EXPEDITIONARY LEARNING

Grade 5: Module 2B: Unit 3:
Overview

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	**On-Demand Note-Taking and Text-Dependent Questions: "Garrett Augustus Morgan" or "How Did We Learn to Fly?"** 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.
End of Unit 3 Assessment	**Text-Dependent Questions and Story Board Draft: "You Can Do a Graphic Novel" Excerpt** 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.

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: *Max Axiom*	• 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.	• 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.	• Visual Element note-catcher • Reflection in Journal • Independent Reading Criteria Self-Assessment	• Tea Party protocol
Lesson 2	Expert Research Groups: How the Traffic Signal and Airplane Met Society's Needs, Part 1	• 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 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.	• Independent Reading Choice Board response (from homework) • Expert Text graphic organizer • Vocabulary task cards	• 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	• 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 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.	• 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)	• 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	• 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)	• 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.	• 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	• 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	• 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 form 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)	• 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.	• 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: *The Invention of Television*	• 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 sequences. (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.	• 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.	• Independent Reading Choice Board response (from homework) • Storyboard, Section 1 charts	• 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	• 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) 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)	• 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.	• 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	• Linking Words anchor chart
Lesson 8	Summarizing Notes: Planning a Graphic Novelette, Part III: The Invention of Television	• 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) a. I can include illustrations to aid comprehension. c. I can use precise language and domain-specific vocabulary to explain a topic. d. 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 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.	• Homework Task Card: Unit 3, Lesson 7: Brainstorming Visual Elements (from homework) • Storyboard, Section 4 Chart: How Television Changed People's Lives	• 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	• 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 illustration to aid comprehension. b. I can link ideas within and across categories of information using words, phrases, and clauses. c. 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)	• 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.	• 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	• 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		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	• 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)	• 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.	• 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	• 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	• 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.	• 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.	• 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	• 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	• 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)	• 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.	• Independent Reading Choice Board response (from homework) • End of Unit 3 Assessment: Storyboards (1-4) revised • Storyboard Criteria for Success form • Group Norms checklist	• 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	• 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 sequences 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)	• 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.	• Storyboard revisions (from homework) • Independent Reading Choice Board response (from homework) • End of Unit Assessment Storyboards (1-4) revised	• 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	• 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)	• 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.	• Graphic Novelette: Section 1 • Peer Critique based on Graphic Novelette: Section 1	• 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	• 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)	• 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.	• Graphic Novelette: Sections 2,3, and 4 • Peer critique based on Graphic Novelette rubric: Sections 2, 3 and 4	• 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	• 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)	• 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.	• Glossary page with key terms alphabetized • Citations page • Table of Contents page	• 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	• 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 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.	• Completed graphic novelette • Graphic Novelette presentations	• Group Norms anchor chart

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 17, continued		• 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. (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

By: S. Dalrymple

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Section 1: Why TV Was Invented

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.

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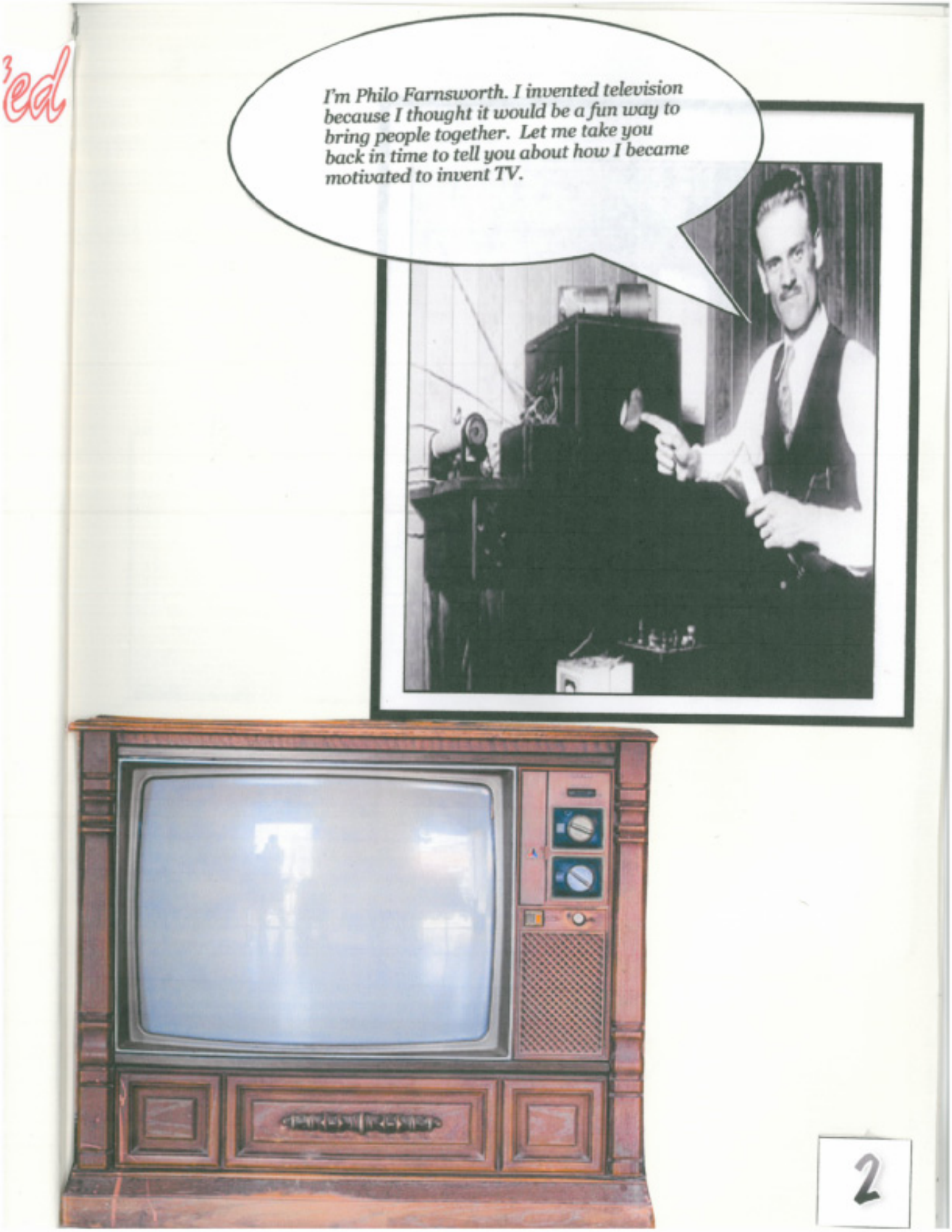


