyboard Revision Task Card: Transitions

1. Review the speech bubble and captions between Sections 1 and 2, 2 and 3, and 3 and 4.
2. Think about: How could I add effective transitions to help the reader better understand the sequence of events?
3. Review the Narrative Transitions anchor chart for ideas that help you add transitions to manage the sequence of events between the sections of your storyboard.
4. Ask a peer from your triad to review your revisions and provide feedback. Revise further, as needed.



Narrative Transitions anchor chart
(For Teacher Reference)

NARRATIVE TRANSITIONS	
Many years ago	Suddenly
Before	As soon as
Early on	Right after
As soon as	Soon
Before	At first
However	Then
Eventually	It all began
Initially	It started when
Many years later	Once
When	After that
Back in time	After a while
Immediately	The final step was
Meanwhile	Before long
In the meantime	After many years
Last	Soon after
Later	At last
Now	Finally
Since	In the end
	During



Storyboard Revision Task Card: Sensory Details

1. Review thought and speech bubbles, as well as captions, in each section of your storyboard.
2. Identify one simple sentence in each section that could be enhanced by the use of sensory details to help the reader *see* or *hear* the experiences described.
3. Revise at least one sentence in each section of your storyboard to include sensory details.
4. Once you have completed your revisions, share with a member of your triad for critique. Revise further, as needed.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 14

Creating a Graphic Novelette and Peer Critique:

Section 1



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write narratives to develop real experiences using effective technique, descriptive details, and clear event sequence. (W.5.3)

- a. I can orient the reader by establishing a situation and introducing characters.
- b. I can use narrative techniques such as dialogue to develop experiences and events.

With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5)

I can use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others. (W.5.6)

I can follow our class norms when I participate in a conversation. (SL.5.1)

Supporting Learning Targets

- I can create and label pages for my graphic novelette.
- I can plan Section 1 of my graphic novelette based on criteria from the Graphic Novelette rubric.
- I can follow our group norms when working with partners to give and receive feedback.

Ongoing Assessment

- Graphic Novelette: Section 1
- Peer Critique based on Graphic Novelette: Section 1



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Creating Pages for a Graphic Novelette (20 minutes) B. Planning Section 1 of a Graphic Novelette (20 minutes) C. Peer Critique and Revision (10 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review of Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Complete graphic novelette Section 1 revisions and paste/add text and/or visual elements. B. Read Section 1 aloud to someone at home or in front of a mirror to practice fluency skills in preparation for performance task presentations. 	<ul style="list-style-type: none"> • In this lesson, students begin creating their graphic novelettes. There are two options for them to create text and images for their novelettes: Option A requires the use of technology, and Option B does not. Review the supporting materials and determine which option is most feasible. Also note, there is a series of five short instructional videos, which are appropriate for both teachers and/or students to use, to learn how to use Word to create each piece for the graphic novelette, including frames and panels with text and images, as well as thought and speech bubbles (see “Graphic Novelette Video 1-5” http://usny.nysed.gov/rtrt/docs/curriculum/grade-5-ela-module-2b-graphic-novel-video.html) • Students begin by creating the pages they will use for each section of their graphic novelettes. There are a series of visual representations of each step with directions at the top of each visual (see the supporting materials). These can be displayed throughout the lesson to help students see what their novelette pages should look like. It would also be beneficial to model or complete each step with students. • During Work Time B, students create Section 1 of their graphic novelettes. They first review the Graphic Novelette Rubric: Section 1 to become familiar with product criteria. Then they refer to their revised end of unit Storyboard, Section 1 to create frames with text (caption, speech and thought bubbles), a section title, and images for Section 1 of their novelettes. Once again, there are visuals in the supporting materials, with a technology option (Option A) and nontechnology option (Option B) to support students’ work. • During Work Time C, students have a brief opportunity to share their thinking with peers to receive feedback based on the Graphic Novelette rubric. This allows them to receive feedback and revise before gluing down the pieces for Section 1 of their novelettes for homework. • In advance: <ul style="list-style-type: none"> – Review and organize visuals and directions from the supporting materials. – If using Option A, make sure technology is in working order and students have access to the Internet and printers. – Collect and organize the materials students will need to complete Section 1 of their novelettes. • Post: Group Norms anchor chart directions for the Peer Critique protocol and learning targets.



Lesson Vocabulary	Materials
label, graphic novelette, criteria, rubric, norms, feedback	<ul style="list-style-type: none">• 11-by-17 paper (three pieces per student)• Document camera• Creating Pages: Step 1 (one to display)• Sticky notes (seven per student)• Scissors (one pair per student)• Glue (one per student)• Numbers strip (one per student)• Ruler (one per student)• Creating Pages: Step 2 (one to display)• Mark the Binding (one to display)• Creating Pages: Step 3 (one to display)• Creating Pages: Step 4 (one to display)• Creating Pages: Step 5 (one to display)• Glossary and Citations Pages (one to display)• Graphic Novelette Rubric: Section 1 (one per student and one to display)• End of Unit 3 Assessment: Storyboard, Section 1 (from Lesson 9; one per student)• Computers (one per student; optional; see Option A)• Colored pencils, markers, crayons (for each student; optional; see Option B)• Section 1: Text and Images, Option A or Option B (one to display)• Group Norms anchor chart (begun in Unit 1, Lesson 1)• Peer Critique protocol (from Lesson 12)• Arranging Pieces and Peer Critique (one to display)• Folder, large manila envelope, or large zip-top bag (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out the storyboard revisions they completed for homework and then locate a partner who is not a member of their regular triad.• Once students are partnered, ask them to discuss:<ul style="list-style-type: none">* “How were you able to use the criteria for success to help you further revise your storyboards?”* “Which do you think is the most effective revision you made and why?”• After 2 or 3 minutes, focus students whole group. Invite a few of them to share their thinking with the class.• Ask students to take their revised storyboards and join their regular triads in preparation for Work Time.• Say something like:<ul style="list-style-type: none">* “Today you are going to start creating the graphic novelettes you will present during the final performance task in Lesson 17. We will begin by creating and labeling each page so you can keep track of where each section begins and ends, and you can focus on adding relevant text and visual elements to each section. Then you will transfer information and ideas for visual elements from your storyboard draft of Section 1 to create Section 1 of your graphic novelette.”	<ul style="list-style-type: none">• Display each question for student reference during the discussion.



Work Time	Meeting Students' Needs
<p>A. Creating Pages for a Graphic Novelette (20 minutes)</p> <ul style="list-style-type: none">• Focus students' attention on the learning targets and read the first one aloud:<ul style="list-style-type: none">* "I can create and label pages for my graphic novelette."• Point out the words <i>label</i> and <i>graphic novelette</i>. Ask students to briefly discuss what it means to <i>label</i> something.• Cold call a few students to share out. Listen for:<ul style="list-style-type: none">– "<i>Label</i> means to tag something, name it, identify it."• Tell students that today they are going to begin creating their graphic novelettes, but first it's important to prepare their materials. Therefore, they will begin by creating each page and labeling it with a sticky note and page numbers.• Distribute three pieces of 11-by-17 paper to each student, then use a document camera to display Creating Pages: Step 1.• Give students 1 or 2 minutes to fold their pages.• Distribute seven sticky notes, scissors, glue, a numbers strip, and a ruler to each student.• Display and read each step of the directions for Creating Pages: Step 2. Pause in between for students to complete each step.• Once students complete Step 2, display the Mark the Binding page. Read the directions aloud and clarify as needed. Explain that marking half an inch from the crease will make sure there is space for them to bind the pages and novelette cover together later without affecting their images or text. Model if necessary.• After students mark space for the binding, display and read the directions for Creating Pages: Step 3. Clarify and model as needed.• When students complete labeling Section 2, display and read aloud directions for Creating Pages: Step 4. Provide clarification and model as necessary.• Once students complete Step 4, display and read aloud the directions for Creating Pages: Step 5. Clarify and model as needed.• After students finish Step 5, display and read the directions for the final step, Glossary and Citations Pages. Offer support and guidance as necessary.• When students have all the pages for their graphic novelette created and labeled, tell them they are ready to begin creating Section 1.	<ul style="list-style-type: none">• Consider printing and distributing directions for each step so students may refer to directions and check off each step as they complete it.



Work Time (continued)	Meeting Students' Needs
<p>B. Planning Section 1 of a Graphic Novelette (20 minutes)</p> <ul style="list-style-type: none">• Direct students' attention to and read the second learning target aloud:<ul style="list-style-type: none">* "I can plan Section 1 of my graphic novelette based on criteria from the Graphic Novelette rubric."• Remind students that they have used rubrics in previous lessons and units to help guide their work. Ask them to think about and briefly discuss in triads how they could restate this target in their own words.• After 1 minute, cold call a few students to share out with the class.• Display the Graphic Novelette Rubric: Section 1. Ask students to follow along silently as you read each criteria and descriptor aloud.• Ask students to take out their revised End of Unit 3 Assessment: Storyboard, Section 1.• If students are using technology, distribute or ask them to go to their computers. If they are not using technology, distribute colored pencils, markers, crayons, and other materials they need to write and draw each piece of Section 1.• When students are ready to begin, display the directions for either Section 1: Text and Images (Option A) or (Option B). Read each step aloud and clarify as needed.• Give students 12 to 15 minutes to create their text and images for Section 1 of their novelettes. Circulate to offer guidance and support as needed.• If students finish early, they may begin to cut out the pieces they created for their novelettes. Do not allow them to glue any of their pieces into the Section 1 novelette pages until they complete the peer critique in Work Time C. When students are ready, ask them to start arranging their pieces without gluing them down yet.	<ul style="list-style-type: none">• Consider chunking directions so students complete only two or three steps at a time.• For students who struggle with writing or typing text, consider allowing them to dictate their ideas to an aide or other adult to scribe for them.



Work Time (continued)	Meeting Students' Needs
<p>C. Peer Critique and Revision (10 minutes)</p> <ul style="list-style-type: none">• Ask students to read the third learning target aloud with you:<ul style="list-style-type: none">* “I can follow our group norms when working with partners to give and receive feedback.”• Refer students to the Group Norms anchor chart and remind them of the Peer Critique protocol.• Tell them they will now cut out and arrange the graphic novelette pieces they just created, and then they will receive feedback about the arrangement from a triad peer based on the Graphic Novelette rubric, Section 1.• Distribute a Graphic Novelette rubric, Section 1 to each student, for him or her to use for scoring and commenting on a triad member's work.• Display and read aloud directions from Arranging Pieces and Peer Critique.• Allow students 7 or 8 minutes to complete their arrangements and peer critique.• Let them know if they were unable to glue all their pieces into Section 1 that they will be able to complete that step for homework.• Distribute folders, large manila envelopes, or large zip-top bags for students to place their graphic novelette pages and pieces into.	<ul style="list-style-type: none">• Display the Peer Critique protocol directions for student reference.• Provide sentence frames to support group conversations and feedback: “You definitely met the criteria _____ because you _____.”



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Bring students together whole group, then ask them to discuss with a classmate who is not a member of their triad:<ul style="list-style-type: none">* “How did referring to criteria from the Graphic Novelette rubric help you understand how to create Section 1 of your graphic novelette?”• After 2 minutes, invite a few students to share their ideas with the class.• Read each of the learning targets aloud and ask students to show a thumbs-up or thumbs-down to demonstrate how successfully they feel they met each target. Note those who show a thumbs-down, as they may need extra time and/or more support to complete Section 1 of their graphic novelettes.	<ul style="list-style-type: none">• Provide a sentence starter to allow all students access to the conversation: “Referring to the rubric criteria helped me understand that I needed to _____.”
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete graphic novelette Section 1 revisions and paste/add text and/or visual elements.• Read Section 1 of your graphic novelette aloud to someone at home or in front of a mirror to practice fluency skills in preparation for performance task presentations.	<ul style="list-style-type: none">• For students who struggle to complete tasks independently, consider finding another time during the day to help them complete their work or allow someone at home to help.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 14

Supporting Materials



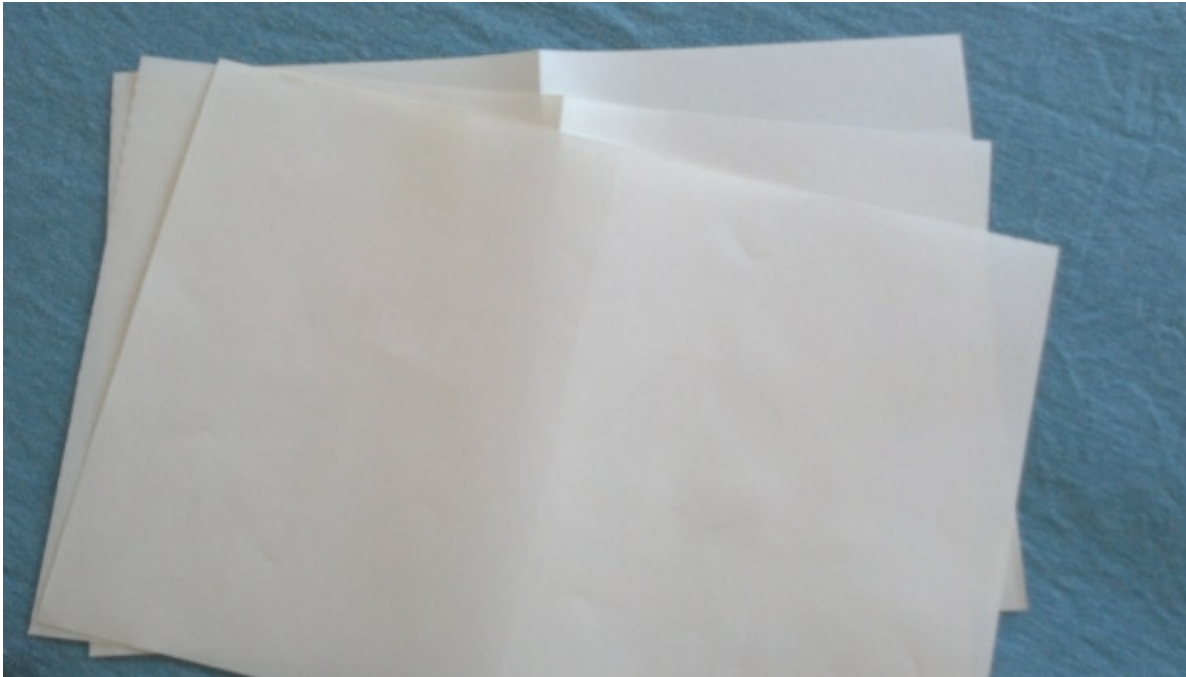
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Creating Pages:
Step 1

Fold each page in half.





Numbers strip

1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9
10		10



Creating Pages:
Step 2



On one of your sticky notes, write “Table of Contents,” then put the note on the front of one of your folded pages.

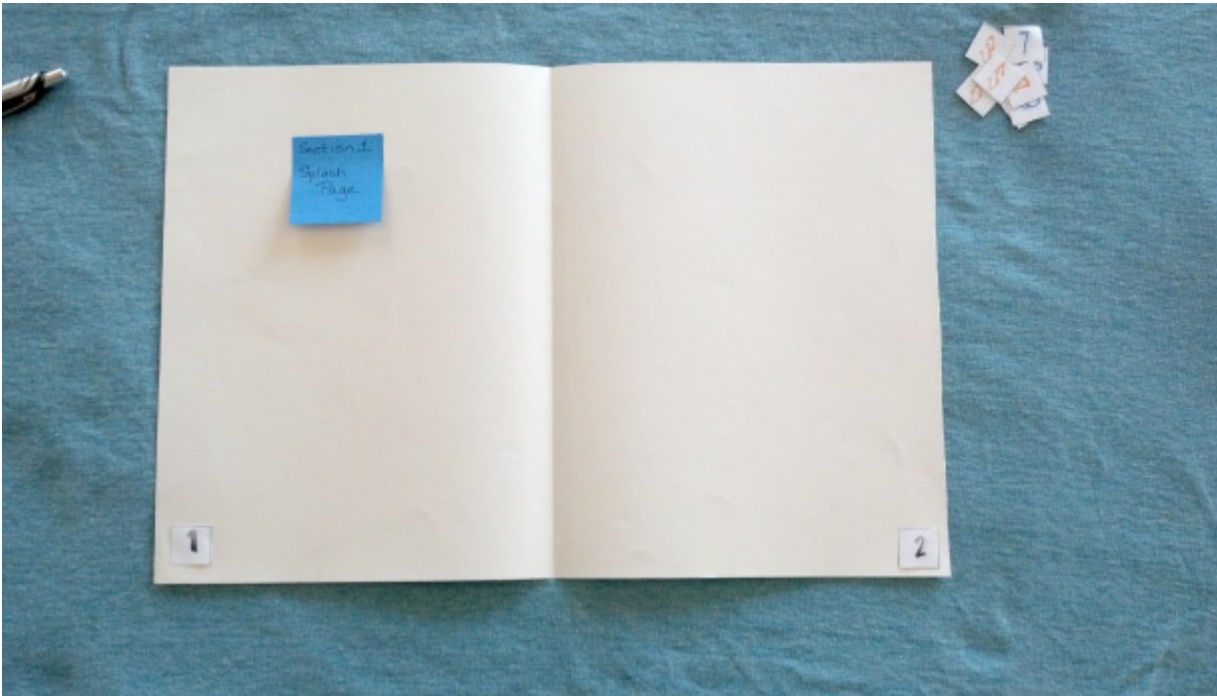
Cut out numbers 1–10 from your numbers strip and set aside or throw away the unused numbers (make sure you have only one of each number, 1–10).