Section 2: Philo's Early Years

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.

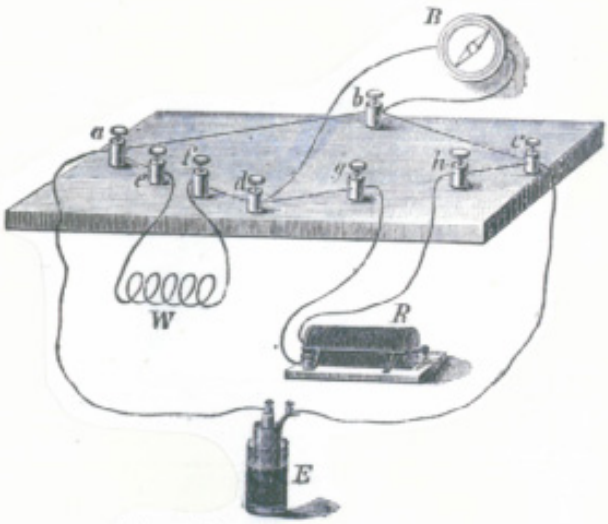
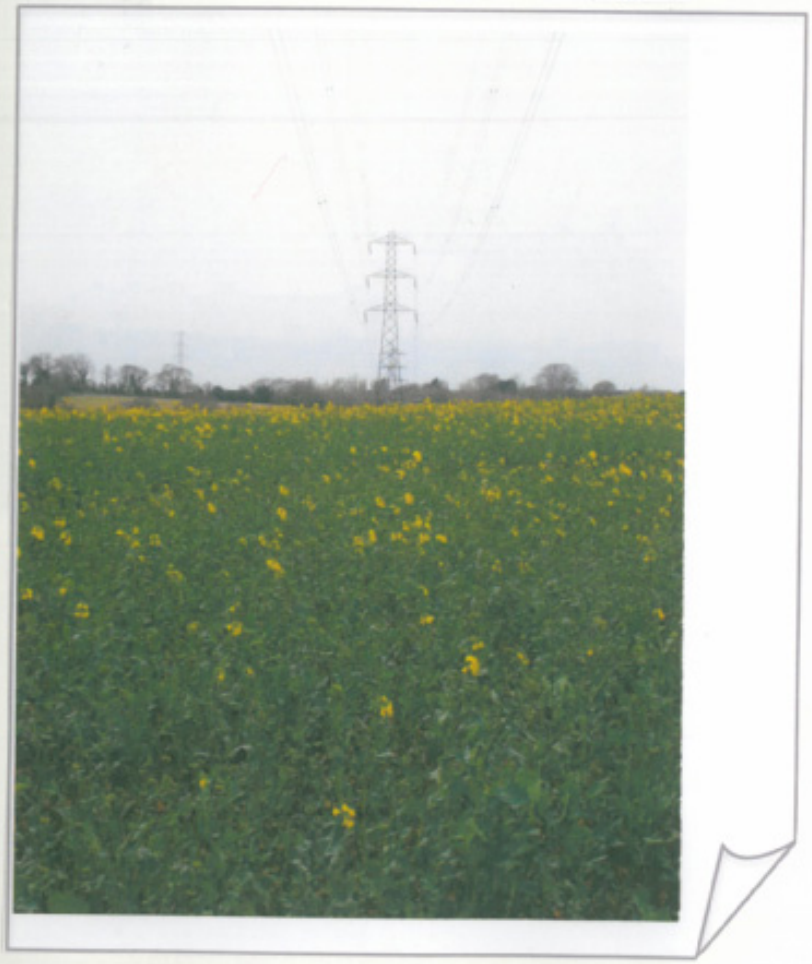
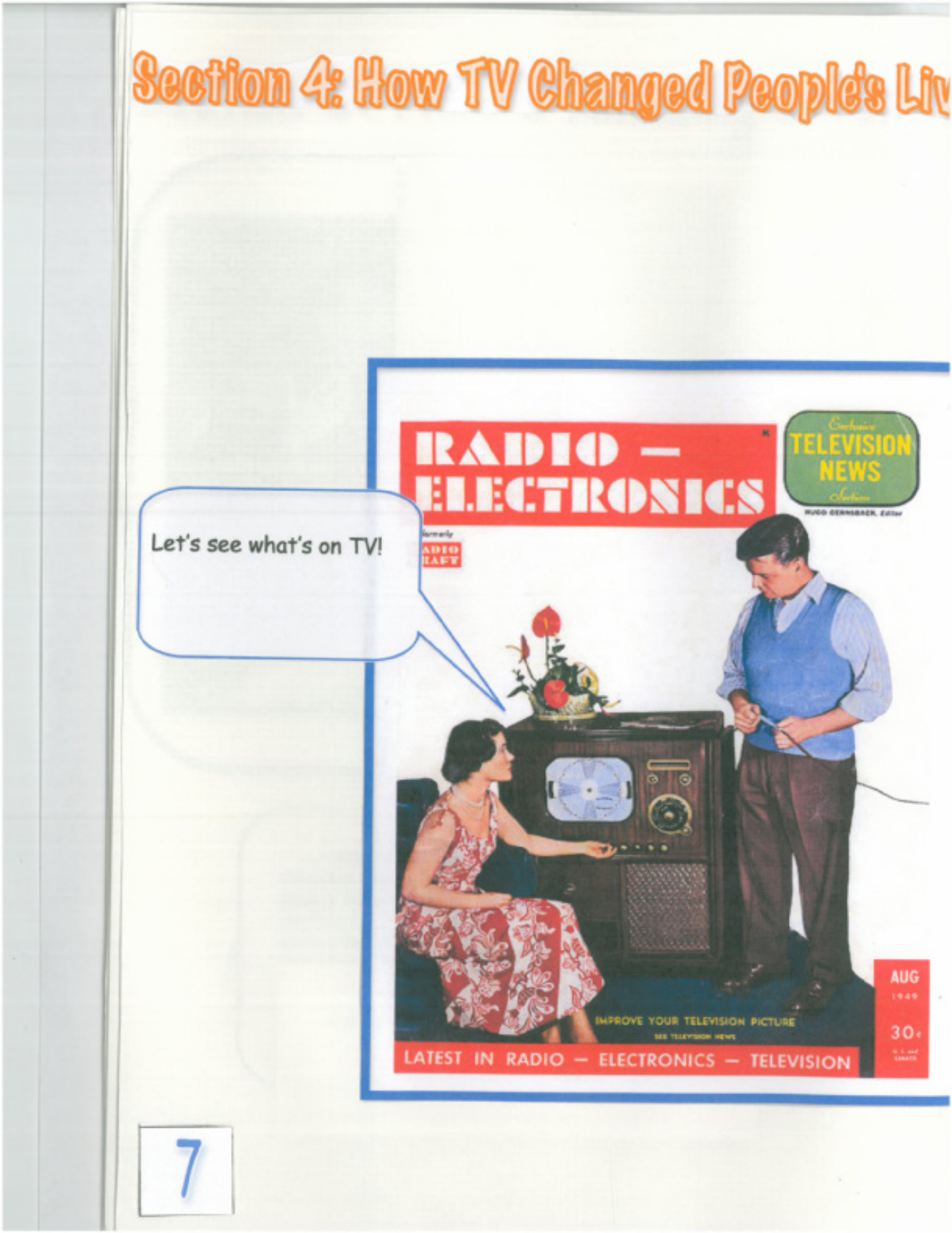


Fig. 118.



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!



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.

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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.

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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."

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This is the story of how, as a young boy, Philo Farnsworth became fascinated with electricity and using it to develop what he called and "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

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)			
Garrett Morgan, Inventor	Garnet Jackson (author)	Informational	450*
First Flight: The Story of Tom Tate and the Wright Brothers	George Shea (author) Don Bolognese (illustrator)	Informational	460
Eli Whitney and the Cotton Gin	Jessica Gunderson (author) Gerry Acerno, Rodney Ramos, and Charles Barnett III (illustrators)	Informational	580
The Mystery at Kill Devil Hills	Carole Marsh (author)	Literature	670
Garrett Morgan, Innovative Inventor	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)			
To Fly: The Story of the Wright Brothers	Wendie C. Old (author)	Informational	780
Race for the Sky: The Kitty Hawk Diaries of Johnny Moore	Dan Gutman (author)	Literature	880
What Color Is My World? The Lost History of the African American Inventor	Kareem Abdul-Jabbar (author)	Informational	910*
Girls Think of Everything	Catherine Thimmesh (author)	Informational	960
African American Scientists and Inventors	Tish Davidson (author)	Informational	970
Airborne: A Photobiography of Wilbur and Orville Wright	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)			
Inventing the Automobile	Erinn Banting (author)	Informational	1025*
Just Fine the Way They Are: From Dirt Roads to Railroads to Interstates	Connie Wooldridge (author)	Informational	1030
The Airplane	Richard Spilsbury (author)	Informational	1060
The Wright Brothers: How They Invented the Airplane	Russell Freedman (author)	Informational	1160
The Everything Guide to Writing Graphic Novels: From Superheroes to Manga—All You Need to Create and Sell Your Graphic Works	Mark Ellis (author)	Informational	No LXL

*Lexile based on a conversion from Accelerated Reading level.

EXPEDITIONARY LEARNING

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

Reviewing Visual Elements of a Graphic Novel: *Max Axiom*

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	Ongoing Assessment
• 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.	• Visual Element note-catcher • Reflection in Journal • Independent Reading Criteria Self-Assessment

Agenda	Teaching Notes
1. Opening A. Engaging the Reader: Revisiting the Guiding Questions (5 minutes) 2. Work Time A. Introducing the Performance Task: Writing a Graphic Novelette (15 minutes) B. Reviewing Visual Elements: *Max Axiom* (25 minutes) C. Selecting an Independent Reading Text (10 minutes) 3. Closing and Assessment A. Debrief and Review Learning Targets (5 minutes) 4. Homework A. Fluency practice and independent reading.	• 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 *Max Axiom* (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: – 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)
	• Post: Learning targets.