Creating Pages:
Step 2 (Continued)

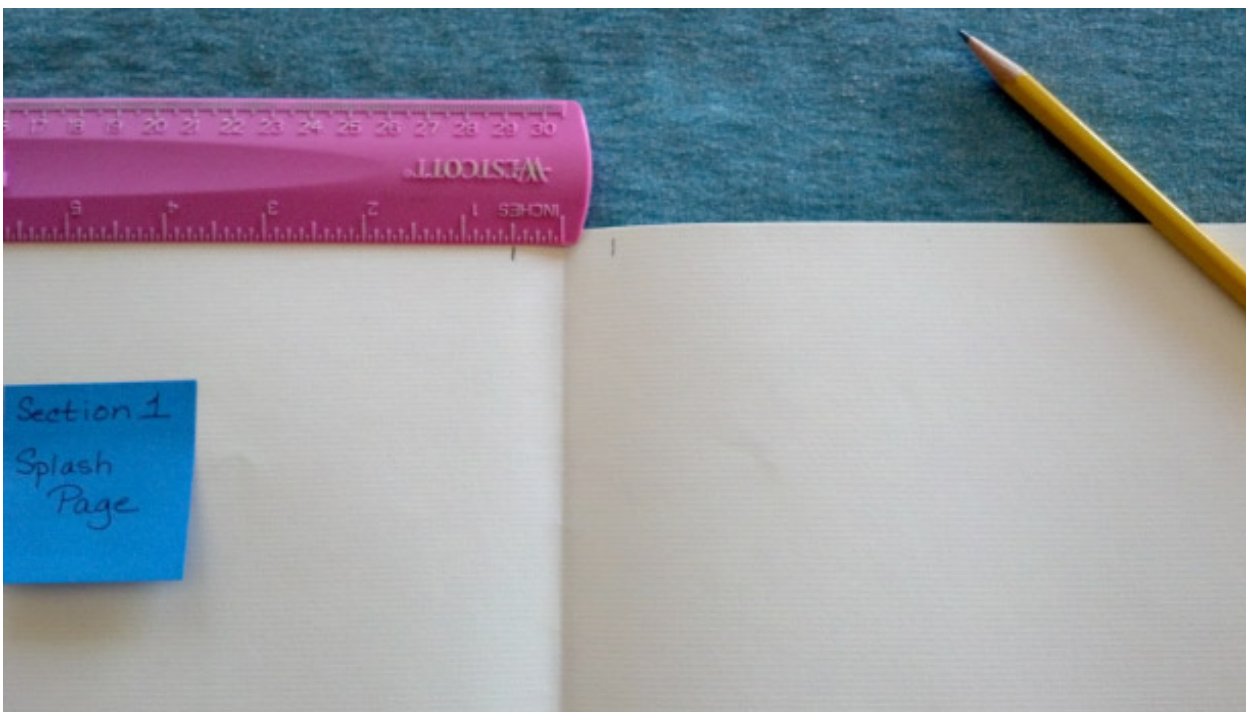
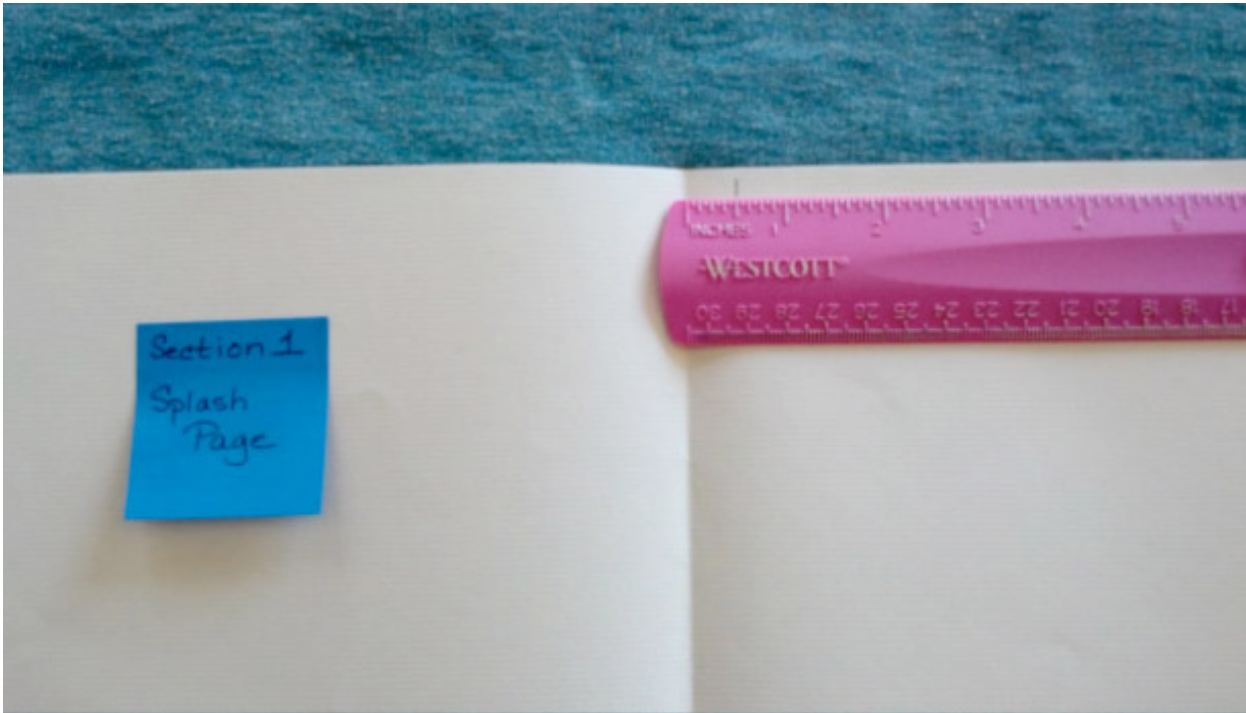
Open (unfold the page) and write “Section 1” on one of your sticky notes. Place the sticky note on the left side of the page. Then, glue the “1” in the lower left corner of the page, and glue “2” in the lower right corner of the page.





Mark the Binding

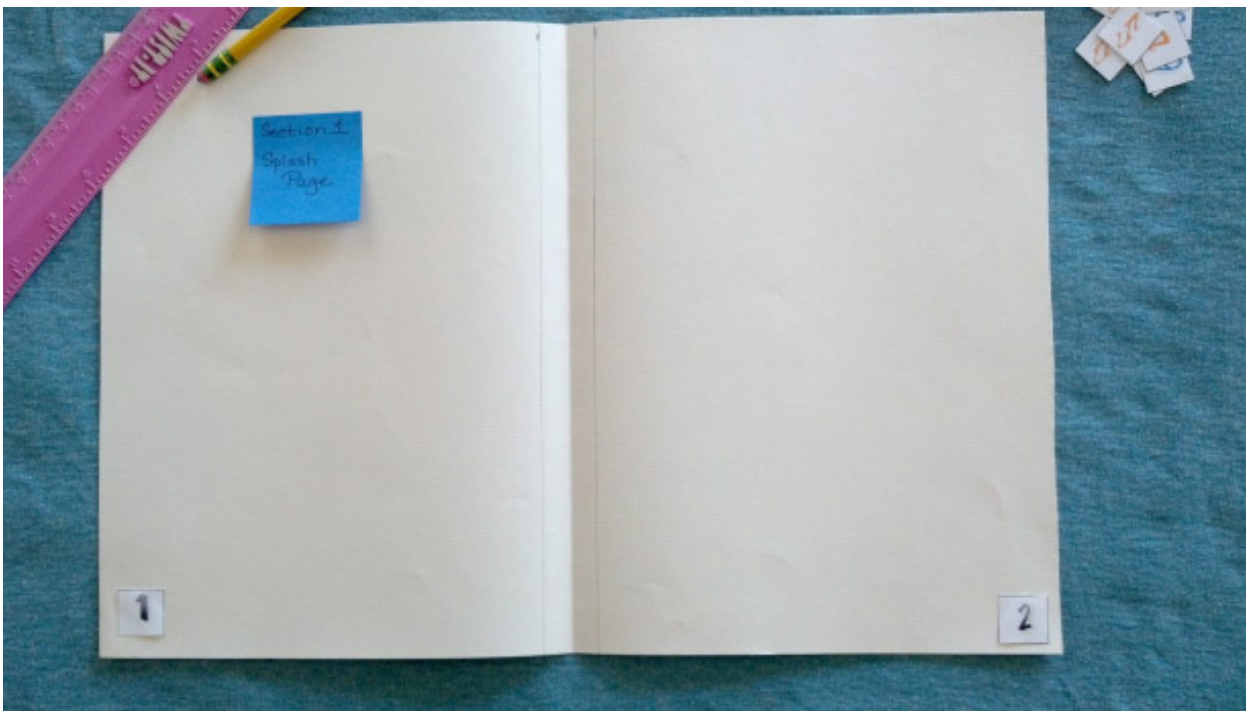
Use your ruler to measure half an inch from the right of your crease. Mark with a pencil. Repeat to make a mark half an inch from the left side of the crease as well.





Mark the Binding

Line your ruler up vertically, using the mark you made on each side of the crease. Use your pencil to lightly draw a line to the left, then the right of the crease.



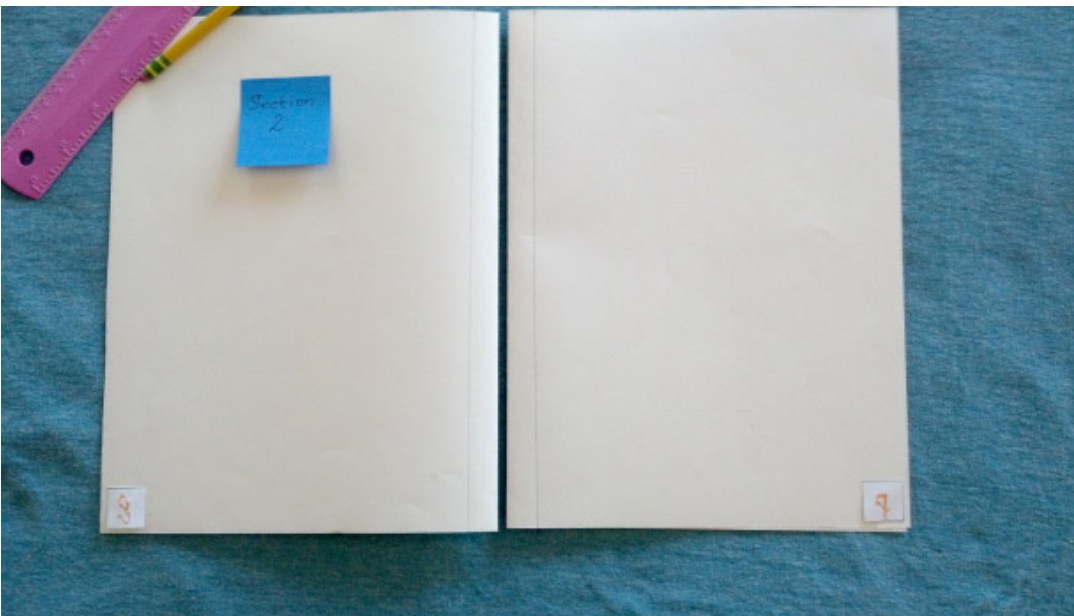


Creating Pages:
Step 3

Fold your “Section 1” paper to the left, so the blank side is showing. Set another one of your folded pieces of paper right next to it, so it looks like two pages with a crease in the center.



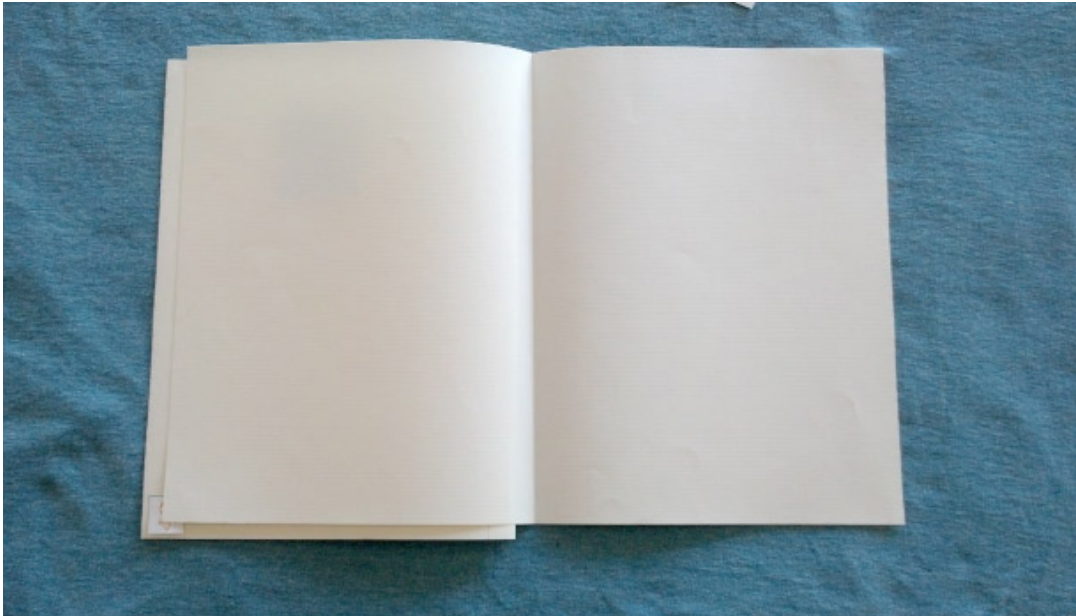
Write “Section 2” on another one of your sticky notes, then place on the left-side page. Glue a “3” onto the lower left page and a “4” on the lower right page. Then, use your ruler to make half-inch marks to either side of the crease (gap) and use your ruler and pencil to make lines that indicate space for the binding.



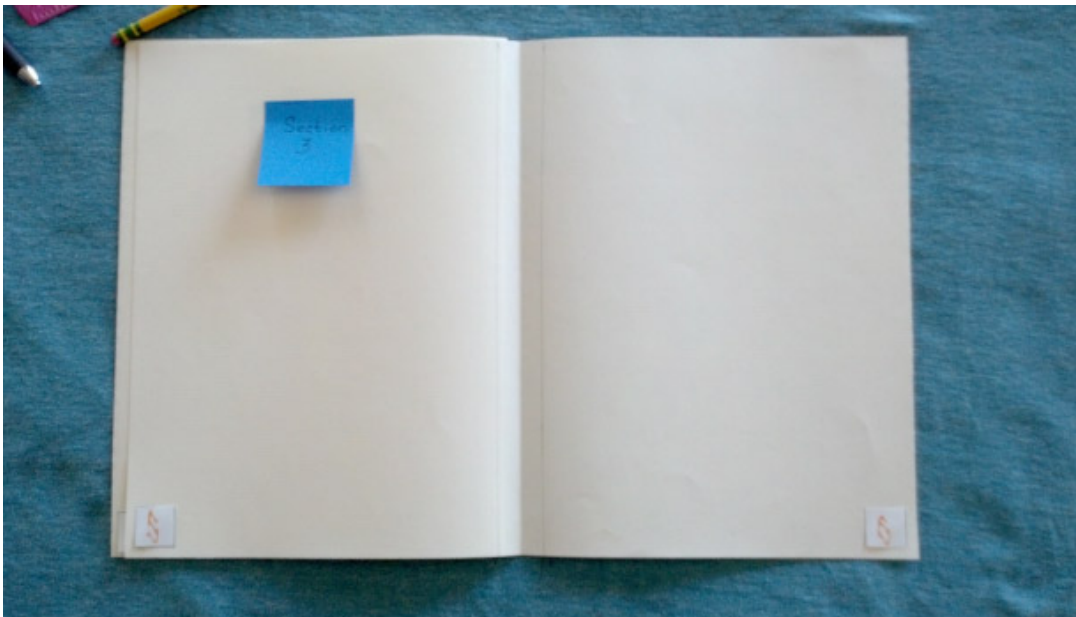


Creating Pages:
Step 4

Fold the right page of “Section 2” to the left, so there are two blank pages with a crease in the center.