Lesson Vocabulary	Materials
novelette, make observations, ask questions, analyze, visual elements, contribute, quotes, explicitly, inferences, established, criteria, appropriate, expert, research	• 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) • *Investigating the Scientific Method with Max Axiom, Super Scientist* (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

A. Engaging the Reader: Revisiting the Guiding Questions (5 minutes)
• 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:
  * "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:
  * "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:
  * "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:
  – "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 *Max Axiom*, 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:
  – 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:
  * "How do new or improved technologies meet societal needs?"
	• To give all students access to the discussion, offer sentence frames: "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 _____."
	• Display the word *novelette* and a student-friendly definition to support all students, especially ELLs.

Opening (continued)	Meeting Students' Needs
• Remind them that this guiding question focused their work during Unit 2. Then prompt them to consider and discuss with a partner: – "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: – "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: – "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**: – "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 *novelette* 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: – "I know the word *novel* means a story. I think the last part of the word, *–ette*, 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

A. Introducing the Performance Task: Writing a Graphic Novelette (15 minutes)
• Direct students' attention to the posted learning targets and ask them to read the first one aloud together:
  * "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 *make observations* and *ask questions*.
• After 1 minute, invite a few students to share their thinking aloud with the class. Listen for:
  – "*Make observations* means to notice (and discuss) specific details about something."
  – "We *ask questions* 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:
  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.
	• 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
• 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. 1. First find the person who has the same text or image. 2. Then discuss your observations and/or questions (2 or 3 minutes). 3. Next, find a partner who has a different text or image related to the *same invention* that is on your card. 4. Discuss your observations and/or questions (2 or 3 minutes). 5. Finally, meet with at least one other peer who has text or an image about a *different invention* than the one on your card. 6. 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: * "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
• 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.	

B. Reviewing Visual Elements: *Max Axiom* (25 minutes)
• 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 Max Axiom.
• 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, ***Investigating the Scientific Method with Max Axiom, Super Scientist*** and move to join classmates who have the same visual element cards.
• Write these questions where all students can see them:
  * "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 *Max Axiom*, 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:
  – "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."
	• Consider directing students to reread Section 1 of *Max Axiom* 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

• Ask groups to discuss:
  * "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:
  – "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:
  * "I can analyze how the visual elements in *Max Axiom* contribute to my understanding of the steps Max takes to solve a problem."
• Draw students' attention to the terms *analyze*, *visual elements*, and *contribute*. 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:
  * "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 *Max Axiom*."
• 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:
  * "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
• 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.	

C. Selecting an Independent Reading Text (10 minutes)
• Tell students they will now select a new independent reading text for this unit.
• Read the final learning target aloud:
  * "I can use established criteria to select an appropriate text for independent reading."
• Draw students' attention to the terms *established* and *criteria*, 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:
  * "What does it mean for an independent reading text to be *appropriate*?"
• After 1 or 2 minutes, cold call a few students to share their thinking whole class. Listen for responses such as:
  – "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.
	• 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
• Have students share their book selection and reflection with a classmate. Ask partners to also consider and discuss: * "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

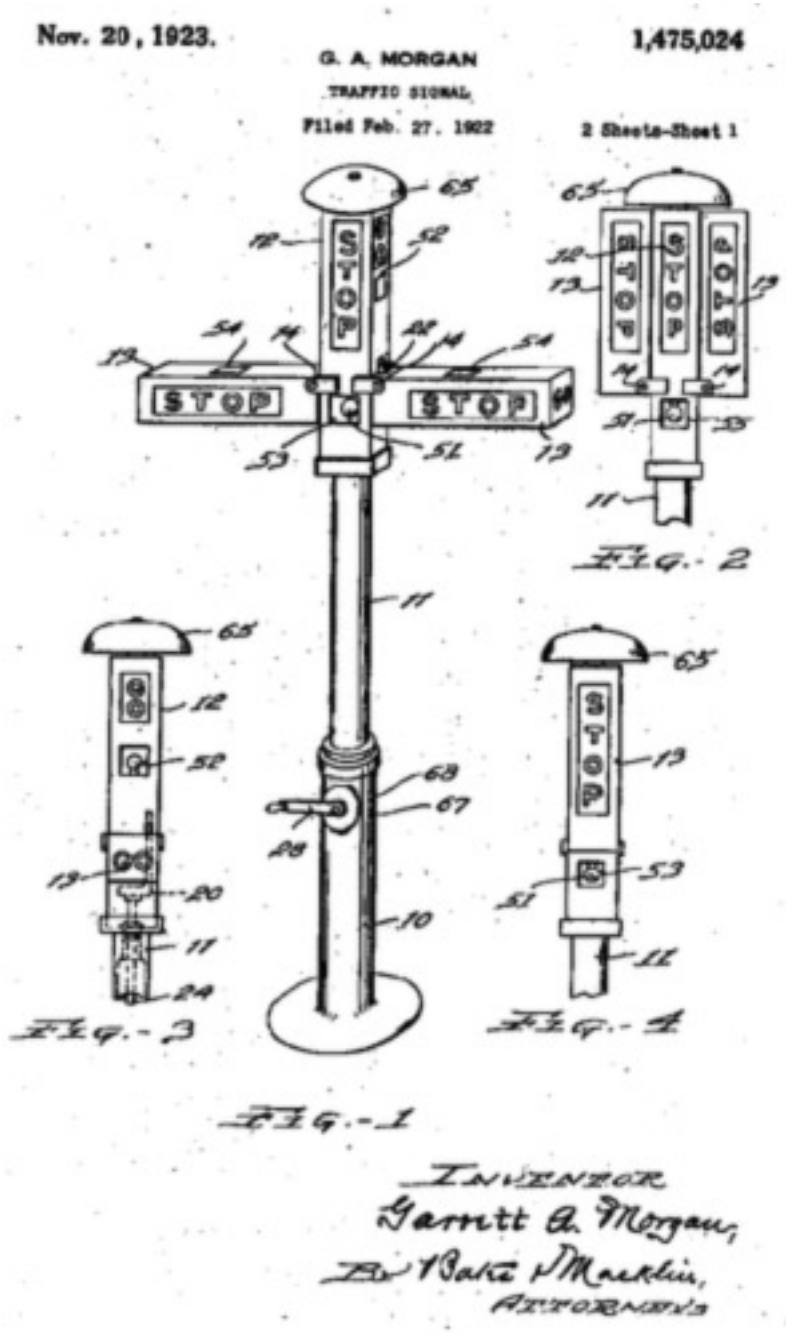
A. Debrief and Review Learning Targets (5 minutes)
• Direct students to:
  1. Set aside their new independent reading books and choice boards.
  2. Gather their journals and *Max Axiom* books and quickly find and sit with a partner who was *not* in their visual element group during today's lesson.
• Ask partners to consider and discuss:
  * "How do the visual elements in *Max Axiom* 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:
  – "The images in *Max Axiom* 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.
	• Offer a sentence frame to support ELLs in the discussion: "The visual elements in *Max Axiom* 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
• Read independently for at least 30 minutes. Complete one box on your new Independent Reading Choice Board. • Choose one page from the graphic novel *Investigating the Scientific Method with Max Axiom, Super Scientist* 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. *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.*	• 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

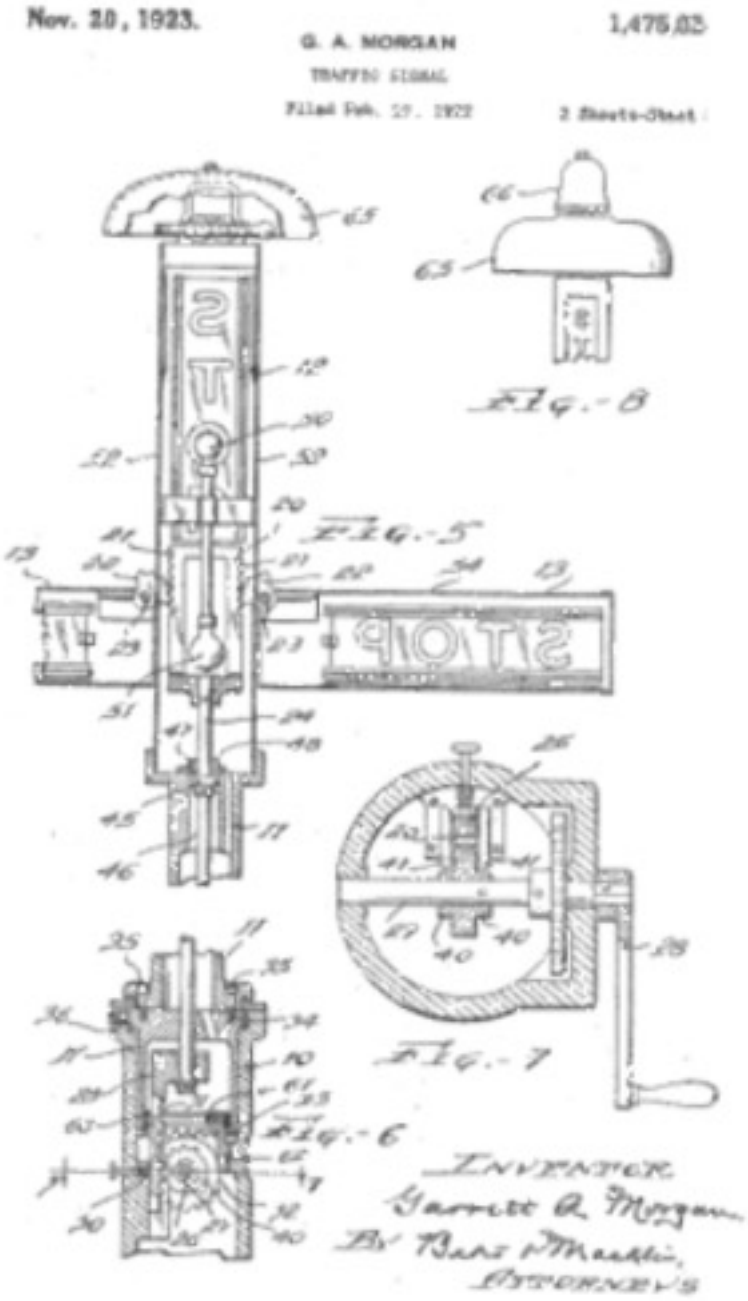
Grade 5: Module 2B: Unit 3: Lesson 1
Supporting Materials

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.

United States Department of Transportation

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;

"Congressional Record110th Congress (2007-2008)." Congressional Record. Web. 24 Feb. 2014. <http://thomas.loc.gov/cgi-bin/query/z?r110:H13FE8-0031:>.