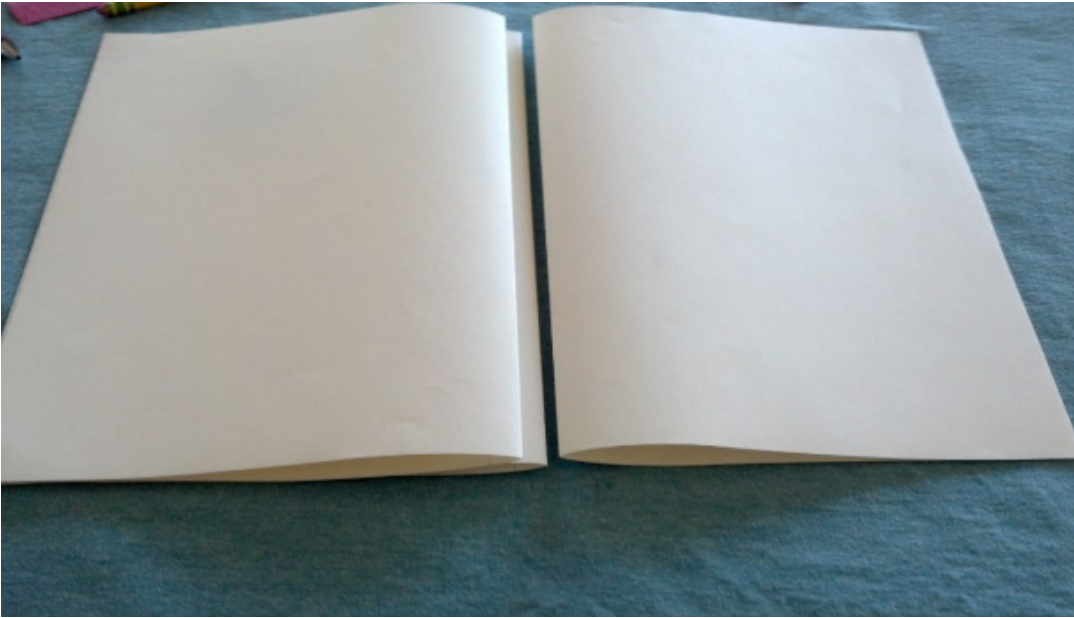
Write “Section 3” on another one of your sticky notes and place it on the left blank page. Glue a “5” onto the lower left and a “6” on the lower right. Then use your ruler to make half-inch marks to either side of the crease and use your ruler and pencil to make lines that indicate space for the binding.



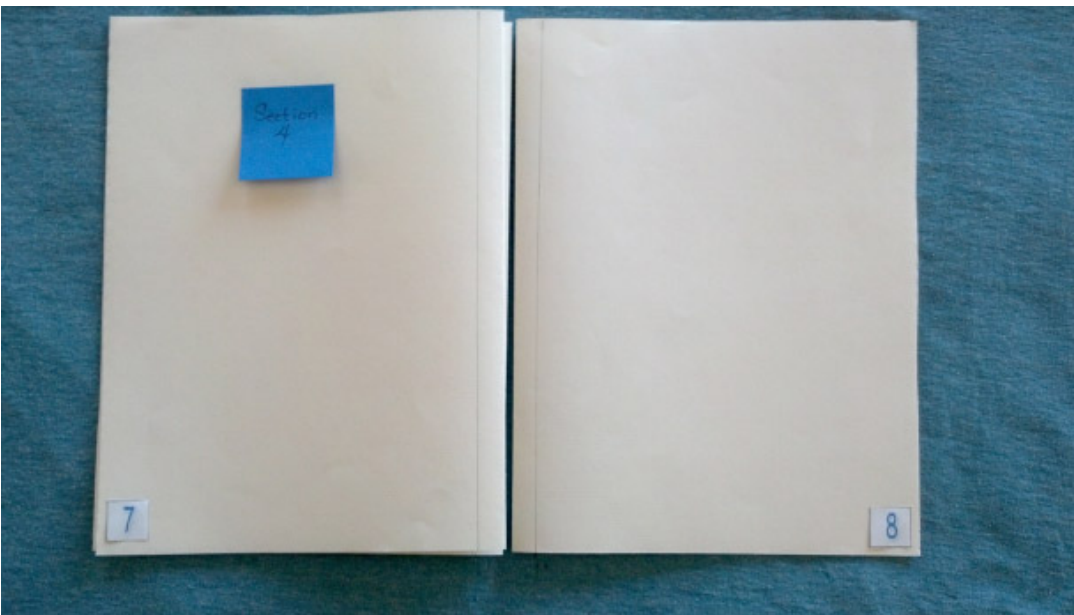


Creating Pages:
Step 5

Fold your “Section 3” paper to the left so the blank side is showing. Set your last folded piece of paper right next to it, so it looks like two pages with a crease in the center.



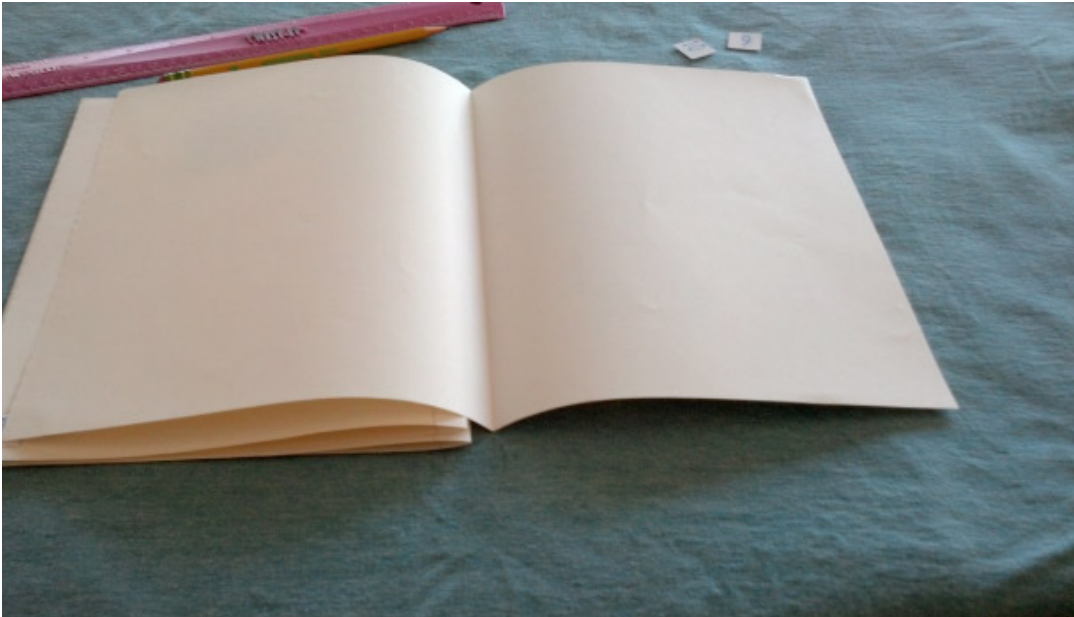
Write “Section 4” on another one of your sticky notes and place it on the left page. Glue a “7” on the lower left page and an “8” on the lower right page. Then, use your ruler to make half-inch marks to either side of the crease (gap) and use your ruler and pencil to make lines that indicate space for the binding.



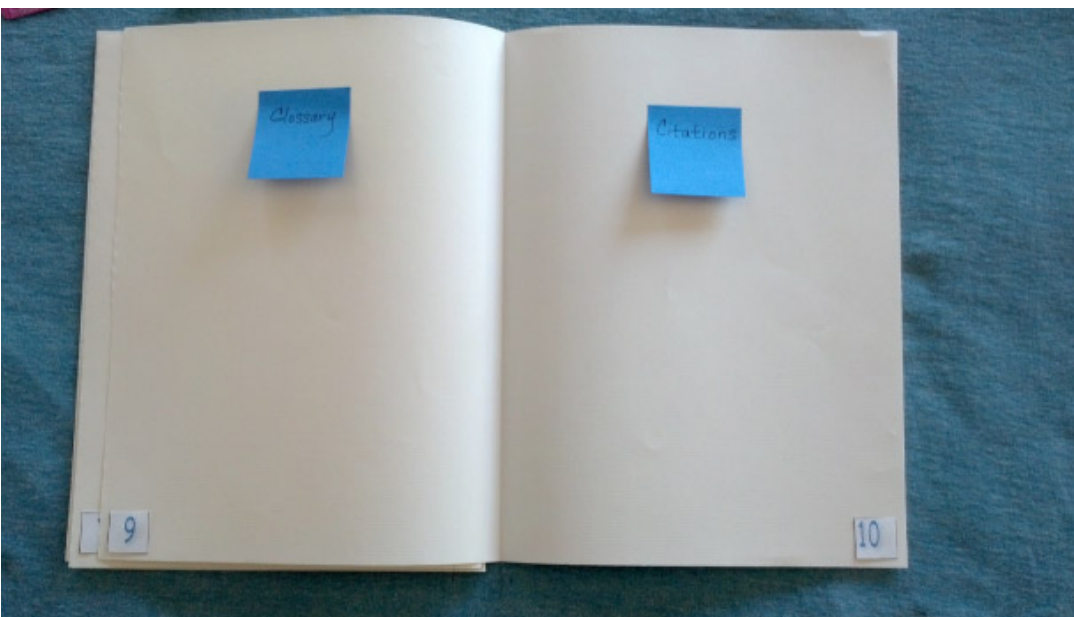


Glossary and Citations Pages

Fold the right page of “Section 4” to the left so there are two blank pages with a crease in the center.



Write “Glossary” on another one of your sticky notes and place it on the left blank page. Write “Citations” on your last sticky note and place on the right blank page. Glue a “9” on the lower left and a “10” on the lower right. Then, use your ruler to make half-inch marks to either side of the crease and use your ruler and pencil to make lines that indicate space for the binding.





Graphic Novelette Rubric:
Section 1

	4	3	2	1
Section 1, Splash Page	<ul style="list-style-type: none">_ Includes a title related to the content of this section_ Includes a three- to five-sentence informational caption that explains what people needed or wanted_ Thought bubble is a complete sentence that helps the reader understand what people wanted or needed_ Speech bubble is a complete sentence that helps the reader understand how people's needs were met, and by whom_ Includes at least two frames/panels with images of an important person, place, thing, or idea inside; frames/panels separated by gutters <p>Includes at least one of these visual elements:</p> <ul style="list-style-type: none">_ Close-up image_ Definition box (scientific)_ Definition box (academic)_ Diagram_ Ambient noise	Missing one or two of the criteria listed for a score of 4	Missing three of the criteria listed for a score of 4	Missing four or more criteria listed for a score of 4

Score _____

Reviewer comments: _____



Section 1:
Text and Images (Option A)

1. Open a blank word document.
2. Use “autoshapecs” to create a rectangular frame for your caption, then add a text box to the caption frame. In the text box, type the best version of your three- to five-sentence summary from your end of unit storyboard draft for Section 1.
3. Use “wordart” or font to create a title for Section 1. You may use the one provided on your end of unit Section 1 draft, or you may create a new title.
4. Create a thought bubble using “autoshapecs,” then add a text box to the thought bubble. In the text box, type the best version of text from the thought bubble on your storyboard draft.
5. Create a speech bubble using “autoshapecs,” then add a text box to the speech bubble. In the text box, type the best version of text from the speech bubble on your storyboard draft.
6. Create two frames. Add an image to each frame.
7. Add another visual element to Section 1 (see choices on rubric).
8. Refer back to the rubric to help you determine whether you have created each piece to meet the criteria. Revise and/or create additional pieces as necessary.
9. Print the caption, title, speech and thought bubbles, frames with images, and additional visual element.





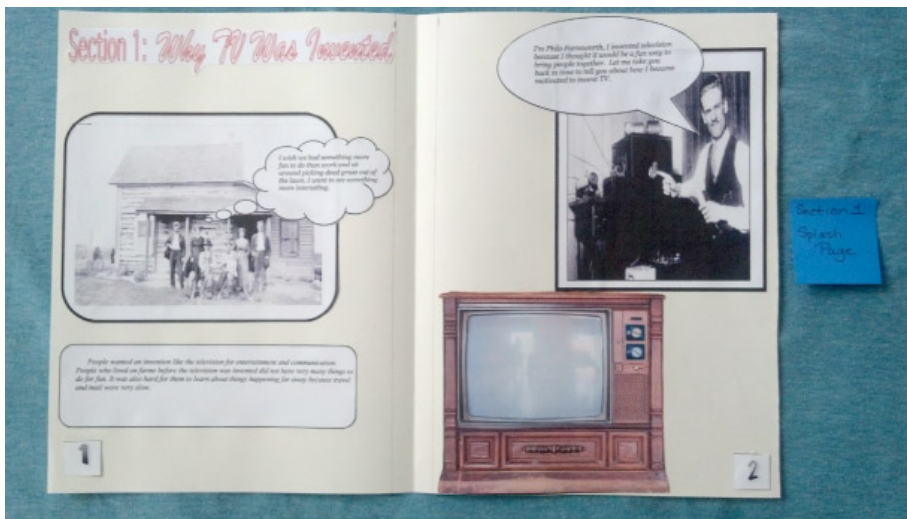
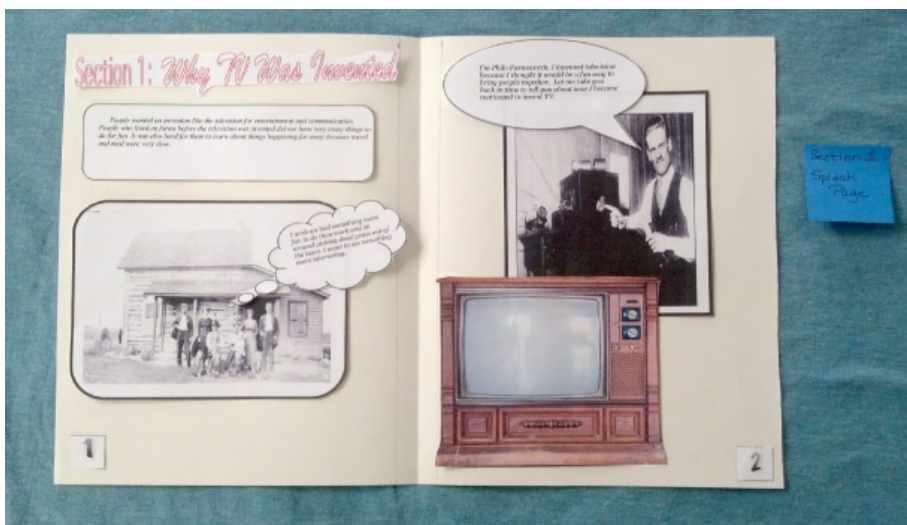
Section 1:
Text and Images (Option B)

1. Gather two or three sheets of plain white paper.
2. Draw a rectangular frame for your caption. In the frame, write the best version of your three- to five-sentence summary from your end of unit storyboard draft for Section 1.
3. Neatly and in large print, write a title for Section 1. You may use the one provided on your end of unit Section 1 draft, or you may create a new title.
4. Draw a thought bubble. Inside, write the best version of text from the thought bubble on your end Of unit storyboard draft.
5. Draw a speech bubble. Inside, write the best version of text from the speech bubble on your end of unit storyboard draft.
6. Draw two frames. Draw an image in each frame.
7. Create another visual element to add to Section 1 (see choices on rubric).
8. Refer back to the rubric to help you determine whether you have created each piece to meet the criteria. Revise and/or create additional pieces as necessary.



Arranging Pieces and Peer Critique

1. Neatly cut out each piece for Section 1 of your novelette: caption, title, thought and speech bubbles, frames with images, additional visual element.
2. Arrange all the pieces onto pages 1 and 2 of your novelette. Do not glue them down yet!
3. Show your arrangement to a member of your triad and ask her or him to refer to the rubric criteria to provide feedback (score and comments.)
4. Rearrange, revise and/or create additional pieces as necessary, based on feedback.
5. Show the changes to your peer reviewer for feedback regarding whether you addressed the concerns.
6. As time allows, glue pieces onto pages 1 and 2 of your novelette. Make sure not to glue anything past the binding lines!





EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 15

Creating a Graphic Novelette and Peer Critique: Sections 2, 3, and 4



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (W.5.3)

a. I can organize an event sequence that unfolds naturally.

e. I can provide a conclusion that follows from the narrated experiences or events.

With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5)

I can use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others. (W.5.6)

I can follow our class norms when I participate in a conversation. (SL.5.1)

Supporting Learning Targets

- I can plan Section 2 of my graphic novelette based on criteria from the Graphic Novelette rubric.
- I can plan Section 3 of my graphic novelette based on criteria from the Graphic Novelette rubric.
- I can plan Section 4 of my graphic novelette based on criteria from the Graphic Novelette rubric.

Ongoing Assessment

- Graphic Novelette: Sections 2, 3, and 4
- Peer critique based on Graphic Novelette rubric: Sections 2, 3, and 4



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Planning Section 2 of a Graphic Novelette (15 minutes) B. Planning Section 3 of a Graphic Novelette (15 minutes) C. Planning Section 4 of a Graphic Novelette (15 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Graphic Novelette Share: Mixed Partners (8 minutes) B. Review of Learning Targets (2 minutes) 4. Homework <ol style="list-style-type: none"> A. Complete graphic novelette Sections 2, 3, and 4 revisions and paste/add text and visual elements. B. Read Sections 1, 2, 3, and 4 aloud to someone at home or in front of a mirror to practice fluency skills in preparation for performance task presentations. 	<ul style="list-style-type: none"> • This lesson follows a pattern similar to Lesson 14. Once again, there are two options for students to create text and images for their novelettes: Option A requires the use of technology, and Option B does not. Review the supporting materials and determine which is most feasible. • As in Lesson 14, students give and receive feedback in an effort to strengthen their graphic novelettes. • For homework, students continued to be assigned the task of reading their novelettes to someone at home or in front of a mirror to practice their fluency in preparation for the final performance task in Lesson 17. • For homework, students are also asked to create a sketch of a cover for their novelettes. • In advance: <ul style="list-style-type: none"> – Thoroughly review and organize visuals and directions from the supporting materials. – If using Option A, make sure technology is in working order and students have access to the Internet and printers. – Collect and organize the materials students will need to complete Sections 2, 3, and 4 of their novelettes. – Review Milling to Music and Thumb-O-Meter in Checking for Understanding Techniques (see Appendix). • Post: Group Norms anchor chart (from Unit 1, Lesson 1); directions for the Peer Critique protocol (from Lesson 12); learning targets.



Lesson Vocabulary	Materials
plan, graphic novelette, criteria, rubric	<ul style="list-style-type: none">• Novelette pages (from Lesson 14)• Graphic Novelette Rubric: Section 2 (one per student and one to display)• End of unit Storyboard, Section 2 (completed during Lesson 10)• Computers (one per student; optional; see Option A)• Colored pencils, markers, crayons (for each student; optional; see Option B)• Glue (one per student)• Scissors (one pair per student)• Section 2: Text and Images, Option A or Option B (one to display)• Group Norms anchor chart (begun in Unit 1, Lesson 1)• Paper clips (three per student)• Graphic Novelette Rubric: Section 3 (one per student and one to display)• End of unit Storyboard, Section 3 (from Lesson 10)• Section 3: Text and Images, Option A or Option B (one to display)• Graphic Novelette Rubric: Section 4 (one per student and one to display)• End of unit Storyboard, Section 4 (from Lesson 11)• Section 4: Text and Images, Option A or Option B (one to display)• Graphic Novelette Rubric: The Cover (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out Section 1 of their graphic novelettes.• Tell them to quickly find a partner who is from a different expert group.• Give pairs these directions:<ol style="list-style-type: none">1. Partner A fluently reads Section 1 of his or her graphic novelette aloud to Partner B.2. Partner B provides one specific and positive piece of feedback to her or his partner about the content or visual elements included in Section 1.3. Repeat steps above for Partner B to share his or her work and receive specific and positive feedback.• Clarify directions as needed, then ask students to begin.• After 3 minutes, focus students whole group. Invite a few of them to point out and share a strength of their partner's work.• Say something like: "Today you will continue to create each of the remaining sections of your graphic novelette based on the storyboard drafts you completed for the end of unit assessment and then revised. You will have an opportunity to present your completed novelettes in triads during Lesson 17."	<ul style="list-style-type: none">• Display directions for student reference during partner discussions.



Work Time	Meeting Students' Needs
<p>A. Planning Section 2 of a Graphic Novelette (15 minutes)</p> <ul style="list-style-type: none"> • Ask students to gather the novelette pages from Lesson 14 and join their triads. • Direct their attention to the learning targets and ask them to read the first one aloud together: <ul style="list-style-type: none"> * “I can plan Section 2 of my graphic novelette based on criteria from the Graphic Novelette rubric.” • Point out that this target is similar to the target students worked toward in the previous lesson to plan Section 1 of their graphic novelettes. Underline the word <i>plan</i> in this target and ask: <ul style="list-style-type: none"> * “How did you <i>plan</i> Section 1 of your graphic novelettes in the previous lesson?” • After students have a moment to consider and discuss their ideas, invite a few to share out with the class. Listen for responses such as: <ul style="list-style-type: none"> – “First we created each piece for Section 1 by referring to our storyboard draft of Section 1, then we cut out and arranged the pieces to share and receive peer feedback based on the rubric. After we revised, based on critique, we glued the pieces down.” • Distribute and display the Graphic Novelette Rubric: Section 2. Ask students to follow along silently as you read each criteria and descriptor aloud. Answer any clarifying questions. • Ask students to take out their revised end of unit Storyboard, Section 2. • If they are using technology, distribute or ask students to go to their computers. If they are not using technology, distribute colored pencils, markers, crayons, glue, scissors and other materials students need to write and draw each piece for Section 2. • When students are ready to begin, display the directions for either Section 2: Text and Images (Option A) or (Option B). Read each step aloud and clarify as needed. • Give students 10 minutes to create their text and images for Section 2 of their novelettes. Circulate to offer guidance and support as needed. • Once students finish creating their pieces, ask them to cut out and arrange the pieces on pages 3 and 4 of their novelettes. Remind them not to glue any of their pieces down until they show their work to a peer for critique (based on the Section 2 rubric criteria). As students work together to provide and receive feedback, remind them to refer to the Group Norms anchor chart and the Peer Critique protocol as guides for engaging in effective discussions with peers. 	<ul style="list-style-type: none"> • Consider printing and distributing directions so students may refer to them and check off each step as they complete it. • Consider chunking directions so students complete only two or three steps at a time. • For students who struggle with writing or typing text, consider allowing them to dictate their ideas to an aide or other adult to scribe for them.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> • If students are able to complete each step, receive feedback, and revise within the time allotted, direct them to go ahead and glue down the pieces. • If students do not have time to glue down their pieces, distribute paper clips and ask student to clip the pieces together then attach them to the top left page of Section 2. Reassure students they will be able to glue down their pieces for homework, if needed. 	
<p>B. Planning Section 3 of a Graphic Novelette (15 minutes)</p> <ul style="list-style-type: none"> • Refer students to the second learning target and ask them to read it aloud together: <ul style="list-style-type: none"> * “I can plan Section 3 of my graphic novelette based on criteria from the Graphic Novelette rubric.” • Point out that this target is similar to the target students addressed during Work Time A, only this time they are planning Section 3. • Distribute and display the Graphic Novelette Rubric: Section 3. Ask students to follow along silently as you read each criteria and descriptor aloud. Answer any clarifying questions. • Ask students to take out their revised end of unit Storyboard, Section 3. • When students are ready to begin, display the directions for either Section 3: Text and Images (Option A) or (Option B). Read each step aloud and clarify as needed. • Give students 10 minutes to create their text and images for Section 3 of their novelettes. Circulate to offer guidance and support as needed. • Once students finish creating their pieces, ask them to cut out and arrange them onto pages 5 and 6 of their novelettes. Once again, remind them not to glue any pieces down until they show their work to a peer for critique. Also remind them to refer to the Group Norms anchor chart and the Peer Critique protocol as guides for engaging in effective discussions with peers. • If students are able to complete each step, receive feedback, and revise within the time allotted, direct them to go ahead and glue in the pieces they created for Section 3 of their novelettes. • If students do not have time to glue down their pieces, ask them to paper clip the pieces together and then attach them to the top left page of Section 3. Reassure students they will be able to glue down their pieces for homework, if needed. 	



Work Time (continued)	Meeting Students' Needs
<p>C. Planning Section 4 of a Graphic Novelette (15 minutes)</p> <ul style="list-style-type: none">Refer students to the final learning target and ask them to read it aloud together:<ul style="list-style-type: none">* “I can plan Section 4 of my graphic novelette based on criteria from the Graphic Novelette rubric.”Distribute and display the Graphic Novelette Rubric: Section 4. Ask students to follow along silently as you read each criteria and descriptor aloud. Answer any clarifying questions.Ask students to take out their revised end of unit Storyboard, Section 4.When students are ready to begin, display the directions for either Section 4: Text and Images (Option A) or (Option B). Read each step aloud and clarify as needed.Give students 10 minutes to create their text and images for Section 4 of their novelettes. Circulate to offer guidance and support as needed.Once students finish creating their pieces, ask them to cut out and arrange them onto pages 7 and 8 of their novelettes. Remind them not to glue any pieces down until they show their work to a peer for critique based on the Section 4 rubric criteria. Again, remind students to refer to the Group Norms anchor chart and the Peer Critique protocol as guides for engaging in effective discussions with peers.If students are able to complete each step, receive feedback, and revise within the time allotted, direct them to go ahead and glue in the pieces they created for Section 4 of their novelettes.If students do not have time to glue down their pieces, ask them to paper clip the pieces together and then attach them to the top left page of Section 4. Reassure students they will be able to glue down their pieces for homework, if needed.	



Closing and Assessment	Meeting Students' Needs
<p>A. Graphic Novelette Share: Mixed Partners (8 minutes)</p> <ul style="list-style-type: none">• Ask students to gather Sections 1–4 of their graphic novelettes and use Milling to Music to find a partner who is not a member of their regular triad.• Once students have found a partner, give them these directions:<ol style="list-style-type: none">1. Exchange all sections of your graphic novelette with your partner.2. Read through and view each section of your partner's graphic novelette. (If pieces have not been glued down, carefully unclip to view each one, then attach together and clip them back onto the section page.)3. Refer to the Graphic Novelette Rubric: Section 1, 2, 3, or 4 to offer specific and positive praise about your partner's use of text and visual elements to support reader comprehension.• Clarify directions as needed, then ask students to begin. Circulate to support.• After 5 minutes, ask students to finish up their conversations. Invite a few of them to share out a specific element, text, or visual their partner used effectively to convey her or his ideas to the reader.	<ul style="list-style-type: none">• Display Peer Critique protocol directions for student reference.• Provide sentence starters to allow all students access to the conversation: "The visual elements you included in this section are really supportive because _____."
<p>B. Review of Learning Targets (2 minutes)</p> <ul style="list-style-type: none">• Read each of the learning targets aloud. Ask students to use a Thumb-O-Meter to demonstrate their level of mastery toward each target. Note students who show mid to low meters, as they may need more time and support to complete Sections 2–4 of their novelettes.• Review directions for homework and distribute the Graphic Novelette Rubric: The Cover. Read through each criterion and clarify as needed. Provide paper and other materials necessary for students to successfully complete the homework assignment.	



Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete graphic novelette Sections 2, 3, and 4 revisions and paste/add text and visual elements.• Read Sections 1, 2, 3, and 4 aloud to someone at home or in front of a mirror to practice fluency skills in preparation for performance task presentations.• Create a sketch of the cover you would like to make for your graphic novelette. (See the cover, front and back, of <i>Max Axiom</i> for ideas). Make sure your sketch includes a title, name of author, two images (related to the invention and inventor), and a two- or three-sentence summary of what your novelette is mostly about. Be prepared to share your sketch during the Opening of the next lesson.	<ul style="list-style-type: none">• For students who struggle to complete tasks independently, consider finding another time during the day to help them complete their work or allow someone at home to help.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 15

Supporting Materials



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Graphic Novelette Rubric:
Section 2

	4	3	2	1
Section 2	<ul style="list-style-type: none">_ Includes a title related to the content of this section_ Includes a three- to five-sentence informational caption that provides information about the inventor(s) background, special skills, and/or motivation to develop the invention_ Includes at least two frames/panels with images of an important person, place, thing, or idea inside; frames/panels separated by gutters <p>Includes at least one of these visual elements:</p> <ul style="list-style-type: none">_ Close-up image_ Definition box (scientific)_ Definition box (academic)_ Diagram_ Ambient noise_ Speech bubble with dialogue_ Thought bubble with dialogue	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4

Score _____

Reviewer comments: _____



Section 2:

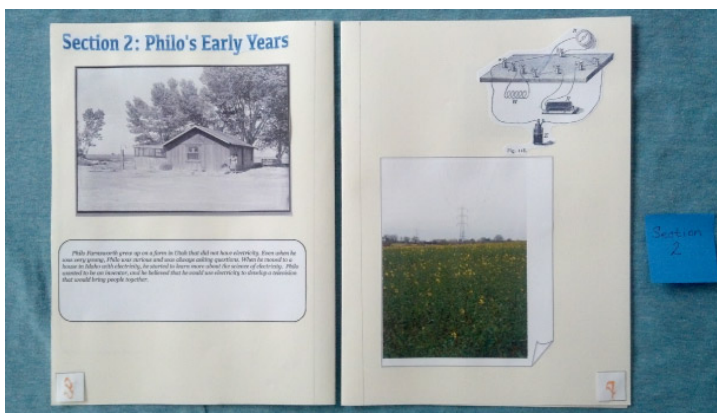
Text and Images (Option A)

Part I:

1. Open a blank word document.
2. Use “autosshapes” to create a rectangular frame for your caption, then add a text box to the caption frame. In the text box, type the best version of your three to five-sentence summary from your end of unit storyboard draft for Section 2.
3. Use “wordart” or font to create a title for Section 2. You may use the one provided on your end of unit Section 2 draft, or you may create a new title.
4. Create two frames. Add an image to each frame.
5. Add another visual element to Section 2 (see choices on rubric).
6. Refer back to the rubric to help you determine whether you have created each piece to meet the criteria. Revise and/or create additional pieces as necessary.
7. Print the caption, title, frames with images, and additional visual element.

Part II:

1. Neatly cut out each piece for Section 2 of your novelette: caption, title, frames with images, additional visual element.
2. Arrange all the pieces onto pages 3 and 4 of your novelette. Do not glue them down yet!
3. Show your arrangement to a member of your triad and ask her or him to refer to the rubric criteria to provide feedback (score and comments).
4. Rearrange, revise, and/or create additional pieces as necessary, based on feedback.



Simon Carey

5. Show the changes to your peer reviewer for feedback regarding whether you addressed the concerns.
6. As time allows, glue pieces on pages 3 and 4 of your novelette. Make sure not to glue anything past the binding lines!



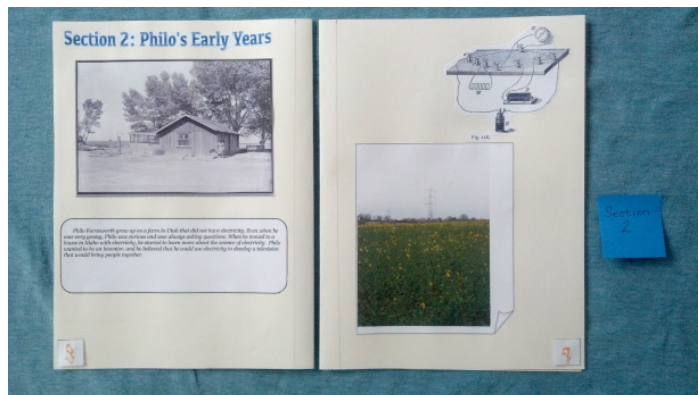
Section 2:
Text and Images (Option B)

Part I:

1. Gather two or three sheets of plain white paper.
2. Draw a rectangular frame for your caption. Inside, write the best version of your three- to five-sentence summary from your end of unit assessment storyboard draft for Section 2.
3. Neatly and in large print, write a title for Section 2. You may use the one provided on your end of unit Section 2 draft, or you may create a new title.
4. Draw two frames. Draw an image in each frame.
5. Create another visual element to add to Section 2 (see choices on rubric).
6. Refer back to the rubric to help you determine whether you have created each piece to meet the criteria. Revise and/or create additional pieces as necessary.