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.

www.sos.state.oh.us/SOS/ProfileOhio/OhioTechnology.aspx

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

Chanute, Octave--Photographs, Kitty Hawk, North Carolina, Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

Tea Party Cards:
Telegram about First Flight at Kitty Hawk

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Kitty Hawk N C Dec 17

Bishop M Wright

7 Hawthorne St

Success four flights thursday morning all against twenty one mile wind started from Level with engine power alone average speed through air thirty one miles longest 57 seconds inform Press home ~~Christ~~ Christmas .

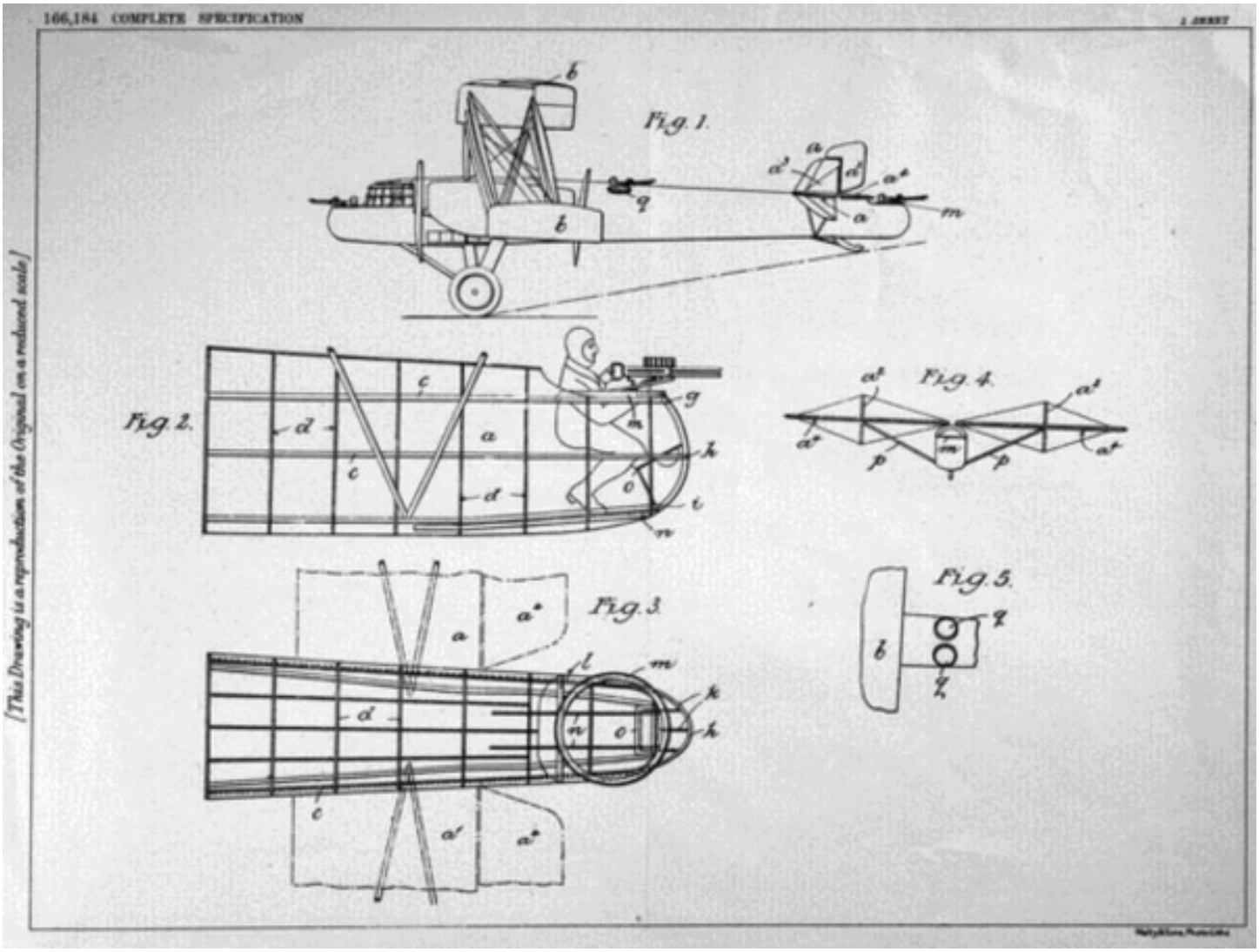
Orevelle Wright 525P

Chanute, Octave--Photographs, Kitty Hawk, North Carolina, Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

Tea Party Cards:
Postcard from Wilbur to Orville Wright

Wilbur Wright and Orville Wright Papers: Correspondence-Wright; Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

Tea Party Cards:
Airplane Design



Wilbur Wright and Orville Wright Papers: Correspondence-Wright; Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

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."

Leonardo daVinci
Orville Wright

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:** • 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:** • 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:** • 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? How do the visual elements support your understanding of the text?	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 does the structure support your understanding of the text?

Independent Reading Choice Board

BOOK SELECTION Why did you choose this independent reading text? Do you think you made a good choice? Explain. Use specific examples from the text to support your reasoning.	**Complete this square last* **What qualities will you look for in the next book you read?** (e.g., same author, similar visual features, more/less challenging, etc.)	RECOMMENDATION Would you recommend this book and/or this author to someone else? Explain. Use specific examples from the text to support your reasoning.
VOCABULARY 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.	READABILITY Is your independent reading book too hard, just right, or too easy? Explain. Use specific details from the text in your explanation.	INTEREST Do you find this book interesting? Explain. Give reasons and use specific examples from the text to support your opinion.