Part II:

1. Neatly cut out each piece for Section 2 of your novelette: caption, title, frames with images, additional visual element.
2. Arrange all the pieces on pages 3 and 4 of your novelette. Do not glue them down yet!
3. Show your arrangement to a member of your triad and ask her or him to refer to the rubric criteria to provide feedback (score and comments).
4. Rearrange, revise, and/or create additional pieces as necessary, based on feedback.
5. Show the changes to your peer reviewer for feedback regarding whether or not you addressed the concerns.



Simon Carey

6. As time allows, glue pieces onto pages 3 and 4 of your novelette. Make sure not to glue anything past the binding lines!



Graphic Novelette Rubric:
Section 3

	4	3	2	1
Section 3	<ul style="list-style-type: none">_ Includes a title related to the content of this section_ Includes a three- to five-sentence caption that provides information about the inventor(s) process and solution_ Includes at least two frames/panels with images of an important person, place, thing, or idea inside; frames/panels separated by gutters <p>Includes at least one of these visual elements:</p> <ul style="list-style-type: none">_ Close-up image_ Definition box (scientific)_ Definition box (academic)_ Diagram_ Ambient noise_ Speech bubble with dialogue_ Thought bubble with dialogue	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4

Score _____

Reviewer comments: _____



Section 3:

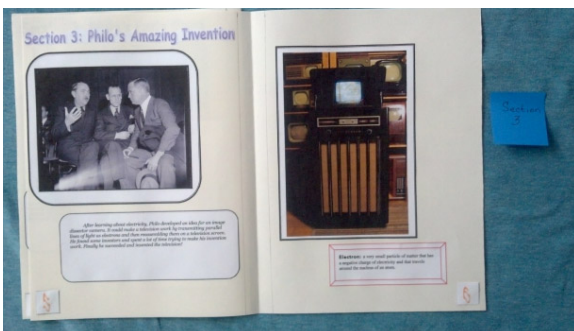
Text and Images (Option A)

Part I:

1. Open a blank word document.
2. Use “autoshapec” to create a rectangular frame for your caption, then add a text box to the caption frame. In the text box, type the best version of your three- to five-sentence summary from your end of unit storyboard draft for Section 3.
3. Use “wordart” or font to create a title for Section 3. You may use the one provided on your end of unit Section 3 draft, or you may create a new title.
4. Create two frames. Add an image to each frame.
5. Add another visual element to Section 3 (see choices on rubric).
6. Refer back to the rubric to help you determine whether you have created each piece to meet the criteria. Revise and/or create additional pieces as necessary.
7. Print the caption, title, frames with images, and additional visual element.

Part II:

1. Neatly cut out each piece for Section 3 of your novelette: caption, title, frames with images, additional visual element.
2. Arrange all the pieces on pages 5 and 6 of your novelette. Do not glue them down yet!
3. Show your arrangement to a member of your triad and ask her or him to refer to the rubric criteria to provide feedback (score and comments).



4. Rearrange, revise, and/or create additional pieces as necessary, based on feedback.
5. Show the changes to your peer reviewer for feedback regarding whether or not you addressed the concerns.
6. As time allows, glue pieces onto pages 5 and 6 of your novelette. Make sure not to glue anything past the binding lines!

Harris and Ewing. "television Inventor tells Economoc Committee of Difficulties getting Patents." 1939. Photograph, Library of Congress. [LC-DIG-hec-25858]
CC-BY-SA-2.0-DE



Section 3:

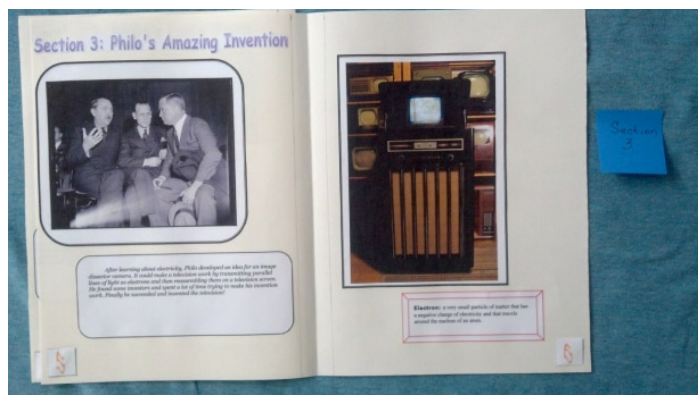
Text and Images (Option B)

Part I:

1. Gather two or three sheets of plain white paper.
2. Draw a rectangular frame for your caption. Inside, write the best version of your three- to five-sentence summary from your end of unit assessment storyboard draft for Section 3.
3. Neatly and in large print, write a title for Section 3. You may use the one provided on your end of unit Section 3 draft, or you may create a new title.
4. Draw two frames. Draw an image in each frame.
5. Create another visual element to add to Section 3 (see choices on rubric).
6. Refer back to the rubric to help you determine whether you have created each piece to meet the criteria. Revise and/or create additional pieces as necessary.

Part II:

1. Neatly cut out each piece for Section 3 of your novelette: caption, title, frames with images, additional visual element.
2. Arrange all the pieces on pages 5 and 6 of your novelette. Do not glue them down yet!
3. Show your arrangement to a member of your triad and ask her or him to refer to the rubric criteria to provide feedback (score and comments).
4. Rearrange, revise, and/or create additional pieces as necessary, based on feedback.
5. Show the changes to your peer reviewer for feedback regarding whether or not you addressed the concerns.



6. As time allows, glue pieces onto pages 5 and 6 of your novelette. Make sure not to glue anything past the binding lines!

Harris and Ewing, "television Inventor tells Economoc Committee of Difficulties getting Patents." 1939. Photograph, Library of Congress. [LC-DIG-hec-25858]
CC-BY-SA-2.0-DE



Graphic Novelette Rubric:
Section 4

	4	3	2	1
Section 4	<p>_ Includes a title related to the content of this section</p> <p>_ Includes a three- to five-sentence caption that provides information about the inventor(s) process and solution</p> <p>_ Includes at least two frames/panels with images of an important person, place, thing, or idea inside; frames/panels separated by gutters</p> <p>Includes at least one of these visual elements:</p> <p>_ Close-up image</p> <p>_ Definition box (scientific)</p> <p>_ Definition box (academic)</p> <p>_ Diagram</p> <p>_ Ambient noise</p> <p>_ Speech bubble with dialogue</p> <p>_ Thought bubble with dialogue</p>	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4

Score _____

Reviewer comments: _____



Section 4:

Text and Images (Option A)

Part I:

1. Open a blank word document.
2. Use “autosshapes” to create a rectangular frame for your caption, then add a text box to the caption frame. Inside the text box, type the best version of your three- to five-sentence summary from your end of unit storyboard draft for Section 4.
3. Use “wordart” or font to create a title for Section 4. You may use the one provided on your end of unit Section 4 draft, or you may create a new title.
4. Create two frames. Add an image to each frame.
5. Add another visual element to Section 4 (see choices on rubric).
6. Refer back to the rubric to help you determine whether you have created each piece to meet the criteria. Revise and/or create additional pieces as necessary.
7. Print the caption, title, frames with images, and additional visual element.

Part II:

1. Neatly cut out each piece for Section 4 of your novelette: caption, title, frames with images, additional visual element.
2. Arrange all the pieces on pages 7 and 8 of your novelette. Do not glue them down yet!
3. Show your arrangement to a member of your triad and ask her or him to refer to the rubric criteria to provide feedback (score and comments).
4. Rearrange, revise, and/or create additional pieces as necessary, based on feedback.
5. Show the changes to your peer reviewer for feedback regarding whether you addressed the concerns.
6. As time allows, glue pieces onto pages 7 and 8 of your novelette. Make sure not to glue anything past the binding lines!



Radio Electronics staff, Avery Slack photographer
Bundesarchiv, Bild 183-R26738 / CC-BY-SA



Section 4:

Text and Images (Option B)

Part I:

1. Gather two or three sheets of plain white paper.
2. Draw a rectangular frame for your caption. Inside, write the best version of your three- to five-sentence summary from your end of unit storyboard draft for Section 4.
3. Neatly and in large print, write a title for Section 4. You may use the one provided on your end of unit Section 4 draft, or you may create a new title.
4. Draw two frames. Draw an image in each frame.
5. Create another visual element to add to Section 4 (see choices on rubric).
6. Refer back to the rubric to help you determine whether you have created each piece to meet the criteria. Revise and/or create additional pieces as necessary.

Part II:

1. Neatly cut out each piece for Section 4 of your novelette: caption, title, frames with images, additional visual element.
2. Arrange all the pieces on pages 7 and 8 of your novelette. Do not glue them down yet!
3. Show your arrangement to a member of your triad and ask her or him to refer to the rubric criteria to provide feedback (score and comments).
4. Rearrange, revise, and/or create additional pieces as necessary, based on feedback.
5. Show the changes to your peer reviewer for feedback regarding whether you addressed the concerns.



6. As time allows, glue pieces onto pages 7 and 8 of your novelette. Make sure not to glue anything past the binding lines!

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Graphic Novelette Rubric:
The Cover

	4	3	2	1
Cover	<ul style="list-style-type: none">_ Front cover includes a title that is related to overall content of the story_ Front cover includes author's name (and illustrator's name, if images are drawn)_ Front cover includes an image that is related to the invention and/or inventor_ Back cover includes a two- or three-sentence summary of the story and an image related the invention and/or inventor	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 16

Creating a Graphic Novelette and Peer Critique: Glossary, Citations, and Table of Contents



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)

d. I can use precise language and domain-specific vocabulary to explain a topic.

I can use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others. (W.5.6)

I can create a list of sources. (W.5.8)

I can follow our class norms when I participate in a conversation. (SL.5.1)

Supporting Learning Targets

- I can create an alphabetized glossary of academic and scientific key words for my graphic novelette.
- I can create a citations page with a list of my sources for my graphic novelette.
- I can create a table of contents for my graphic novelette.

Ongoing Assessment

- Glossary page with key terms alphabetized
- Citations page
- Table of contents page



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time <ol style="list-style-type: none"> A. Creating a Glossary of Key Terms (20 minutes) B. Creating a Citations Page (15 minutes) C. Creating a Table of Contents (15 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review of Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Complete the table of contents, glossary, citations page, and cover sketch for your graphic novelette. Be prepared to create a cover and bind all pages and the cover together during the next lesson. B. Read all pages of your graphic novelette aloud to someone at home or in front of the mirror to practice fluency skills and prepare for the final performance task presentation of your novelette. 	<ul style="list-style-type: none"> • This lesson follows a pattern similar to Lessons 14 and 15. Again, there are two options for students to create the glossary, citations, and table of contents pages for their novelettes: Option A requires the use of technology, and Option B does not. Review the supporting materials and determine which is the best option for your students. • During the Opening, students use the Novelette Cover rubric (from Lesson 15) to self-evaluate and share reflections with a partner about the cover sketches they completed for homework. • During Work Time A, students review and evaluate an example glossary page using the Glossary rubric, then suggest revisions based on the criteria. After this, they use their vocabulary cards (from Lessons 2–4) to help them choose key terms and create a glossary page for their graphic novelettes. • In Work Time B, students review and evaluate an example citations page using the Citations rubric, then suggest revisions based on the criteria. Students then refer back to their expert texts from Lessons 2–5 to create a basic citations page that includes the title of each text, as well as the author’s name and/or website where it came from. • During Work Time C, students review their novelette pages and titles to create a table of contents for their graphic novelettes. • In advance: <ul style="list-style-type: none"> – Thoroughly review and organize visuals and directions from the supporting materials. – If using Option A, make sure technology is in working order and students have access to the Internet and printers. – Collect and organize the materials students will need to complete the glossary, citations, and table of contents pages for their novelettes. – Help students locate and gather their vocabulary cards (from Lessons 2–4) and their expert texts (from Lessons 2–5). – Review Glass, Bugs, Mud in Checking for Understanding Techniques (see Appendix). • Post: Group Norms anchor chart (from Unit 1, Lesson 1); directions for the Peer Critique protocol (from Lesson 12); and learning targets.



Lesson Vocabulary	Materials
<p>alphabetized, glossary, key terms, graphic novelette, citations, sources, table of contents</p>	<ul style="list-style-type: none"> • Group Norms checklist (from Unit 2, Lesson 1; for teacher reference) • Novelette pages (from Lesson 14) • Glossary rubric (one per student and one to display) • Glossary example (one per student and one to display) • Document camera • Vocabulary cards (from Lessons 2–4; one set per student) • Creating a Glossary task card, Option A or Option B (one per student) • Computers (one per student; optional; see Option A) • Colored pencils, markers, crayons (for each student; optional; see Option B) • Glue (one per student) • Scissors (one pair per student) • Paper clips (three per student) • Citations example (one per student and one to display) • Citations rubric (one per student and one to display) • Expert texts (from Lessons 2–5) <ul style="list-style-type: none"> – Articles about Garrett Morgan’s traffic signal: “Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal” (from Lesson 2); “Garrett Morgan: Inventor Hero” (from Lesson 3); “The Twofold Genius of Garrett Morgan” (from Lesson 4); “Garrett Augustus Morgan” (from Lesson 5) – Articles about the Wright brothers’ airplane: “Wright Brothers: Inventors of the Airplane” (from Lesson 2); “The Invention of the Airplane” (from Lesson 3); “Airplane” (from Lesson 4); “How Did We Learn to Fly?” (from Lesson 5) • Creating a Citations Page task card, Option A or Option B (one per student) • Table of Contents example (one per student and one to display) • Table of Contents rubric (one per student and one to display) • Creating the Table of Contents task card, Option A or Option B (one per student)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their Novelette Cover rubrics and the cover sketches they completed for homework.• Tell students to find a partner who is a member of the same expert group but not a member of their triad.• Once students are partnered, give these directions:<ol style="list-style-type: none">1. Review the cover sketch you created alongside the cover rubric to identify:<ul style="list-style-type: none">• An area you feel is a strength of your sketch• An area you would like to refine on your sketch to better meet the criteria2. Share your reflections with your partner.• Allow students 2 or 3 minutes to complete these tasks. Circulate to support and use this as an opportunity to informally evaluate their use of criteria described on the Group Norms checklist.• Focus students whole group. Invite a few of them to share out strengths of their partner's cover sketch.• Say something like: "Today you will create the glossary, citations, and table of contents pages for your graphic novelettes. As you may recall from other texts you are familiar with, the glossary is a resource that helps readers understand the meaning of key terms. The citations page establishes credibility for the content of your novelette by naming the reliable sources you used to build knowledge about the invention. And the table of contents helps readers easily locate specific information and pages from various sections of the novelette."	<ul style="list-style-type: none">• Display directions for student reference during partner discussions.