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*

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

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	Ongoing Assessment
• 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.	• Independent Reading Choice Board response (from homework) • Expert Text graphic organizer • Vocabulary task cards

Agenda	Teaching Notes
1. Opening A. Homework Review and Engaging the Reader: Scientific Inquiry (10 minutes) 2. Work Time 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 A. Debrief and Review Learning Targets (5 minutes) 4. Homework A. Independent research. B. Independent reading.	• 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: – 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)
	– 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
conduct research, take notes, invention, developed, explain, needed/needs, met, quotes, determine, meaning, context From "Transportation, from the Soapbox Derby to the Jeep: First Automatic Traffic Signal": automatic, traffic, signal, congested, manufacturing, mechanics, acquire, extensively From "Wright Brothers: Inventors of the Airplane": airplane, craft, engine, previously, glider, propellers, pioneers, aerodynamics	• Document camera • Journals (begun in Unit 1, Lesson 1; one per student) • *Investigating the Scientific Method with Max Axiom, Super Scientist* (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

A. Homework Review and Engaging the Reader: Scientific Inquiry (10 minutes)
• Display expert research triads using a **document camera**.
• Direct students to quickly collect their **journal** and book, ***Investigating the Scientific Method with Max Axiom, Super Scientist***, before sitting in their triad groups.
• Ask students to locate the page in *Max Axiom* 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 *Max Axiom* and focus on the upper-most speech bubble in the lower right-hand frame.
• Read the speech bubble aloud:
  * "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:
  * "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?"
	• 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
• 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: – "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

A. Determining the Gist: Expert Text 1 (10 minutes)
• 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:
  * "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:
  – "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.
	• 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

B. Introducing the Expert Text Note-catcher: "The TV Guy" (25 minutes)
• Direct students' attention to the first two learning targets and read them aloud:
  * "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 *invention* and *developed* 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:
  – "An *invention* is a device that is created to perform a specific task or meet a specific need."
  – "*Developed* 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:
  – "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 *relevant* details.
• After 1 minute, invite a few to share out what they recall about determining *relevant* details. Listen for:
  – "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."
	• 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

• 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:
  * "Background information about the INVENTION: Explain why people needed or wanted this invention."
• Draw students' attention to the terms *needed* and *wanted*. 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 *history*, *motivation*, *skills*, and *preparation*.
• Ask triads to discuss the meaning of each term.
• After 1 or 2 minutes, cold call several students to share their thinking. Listen for:
  – "*History* in this context means the events from the inventor(s) past, the events that happened before he/they created the invention."
  – "*Motivation* is what inspires someone and pushes them to keep going."
  – "*Skills* are abilities or talents."
  – "*Preparation* 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 *solution*, 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
• Focus students on the term *impact* 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 *impact* 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: – "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
• 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: – "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: – "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: – "How were people's needs met, and by whom?"	

Work Time (continued)	Meeting Students' Needs
• 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: 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

C. Vocabulary to Deepen Understanding (10 minutes)
• Direct students' attention to the third learning target and read it aloud:
  * "I can determine the meaning of unfamiliar words and phrases by using context clues and other strategies."
• Point out the terms *determine*, *unfamiliar*, and *context*.
• 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:
  – "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 *Max Axiom* 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)**.
	• 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
A. Debrief and Review Learning Targets (5 minutes) • 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.	• 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
• 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.** *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.* *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.* *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.*	

EXPEDITIONARY LEARNING

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

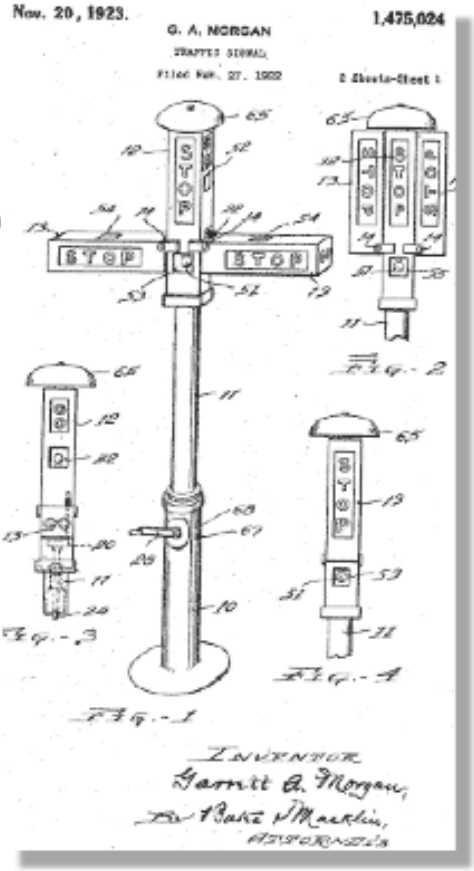
"Transportation, From the Soapbox Derby to the Jeep: First Automatic Traffic Signal"

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

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	Ongoing Assessment
• 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.	• 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
1. Opening A. Homework Review and Engaging the Reader (5 minutes) 2. Work Time A. Determining the Gist: Expert Text 2 (15 minutes) B. Second Read: Close Reading Guide: "Garrett Morgan: Inventor Hero" or Expert Text Note-catcher: The Airplane (30 minutes) 3. Closing and Assessment A. Debrief and Review Learning Targets (10 minutes) 4. Homework A. Splash Page sketch. B. Independent reading.	• 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: – 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
conduct research, take notes, invention, developed, explain, needed/needs, met, quotes, determine, meaning, context From "Garrett Morgan: Inventor Hero": prevent, tragedy, visible, caution, intersection, oncoming From "The Invention of the Airplane": tackling, field, interest, attempts, manufacture, substantial, regarding, capacity	• 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
A. Homework Review and Engaging the Reader (5 minutes) • 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: 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: * "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: – "The word *pioneers* 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 *congested* 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.	• 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
A. Determining the Gist: Expert Text 2 (15 minutes) • 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. – Airplane expert group key terms: *tackling*, *field*, *interest*, *attempts*, *manufacture*, *substantial*, *regarding*, *capacity* – Traffic signal expert group key terms: *prevent*, *tragedy*, *visible*, *caution*, *intersection*, *oncoming* • 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: 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: – "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."	• 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