Work Time	Meeting Students' Needs
<p>A. Creating a Glossary of Key Terms (20 minutes)</p> <ul style="list-style-type: none">• Ask students to gather their novelette pages and join their triads.• Ask them to read the first learning target aloud together:<ul style="list-style-type: none">* “I can create an alphabetized glossary of academic and scientific key words for my graphic novelette.”• Underline the word <i>alphabetize</i>. Ask students to think about and briefly discuss in triads what this term means.• After 1 minute, invite a few students to share their thinking with the class. Listen for suggestions such as:<ul style="list-style-type: none">– “<i>Alphabetize</i> has the word <i>alphabet</i> in it, so I think it means to put something in order according the alphabet.”– “Words that start with the letter A would come first, and so forth.”• If students are unable to explain the meaning of this word, define it for them.• Ask students to consider other key terms they are familiar with from previous units—<i>glossary</i>, <i>key words</i>, <i>graphic novelette</i>—and think about how they could restate the target in their own words.• After a moment, cold call a few students to share their thinking whole group.• Distribute the Glossary rubric and read through each descriptor.• Next, distribute the Glossary example and display a copy under a document camera. Ask triads to discuss:<ul style="list-style-type: none">* “In what ways does this glossary meet the rubric criteria?”* “In what ways should this glossary be revised to better meet the criteria?”• Allow students 3 or 4 minutes to review the glossary and discuss their thinking. Then cold call a few of them to share out. Listen for:<ul style="list-style-type: none">– “The example glossary lists and clearly defines five key terms.”– “There is a combination of both academic and scientific terms.”– “The key terms are <i>not</i> in alphabetical order.”• If students struggle to identify how the glossary does and does not meet the rubric criteria, clarify for them.• Ask students to work with triad members to revise the example so the key words are alphabetized in the margin of the glossary page.	<ul style="list-style-type: none">• Consider chunking directions so students complete only one or two steps at a time.• For students who struggle with writing or typing text, consider allowing them to dictate their ideas to an aide or other adult to scribe for them.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 3 or 4 minutes, cold call a few triads to share out which word should come first, second, and so on, as well as how they determined alphabetical order. Listen for them to say that they considered the first letter of the words and where those letters fall in the alphabet to determine the order. If students don't mention it, point out that in the case of <i>electricity</i> and <i>electron</i>, the first six letters are the same, so the seventh letter determines which comes first: I comes before O in the alphabet, so <i>electricity</i> is first.• If students struggle to alphabetize the glossary terms, model and explain.• Tell them they will now create a glossary page for their graphic novelettes.• Ask students to take out the vocabulary cards they created during Lessons 2–4.• Distribute the Creating a Glossary task card (Option A) or (Option B). Read through the directions and clarify as necessary.• Distribute or ask students to go to their computers (for Option A) or distribute colored pencils, markers, or crayons (Option B), as well as glue and scissors.• Give students 10 to 12 minutes to complete the steps on their task cards. Circulate to support and provide guidance.• If students are able to complete each step, receive feedback, and revise within the time allotted, direct them to go ahead and glue the glossary onto page 9 of their novelette.• If students do not have time to glue in their glossary, distribute a paper clip and ask students to clip it to the top of page 9 of their novelettes. Reassure them that if they are unable to add the glossary page to their novelettes during this part of Work Time, they will be able to complete that step for homework.	



Work Time (continued)	Meeting Students' Needs
<p>B. Creating a Citations Page (15 minutes)</p> <ul style="list-style-type: none">• Read aloud the second learning target:<ul style="list-style-type: none">* “I can create a citations page with a list of my sources for my graphic novelette.”• Underline the words <i>citations page</i> and <i>sources</i>.• Display and distribute the Citations example and ask students to discuss what they think a <i>citations page</i> and <i>sources</i> are.• After 1 minute, invite a few triads to share their thoughts whole group. Listen for ideas such as:<ul style="list-style-type: none">– “We think a <i>citations page</i> is where you list information about the articles you used for your research—information such as the title and name of author or website.”– “We think <i>sources</i> are the names of texts you used for research and the names of authors or websites where you found the text.”• If students are not able to develop a working definition for these terms, clarify the meaning for them.• Display and distribute the Citations rubric and read through each of the criteria as students follow along silently. Clarify as needed.• Give triads these directions:<ol style="list-style-type: none">1. Evaluate the Citations example to determine how it meets the rubric criteria.2. Evaluate the Citations example to determine how it could be revised to better meet the criteria.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Allow students 2 or 3 minutes to review the Citations example and discuss their thinking. Then cold call a few of them to share out. Listen for:<ul style="list-style-type: none">– “The first source is cited correctly because the last name of the author comes before her first name and the names are separated by a comma. <i>The Boy Who Invented TV</i> is a book, and it is italicized.”– “The second source is correct because ‘The TV Guy’ is the name of an article (we read it for the Mid-Unit 2 Assessment) and it is in quotes. The name of the website is listed after the title.”– “I don’t think the third source is correct because it is italicized and has quotes around it; there is no author named, so it’s probably an article and should not be italicized. It does correctly name the website it came from.”– “The fourth source is incorrect because it has the author’s first then last name, instead of vice versa with a comma between. I remember this is an article we read during Unit 2, so it is correct to have quotes around the title.”• If students struggle to identify how the Citations example page does and does not meet the rubric criteria, explain.• Help students gather their expert texts about either Garrett Morgan’s invention of the traffic signal or the Wright brothers’ invention of the airplane, from Lessons 2–5.• Distribute the Creating a Citations Page task card (Option A) or (Option B). Read through the directions and clarify as necessary.• Allow students to begin and circulate to offer support and guidance.• If students are able to complete each step, receive feedback, and revise within the time allotted, direct them to go ahead and glue the citations frame onto page 10 of their novelettes.• After 7 or 8 minutes, pause students in their work. Explain that if they did not have time to glue their citations onto page 10 of their novelettes, they will be able to complete that step for homework. Ask them to paperclip the citations frame to the top of page 10 of their novelettes.	



Work Time (continued)	Meeting Students' Needs
<p>C. Creating a Table of Contents (15 minutes)</p> <ul style="list-style-type: none">• Focus students' attention on the third learning target and ask them to read it aloud together:<ul style="list-style-type: none">* "I can create a table of contents for my graphic novelette."• Display the Table of Contents example and ask students to discuss what they notice about the type of information that is included in a table of contents.• After 1 minute, invite a few triads to share out whole group. Listen for ideas such as:<ul style="list-style-type: none">– "A table of contents lists the name of each chapter and resource, like the glossary and citations pages, that are found in a book."– "The table also names the page number where each chapter begins or each resource page is located."• If students struggle to identify the elements included in a table of contents, use the example to point each feature out to them.• Tell students that now that they have completed each section of their novelette and know the titles and page numbers for each chapter and resource page, they can create an accurate table of contents.• Display and distribute the Table of Contents rubric. Read through the criteria descriptors and provide clarification as necessary.• Distribute the Creating the Table of Contents task card (Option A) or (Option B). Read through the directions and answer any clarifying questions.• Ask students to begin. Circulate to provide support and encourage students to refer to the Peer Critique protocol as needed.• If students are able to complete each step, receive feedback, and revise within the time allotted, direct them to go ahead and glue the table of contents frame onto the blank (unnumbered) page at the beginning of their novelettes.• After 8 to 10 minutes, pause students in their work. Explain that if they did not have time to glue their table of contents onto the first blank page of their novelettes, they will be able to complete that step for homework. Then, ask them to paperclip the table of contents frame to the top of the first blank page of their novelettes.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Focus students' attention whole group. Ask them to discuss with a nearby partner who is not a member of their triad:<ul style="list-style-type: none">* "How did viewing and evaluating examples of the glossary, citations page, and table of contents support your work?"* "How did the glossary, citations, and table of contents rubrics help you refine your work?"• After 2 or 3 minutes, invite a few students to share their thinking with the class.• Read each of the learning targets aloud and ask students to use Glass, Bugs, Mud to demonstrate their mastery of each target. Note students who show bugs or mud, as they may need more time and support to complete their glossary, citations page, or table of contents.• Tell students they will complete their novelette covers and bind all the pages together in the next lesson, before sharing their completed novelettes with triad members.	<ul style="list-style-type: none">• Provide sentence starters to allow all students access to the conversation: "The examples and rubrics helped me understand _____."
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete the table of contents, glossary, and citations pages of your graphic novelette.• Revise the cover sketch you completed for the previous lesson's homework, based on feedback you received during the Opening of this lesson and the Novelette Cover rubric.• Be prepared to finalize your cover and bind all pages and the cover together during the next lesson, before the performance task.• Read all pages of your graphic novelette aloud to someone at home or in front of the mirror to practice fluency skills and prepare for the final performance task presentation.	<ul style="list-style-type: none">• For students who struggle to complete tasks independently, consider finding another time during the day to help them complete their work or allow someone at home to help.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 16

Supporting Materials



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Glossary Rubric

	4	3	2	1
Glossary	<ul style="list-style-type: none">_Lists and clearly defines at least five key terms from the story_Key terms are in alphabetical order._There is a combination of both academic and scientific terms.	<ul style="list-style-type: none">_Lists and defines four of the key terms from the story_Key terms are in alphabetical order._There is a combination of both academic and scientific terms.	<ul style="list-style-type: none">_Lists and defines three or four of the key terms from the story_Key terms are not in alphabetical order._Includes ONLY scientific or academic terms	<ul style="list-style-type: none">_Lists and defines two or fewer key terms; or terms listed and defined are not key to the story._Key terms are not in alphabetical order._Includes ONLY scientific or academic terms (or no terms)



Glossary Example

Glossary

television: (n.) a device that receives television signals and reproduces them on a screen so that viewer sees images and hears sounds

electricity: (n.) a form of energy created by rubbing two unlike things (like glass and silk) together

electron: (n.) a small particle that has a negative charge and travels around the nucleus of an atom

invented: (v.) created something new

communicate: (v.) share or exchange information or ideas



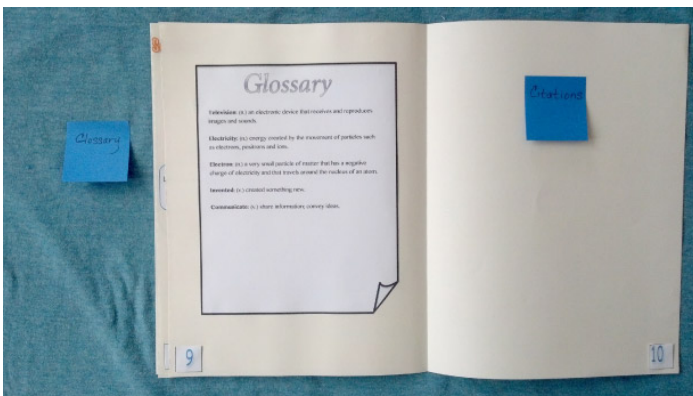
Creating a Glossary Task Card
(Option A)

Part I:

1. Refer to your novelette pages to locate a mix of five key academic and scientific words found in your text (captions or speech and thought bubbles). Make sure you have a vocabulary card already created for word you chose. If you do not have a card for each word, try to locate other words from the text that you do have cards for.
2. Arrange your five vocabulary cards in alphabetical order. Ask a member of your triad to double-check whether you have included both scientific and academic words and that the order of your words is correct. Choose other words and/or rearrange if necessary.
3. Use “autosshapes” to create a frame for your glossary that takes up about two-thirds of the page. Then add a text box inside the glossary frame. Use “wordart” or font to type and add the title “Glossary” to the top of the text box.
4. Type each key word and definition, in alphabetical order, in the text box.
5. Refer back to the Glossary rubric to help you determine whether you have met the criteria described. Revise as necessary.
6. Print the glossary.

Part II:

7. Neatly cut out the glossary frame with key words defined.
8. As time allows, glue the glossary onto page 9 of your novelette. Make sure not to glue past the binding line!





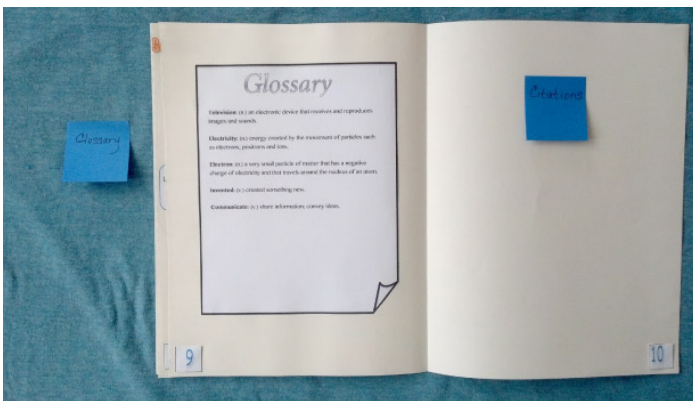
Creating a Glossary Task Card
(Option B)

Part I:

1. Refer to your novelette pages to locate a mix of five key academic and scientific words found in your text (captions or speech and thought bubbles). Make sure you have a vocabulary card already created for each word you chose. If you do not have a card for each word, try to locate other words from the text that you do have cards for.
2. Arrange your five vocabulary cards in alphabetical order. Ask a member of your triad to double-check whether you have included both scientific and academic words and that the order of your words is correct. Choose other words and/or rearrange if necessary.
3. On a blank sheet of paper, draw a frame for your glossary that takes up about two-thirds of the page. In large, neat letters, write the title “Glossary” near the top of the frame.
4. Neatly write each key word and definition, in alphabetical order, in the frame.
5. Refer back to the Glossary rubric to help you determine whether you have met the criteria described. Revise as necessary.

Part II:

6. Neatly cut out the glossary frame with key words defined.
7. As time allows, glue the glossary onto page 9 of your novelette. Make sure not to glue past the binding line!





Citations

Krull, Kathleen. *The Boy Who Invented TV: The Story of Philo Farnsworth*.

“The TV Guy,” from
<http://www.ilovehistory.utah.gov/people/difference/farnsworth.html>

“TV Turns On,” from
http://www.livinghistoryfarm.org/farminginthe40s/life_27.html



Citations Rubric

	4	3	2	1
Citations	<p>_Accurately cites all four expert texts from Lessons 2–5:</p> <p>*Last name of author comes before first name and is separated by a comma</p> <p>*Titles of books are italicized (or written in script/cursive)</p> <p>*Titles of articles are in quotes, and NOT italicized or scripted/cursive</p> <p>*If the text came from a website, the name of the website is listed after the name of the text.</p>	<p>_Accurately cites only three of the expert texts; or cites all four expert texts, but inaccurately</p>	<p>_Accurately cites only one or two of the expert texts; or cites two or three of the texts inaccurately</p>	<p>_Does not cite any expert texts accurately; or does not cite expert texts at all</p>

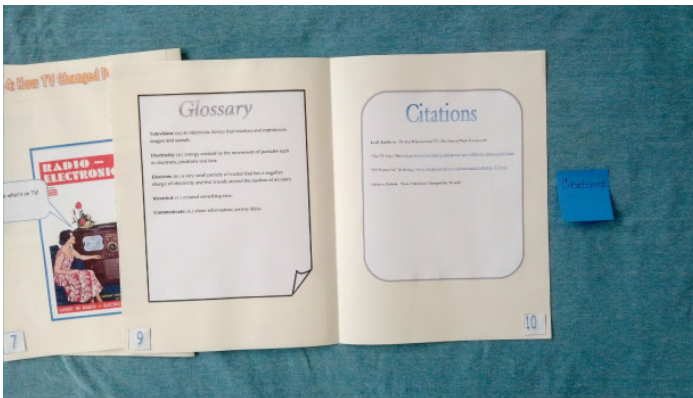
Creating a Citations Page Task Card
(Option A)

Part I:

1. Refer to your expert texts from Lessons 2–5. Locate the title of the text as well as the author's name and/or website the text came from.
2. Use “autosshapes” to create a frame for your citations that takes up about two-thirds of the page. Then add a text box inside the citations frame. Use “wordart” or font to type and add the title “Citations” to the top of the text box.
3. Type the name of each text, author, and/or website into the text box, using the format described in the Citations rubric.
4. Ask a member of your triad to review your citations and offer feedback based on the Citations rubric criteria to help you determine whether you have met the criteria described. Revise as necessary.
5. Print your citations.

Part II:

6. Neatly cut out the citations frame.
7. As time allows, glue the citations frame onto page 10 of your novelette. Make sure not to glue past the binding line!





Creating a Citations Page Task Card
(Option B)

Part I:

1. Refer to your expert texts from Lessons 2–5. Locate the title of the text as well as the author's name and/or website the text came from.
2. On a blank piece of paper, draw a frame for your citations that takes up about two-thirds of the page. In neat and large print, write the title “Citations” near the top of the frame.
3. Write the name of each text, author, and/or website in the frame, using the format described in the Citations rubric.
4. Ask a member of your triad to review your citations and offer feedback based on the Citations rubric criteria to help you determine whether you have met the criteria described. Revise as necessary.

Part II:

5. Neatly cut out the citations frame.
6. As time allows, glue the citations frame onto page 10 of your novelette. Make sure not to glue past the binding line!

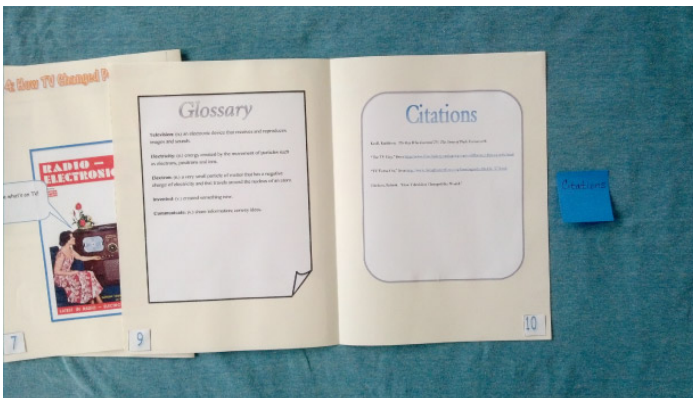




Table of Contents

Section 1: Why TV Was Invented ... p. 1

Section 2: Philo's Early Years ... p. 3

Section 3: Philo's Amazing Invention ... p. 5

Section 4: How TV Changed People's Lives ... p. 7

Glossary ... p. 9

Citations ... p. 10



Table of Contents Rubric

	4	3	2	1
Table of Contents	<ul style="list-style-type: none">_ Includes title (Table of Contents)_ Lists each section in order from 1–4_ Includes the name/title of each section_ Lists the page number where each section begins	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4



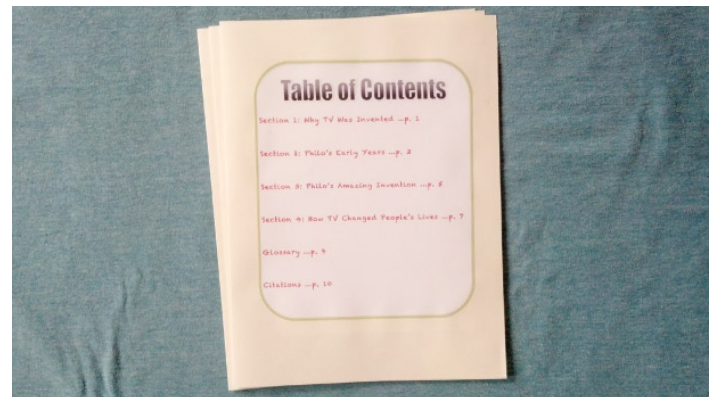
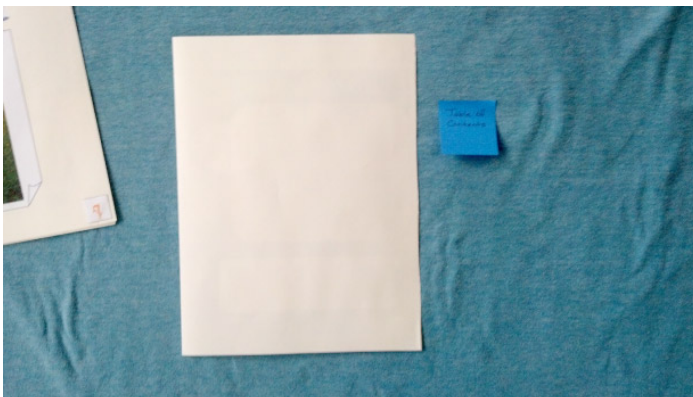
Creating the Table of Contents Task Card
(Option A)

Part I:

1. Refer to your novelette pages to locate the title of each section and resource page, as well as the page each starts on.
2. Use “autosshapes” to create a frame for your table of contents that takes up about two-thirds of the page. Then add a text box inside the table of contents frame. Use “wordart” or font to type and add the title “Table of Contents” to the top of the text box.
3. In the text box, type each section and resource title, as well as the page number where each starts.
4. Refer back to the Table of Contents rubric to help you determine whether you have met the criteria described. Revise as necessary.
5. Print the Table of Contents.

Part II:

1. Neatly cut out the table of contents frame.
2. If time allows, turn to the first blank (unnumbered) page of your novelette, the page that comes before Section 1, page 1. Glue the table of contents onto the blank front page of your novelette. Make sure not to glue past the binding line!



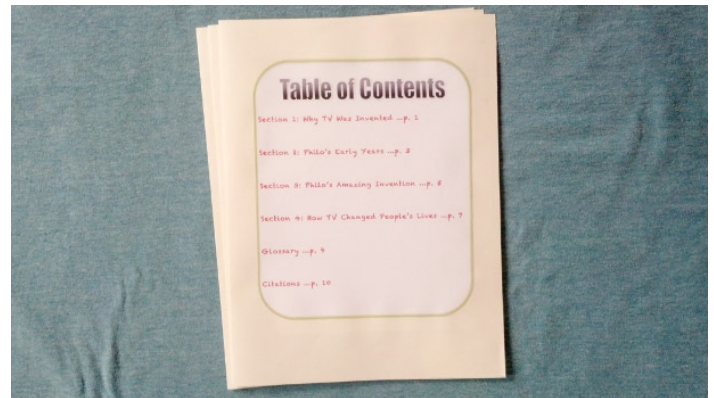
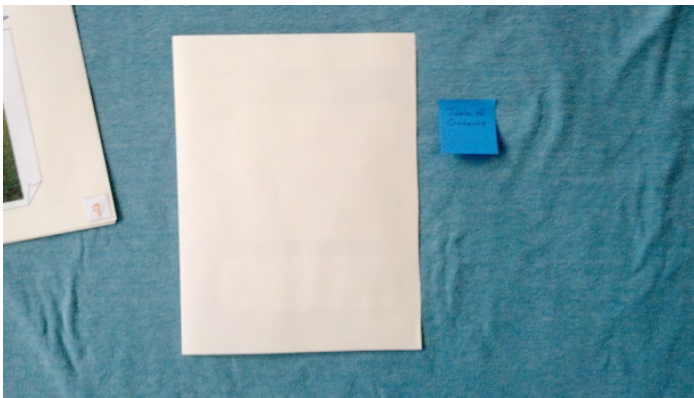
Creating the Table of Contents Task Card
(Option B)

Part I:

1. Refer to your novelette pages to locate the title of each section and resource page, as well as the page each starts on.
2. On a blank piece of paper, draw a frame for your table of contents that takes up about two-thirds of the page. In neat and large print, write the title “Table of Contents” near the top of the frame.
3. Neatly write each section and resource title, as well as the page number where each starts, in the frame.
4. Refer back to the Table of Contents rubric to help you determine whether you have met the criteria described. Revise as necessary.

Part II:

1. Neatly cut out the table of contents frame.
2. If time allows, turn to the first blank (unnumbered) page of your novelette, the page that comes before Section 1, page 1. Glue the table of contents onto the blank front page of your novelette. Make sure not to glue past the binding line!





EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 17

Final Performance Task: Presenting Graphic Novelettes



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

- I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)
- I can determine the meaning of general academic and domain-specific words and phrases in a text relevant to a fifth-grade topic or subject area. (RI.5.4)
- I can integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. (RI.5.9)
- I can write informative texts to examine a topic and convey ideas and information clearly. (W.5.2)
- I can write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (W.5.3)
- I can produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (W.5.4)
- With guidance and support from peers and adults, I can develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5)
- I can conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (W.5.7)
- I can recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work; and provide a list of sources. (W.5.8)
- I can use knowledge of language and its conventions when writing, speaking, reading, or listening. (L.5.3)
 - a. I can expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
 - b. I can compare and contrast the varieties of English used in stories, dramas, or poems.
- I can determine or clarify the meaning of unknown and multiple-meaning words and phrases based on fifth-grade reading and content, choosing flexibly from a range of strategies. (L.5.4)

Supporting Learning Targets

- I can create a cover for my graphic novelette based on the rubric criteria, then bind all the pages and cover together.
- I can present my completed graphic novelette to peers in my triad.

Ongoing Assessment

- Completed graphic novelette
- Graphic Novelette presentations



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Engaging the Writer (5 minutes)2. Work Time<ol style="list-style-type: none">A. Completing Graphic Novelettes: Creating a Cover and Binding the Pages (20 minutes)B. Performance Task Practice and Presentations (30 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief and Review of Learning Targets (5 minutes)4. Homework<ol style="list-style-type: none">A. Read your completed graphic novelette to someone at home or aloud in the mirror to practice fluency skills.	<ul style="list-style-type: none">• In this lesson, students complete their graphic novelettes and present them to their triad group members. As in previous lessons, there is a technology option (Option A) and nontechnology option (Option B) for the completion of novelette covers.• During Work Time A, students create their novelette covers based on the sketches they created and revised for homework in Lessons 15 and 16. Then they are led through a series of steps to bind their pages and cover together.• In Work Time B, students briefly whisper read their novelettes to themselves in an effort to practice their fluency. After this, they present their completed graphic novelettes to their triad.• Note that because the Graphic Novelette required students to complete multiple steps, which included the creation of several components each, throughout previous lessons students were only given parts of the rubric, so as not to become overwhelmed by criteria for every part at once. But the supporting materials for this lesson now include a “Complete Graphic Novelette rubric” for teacher use. This complete rubric has all the parts of the rubric students have seen (including sections: 1-4, cover, table of contents, glossary, citations) compiled into a single document.• In advance:<ul style="list-style-type: none">– Thoroughly review and organize visuals and directions from the supporting materials.– If using Option A, make sure the technology is in working order and students have access to the Internet and printers.– Collect and organize the materials students will need to complete their novelette covers and bindings.• Post: Group Norms anchor chart (from Unit 1, Lesson 1) and learning targets.



Lesson Vocabulary	Materials
cover, graphic novelette, criteria, bind, fluent, prepare, present	<ul style="list-style-type: none">• Graphic Novelette rubric: The Cover (from Lesson 15)• 12-by-18 paper (one piece per student)• Computers (one per student; optional; see Option A)• Colored pencils, markers, crayons (for each student; optional; see Option B)• Glue (one per student)• Scissors (one pair per student)• Creating a Cover task card, Option A or Option B (one per student and one to display)• Document camera• Rulers (one per student)• Single-hole punch (one per student)• Brass brads (three per student)• Novelette pages (from Lessons 14–16)• Binding Novelettes, Step 1 (one to display)• Binding Novelettes, Step 2 (one to display)• Binding Novelettes, Step 3 (one to display)• Group Norms checklist (from Unit 2, Lesson 1; for teacher reference)• Complete Graphic Novelette rubric (for teacher reference; see Teaching Notes)



Opening	Meeting Students' Needs
<p>A. Homework Review and Engaging the Writer (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out the revised sketches of their novelette covers, which they completed for homework.• Ask them to join their triads and discuss:<ul style="list-style-type: none">* “How did you use the Cover rubric and feedback from peers to revise the cover for your graphic novelette?”* “Which part of your cover would you like feedback about from your peers?”* “How will you revise your cover further, based on group discussions?”• After 3 minutes, pause student discussions and invite them to share out.• Say something like:<ul style="list-style-type: none">* “In this lesson, you will use your cover sketches to help you create a cover for your graphic novelettes. Then you will bind the cover and all pages together and have an opportunity to whisper read your novelettes to prepare for reading your graphic novelettes aloud to triad members.”	<ul style="list-style-type: none">• Display each discussion question, for student reference.



Work Time	Meeting Students' Needs
<p>A. Completing Graphic Novelettes: Creating a Cover and Binding the Pages (20 minutes)</p> <ul style="list-style-type: none">• Direct students' attention to the posted learning targets and ask them to read the first target aloud with you:<ul style="list-style-type: none">* "I can create a cover for my graphic novelette based on the rubric criteria, then bind all the pages and cover together."• Ask students to consider and discuss what two steps they think they will complete during this part of Work Time to finish their graphic novelettes.• After 1 minute, invite a few students to share their thinking with the class. Listen for:<ul style="list-style-type: none">– "I think we will create the final versions of our covers."– "I think we will put (<i>bind</i>) all the pages and cover together."• If students are unable to identify the two steps they will complete or what the word <i>bind</i> means, provide clarity.• Ask students to take out the Graphic Novelette Rubric: The Cover. Read through each of the criteria as students follow along silently. Clarify as necessary.• Distribute one piece of 12-by-18 paper and distribute or ask students to go to computers (for Option A) or distribute colored pencils, markers, or crayons (Option B) as well as glue and scissors.• Distribute the Creating a Cover task card (Option A) or (Option B) and display a copy using a document camera. Read through the directions as students follow along silently. Answer any clarifying questions.• Allow students 8 to 10 minutes to complete their covers.• Focus students whole group. Tell them they will now bind their pages and covers together.• Distribute rulers, single-hole punches, and three brass brads to each student.• Ask students to take out their novelette pages. Display Binding Novelettes, Step 1.• Read each step aloud and guide students as they work.• Once students complete Step 1, display and read aloud Binding Novelettes, Step 2. Offer guidance and support as they work.• When students complete Step 2, display and read aloud Binding Novelettes, Step 3. Guide them and offer support as needed.• Once students have completed their covers and bound all the pages together, tell them to prepare for their presentations.	<ul style="list-style-type: none">• Distribute the directions to students so they can mark off each step as they complete it.• Consider chunking directions so students complete only two or three steps at a time.• For students who struggle with writing or typing text, consider allowing them to dictate their ideas to an aide or other adult to scribe for them.



Work Time (continued)	Meeting Students' Needs
<p>B. Performance Task Practice and Presentations (30 minutes)</p> <ul style="list-style-type: none">• Redirect student attention to the learning targets and ask them to read the second one aloud with you:<ul style="list-style-type: none">* “I can present my graphic novelette to peers in my triad.”• Tell students that before they read their graphic novelettes to their peers, they should take 2 or 3 minutes to practice whisper reading each page of their novelette independently and with fluency.• Ask students to move to sit with their triads if they have not done so already.• Once students are ready to read to their triads, ask them to talk with group members to determine who will present first, second, and third.• Direct students to begin their presentations. Circulate to offer support as needed and use this opportunity to assess students' ability to meet the criteria of Standard SL.5.1, using the Group Norms checklist.	
Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Bring students together whole group and congratulate them on the completion and presentation of their graphic novelettes about either Garrett Morgan's invention of the traffic signal or the Wright brothers' invention of the airplane.• Ask students to turn and talk with a partner who is not a member of their triad:<ul style="list-style-type: none">* “How do you think the graphic novelette you created could help other students learn about the invention you studied?”• After 2 or 3 minutes, invite a few students to share their thinking whole group.• Read each of the learning targets aloud and ask students to use Fist-to-Five to demonstrate their level of mastery toward each target.• Collect students' graphic novelettes to review and score using the Complete Graphic Novelette rubric (see Teaching Notes).	<ul style="list-style-type: none">• Provide a sentence starter to help all students engage in the conversation: “I think this novelette could help others learn about this invention because _____.”
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read your independent reading book for at least 30 minutes.	<ul style="list-style-type: none">• If available, provide an audio recording of the text for students who struggle with reading.



EXPEDITIONARY
LEARNING

Grade 5: Module 2B: Unit 3: Lesson 17

Supporting Materials



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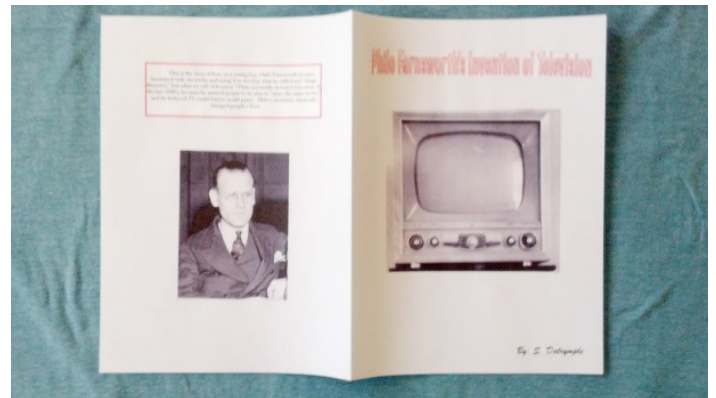
Creating a Cover Task Card
(Option A)

Part I:

1. Refer to your cover sketch to help you create the cover for your graphic novelette.
2. Use “autoshares” to create a rectangular frame for your two- or three-sentence book summary. Then add a text box inside the frame and type your summary into the box.
3. Use “wordart” or font to create a title for your cover.
4. Use “wordart” or font to type your first and last name.
5. Print two images of the invention and/or inventor your novelette describes, to paste onto the front and back cover.
6. Refer to the Novelette Cover rubric to help you determine whether you have met each of the criteria described. Revise as necessary.
7. Print the items you created for your cover: summary, title, author’s name, and both images.

Part II:

1. Neatly cut out each piece for your cover.
2. Glue the pieces onto the front and back of the cover of your novelette. Make sure not to glue past the binding lines!



Harris and Ewing. "television Inventor tells Economoc Committee of Difficulties getting Patents." 1939. Photograph, Library of Congress. [reproduction number LC-DIG-hec-25858]
John Atherton



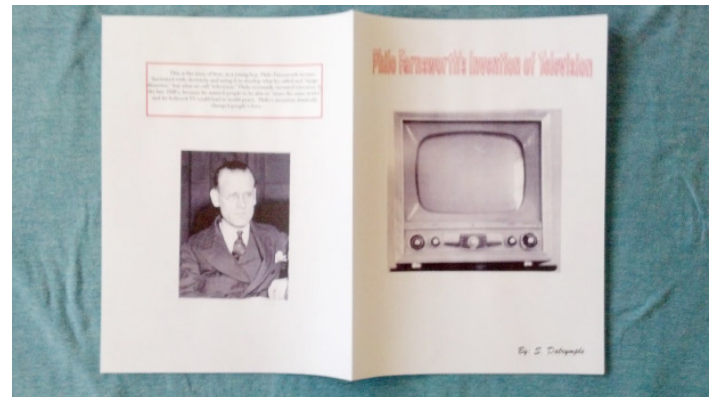
Creating a Cover Task Card
(Option B)

Part I:

1. Refer to your cover sketch to help you create the cover for your graphic novelette.
2. On a blank piece of paper, draw a rectangular frame for your two- or three-sentence book summary. Then, neatly write your summary in the text box.
3. On a blank piece of paper, neatly and in large print, write a title for your cover.
4. On blank paper, neatly write your first and last name.
5. Draw images of the invention and/or inventor your novelette describes, to paste onto the front and back of your cover.
6. Refer to the Novelette Cover rubric to help you determine whether you have met each of the criteria described. Revise as necessary.

Part II:

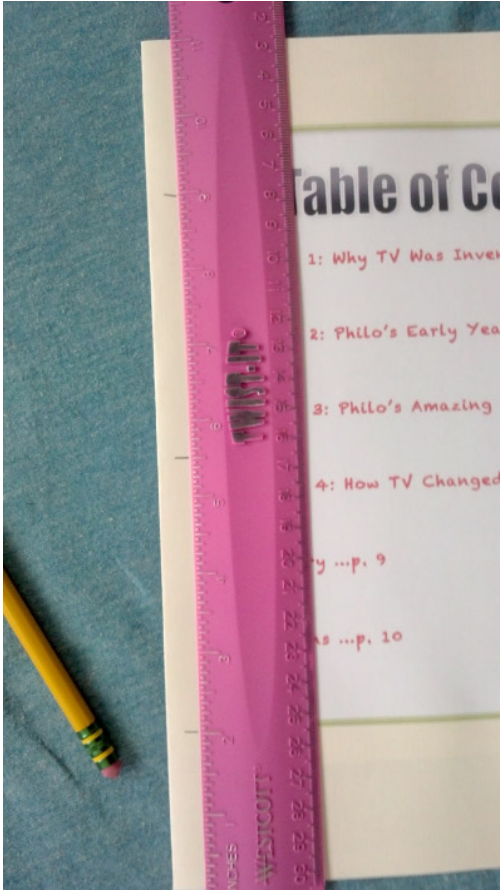
1. Neatly cut out each piece for your cover.
2. Glue the pieces onto the front and back of the cover for your novelette. Make sure not to glue past the binding lines!



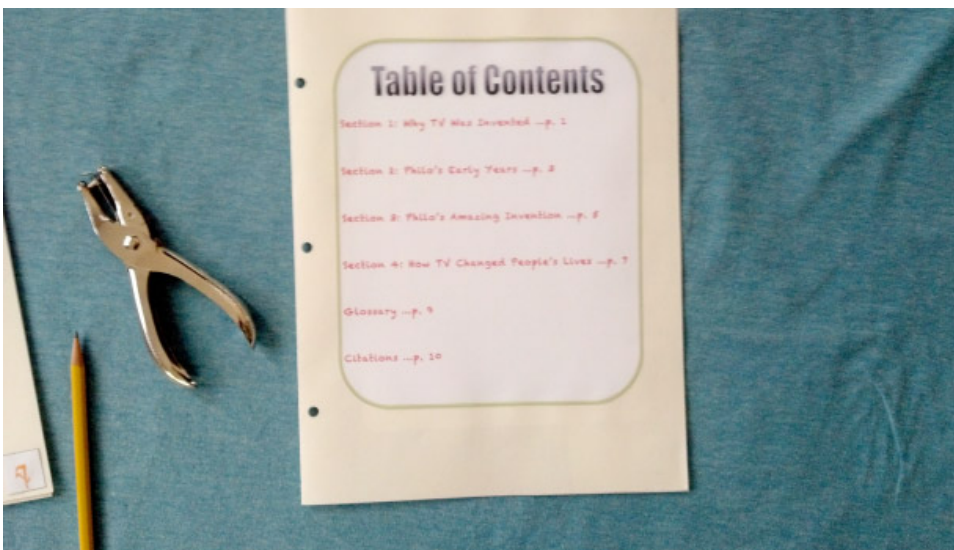
Harris and Ewing. "television Inventor tells Economoc Committee of Difficulties getting Patents." 1939. Photograph, Library of Congress. [reproduction number LC-DIG-hec-25858]
John Atherton



Binding Novelettes, Step 1



Line up your ruler with the crease of your table of contents page (with the beginning mark for 0-1 inches at the bottom of the page). Make light pencil marks on your table of contents page, away from the crease, at the 2-inch, 5½-inch, and 9-inch marks.



Then, use your hole punch to make holes over each of the three pencil marks.



Binding Novelettes, Step 2

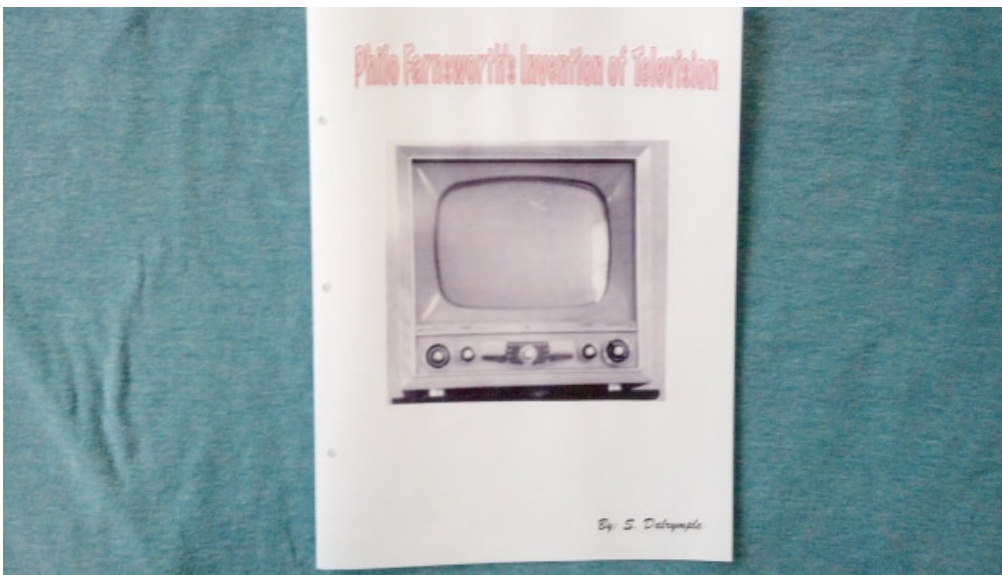


Set the table of contents page over the top of your second set of folded pages (make sure to align creases and pages.) Use your pencil to make light marks near the crease to indicate where you will need to punch holes.

Punch holes in the next set of pages.

Repeat for the third set of folded pages.

Repeat to mark and make holes in the cover for your novelette.

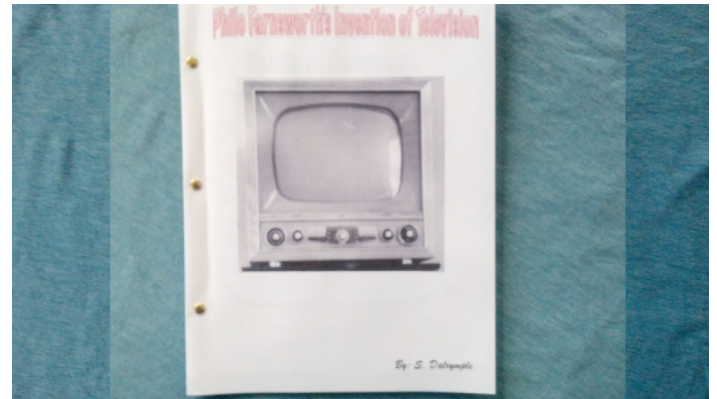
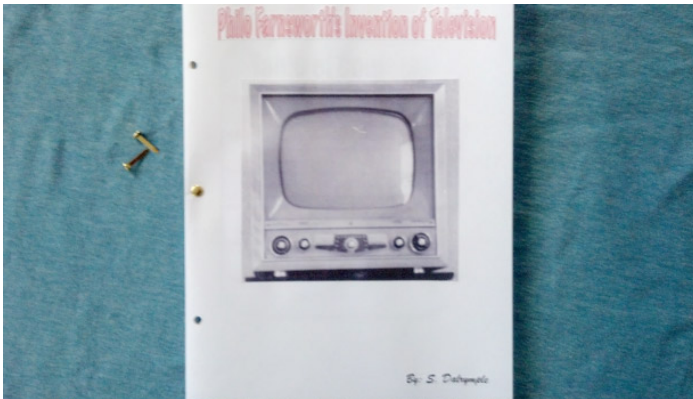


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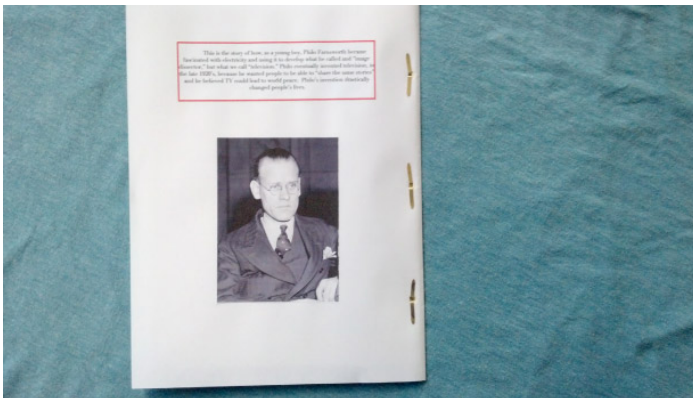


Binding Novelettes, Step 3

Place the pages of your graphic novelette (in order from table of contents to page 10) inside your cover and line up the hole-punches as well as you can. Place a brass brad in the center hole and fasten by spreading the tabs vertically across the back of your cover. Do the same with the other two holes.



Now you should be able to easily turn the bound pages of your graphic novelette.



Harris and Ewing. "television Inventor tells Economoc Committee of Difficulties getting Patents." 1939. Photograph, Library of Congress. [reproduction number LC-DIG-hec-25858]
John Atherton



Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Section 1, Splash Page	<ul style="list-style-type: none">_ Includes a title related to the content of this section_ Includes a three- to five-sentence informational caption that explains what people needed or wanted_ Thought bubble is a complete sentence that helps the reader understand what people wanted or needed_ Speech bubble is a complete sentence that helps the reader understand how people's needs were met, and by whom_ Includes at least two frames/panels with images of an important person, place, thing, or idea inside; frames/panels separated by gutters <p>Includes at least one of these visual elements:</p> <ul style="list-style-type: none">_ Close-up image_ Definition box (scientific)_ Definition box (academic)_ Diagram_ Ambient noise	Missing one to two of the criteria listed for a score of 4	Missing three of the criteria listed for a score of 4	Missing four or more criteria listed for a score of 4



Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Section 2	<ul style="list-style-type: none">_ Includes a title related to the content of this section_ Includes a three- to five-sentence informational caption that provides information about the inventor(s) background, special skills, and/or motivation to develop the invention_ Includes at least two frames/panels with images of an important person, place, thing, or idea inside; frames/panels separated by gutters <p>Includes at least one of these visual elements:</p> <ul style="list-style-type: none">_ Close-up image_ Definition box (scientific)_ Definition box (academic)_ Diagram_ Ambient noise_ Speech bubble with dialogue_ Thought bubble with dialogue	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4



Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Section 3	<ul style="list-style-type: none">_ Includes a title related to the content of this section_ Includes a three- to five-sentence caption that provides information about the inventor(s) process and solution_ Includes at least two frames/panels with images of an important person, place, thing, or idea inside; frames/panels separated by gutters <p>Includes at least one of these visual elements:</p> <ul style="list-style-type: none">_ Close-up image_ Definition box (scientific)_ Definition box (academic)_ Diagram_ Ambient noise_ Speech bubble with dialogue_ Thought bubble with dialogue	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4



Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Section 4	<ul style="list-style-type: none">_ Includes a title related to the content of this section_ Includes a three- to five-sentence caption that provides information about the inventor(s) process and solution_ Includes at least two frames/panels with images of an important person, place, thing, or idea inside; frames/panels separated by gutters <p>Includes at least one of these visual elements:</p> <ul style="list-style-type: none">_ Close-up image_ Definition box (scientific)_ Definition box (academic)_ Diagram_ Ambient noise_ Speech bubble with dialogue_ Thought bubble with dialogue	Missing one of the criteria listed for a score of “4.”	Missing two of the criteria listed for a score of “4.”	Missing three or more of the criteria listed for a score of “4.”



Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Narrative Elements	<ul style="list-style-type: none">_ Includes characters (inventor(s) and other people)_ Story sequence unfolds naturally_ Uses dialogue to develop experiences and events_ Uses a variety of transitional words and phrases to manage the sequence of events_ Uses sensory details to convey experiences and events_ Conclusion follows from the narrated experiences or events	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4



Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Language Conventions, Grammar, and Mechanics	There are almost no errors in grammar, spelling, and punctuation. The meaning is clear throughout the story.	There are a few errors in grammar, spelling, and punctuation, but the meaning is generally clear.	There are errors in grammar, spelling, and punctuation, demonstrating minimal control over language. The errors sometimes distract the reader and cause misunderstanding.	There are many errors in grammar, spelling, and punctuation, demonstrating little or no control over language. The errors often distract the reader and cause misunderstanding.
Glossary	<ul style="list-style-type: none"> _ Lists and clearly defines at least five key terms from the story _ Key terms are in alphabetical order. _ There is a combination of both academic and scientific terms. 	<ul style="list-style-type: none"> _ Lists and defines four of the key terms from the story _ Key terms are in alphabetical order. _ There is a combination of both academic and scientific terms. 	<ul style="list-style-type: none"> _ Lists and defines three or four of the key terms from the story _ Key terms are not in alphabetical order. _ Includes ONLY scientific or academic terms 	<ul style="list-style-type: none"> _ Lists and defines two or fewer key terms; or terms listed and defined are not key to the story. _ Key terms are not in alphabetical order. _ Includes ONLY scientific or academic terms (or no terms)



Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Citations	<p>_ Accurately cites all four expert texts from Lessons 2–5:</p> <p>*Last name of author comes before first name and is separated by a comma</p> <p>*Titles of books are italicized (or written in script/cursive)</p> <p>*Titles of articles are in quotes, and NOT italicized or scripted/cursive</p> <p>*If the text came from a website, the name of the website is listed after the name of the text.</p>	<p>_ Accurately cites only three of the expert texts; or cites all four expert texts, but inaccurately</p>	<p>_ Accurately cites only one or two of the expert texts; or cites two or three of the texts inaccurately</p>	<p>_ Does not cite any expert texts accurately; or does not cite expert texts at all</p>



Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Table of Contents	<ul style="list-style-type: none">_ Includes title (Table of Contents)_ Lists each section in order from 1–4_ Includes the name/title of each section_ Lists the page number where each section begins	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4
Cover	<ul style="list-style-type: none">_ Front cover includes a title that is related to overall content of the story_ Front cover includes author's name (and illustrator's name, if images are drawn)_ Front cover includes an image that is related to the invention and/or inventor_ Back cover includes a two- or three-sentence summary of the story and an image related the invention and/or inventor	Missing one of the criteria listed for a score of 4	Missing two of the criteria listed for a score of 4	Missing three or more of the criteria listed for a score of 4



Complete Graphic Novelette Rubric
(For Teacher Reference)

Score _____

Teacher comments: _____