B. Second Read: Close Reading Guide: "Garrett Morgan: Inventor Hero" or Expert Text Note-catcher: The Airplane (30 minutes)
• Focus students' attention on the 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."
• Underline the key terms students are familiar with from previous units and lessons: *conduct research*, *take notes*, *invention*, *developed*, *explain*, *needed/needs*, *met*, *quotes*, *determine*, *meaning*, and *context*. Point out that these are the same targets they worked on during the previous lesson. Ask triads to discuss:
  * "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:
  – "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:
  * "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.
	• 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
• 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: 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 *not* 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

• 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:
  * "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:
  – "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.	

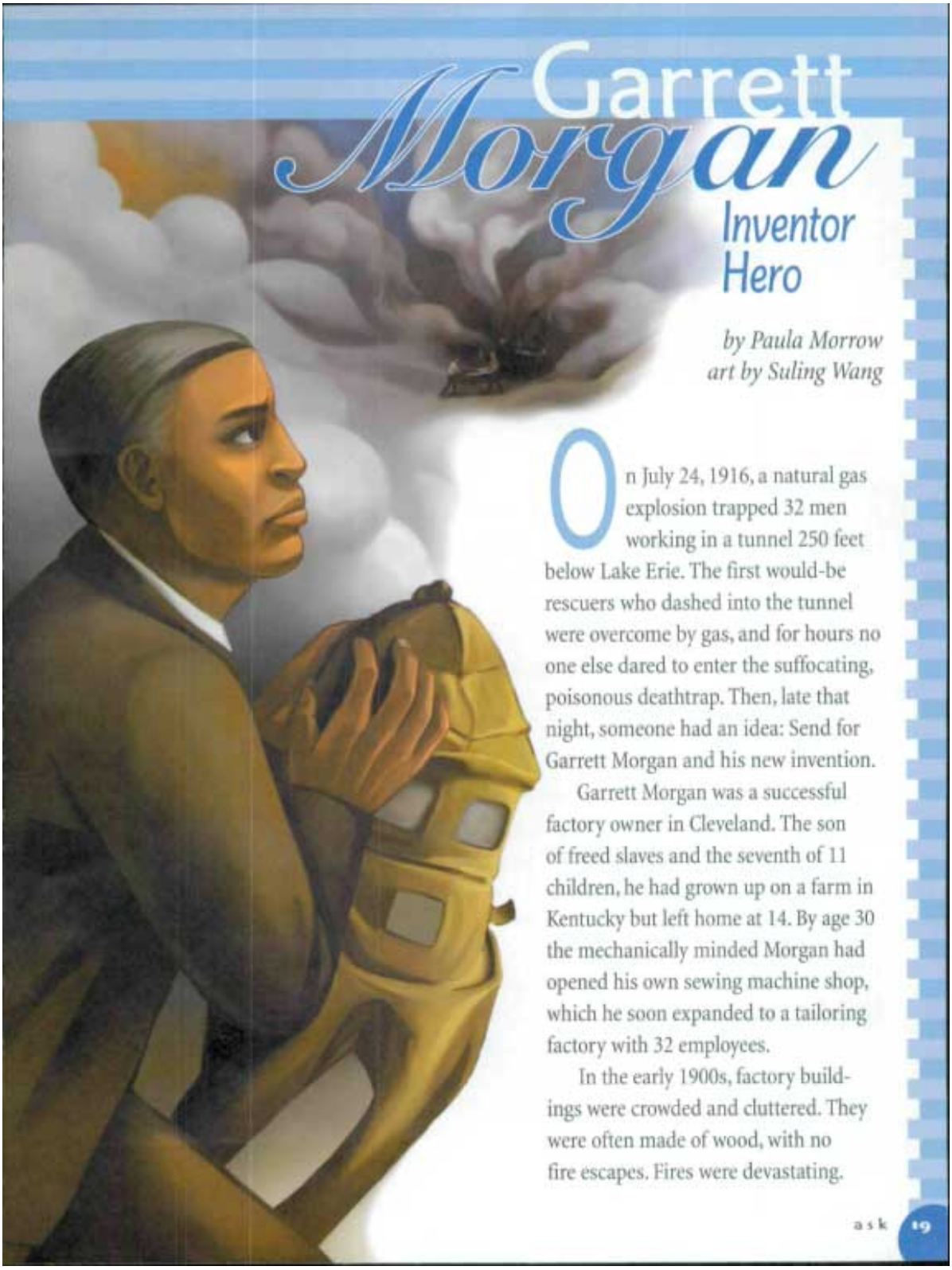
Closing and Assessment	Meeting Students' Needs
A. Debrief and Review Learning Targets (10 minutes) • Review the Hot Seat protocol with students and clarify directions as needed. • Have them check under their seats for a **Hot Seat Ticket** and locate the number on their ticket. Explain that this number 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: – "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.	• 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
• 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**
• 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. *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.* *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.*	

EXPEDITIONARY LEARNING

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

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

Paula Morrow (Ask Magazine, Carus Publishing) http://www.askmagkids.com/

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.

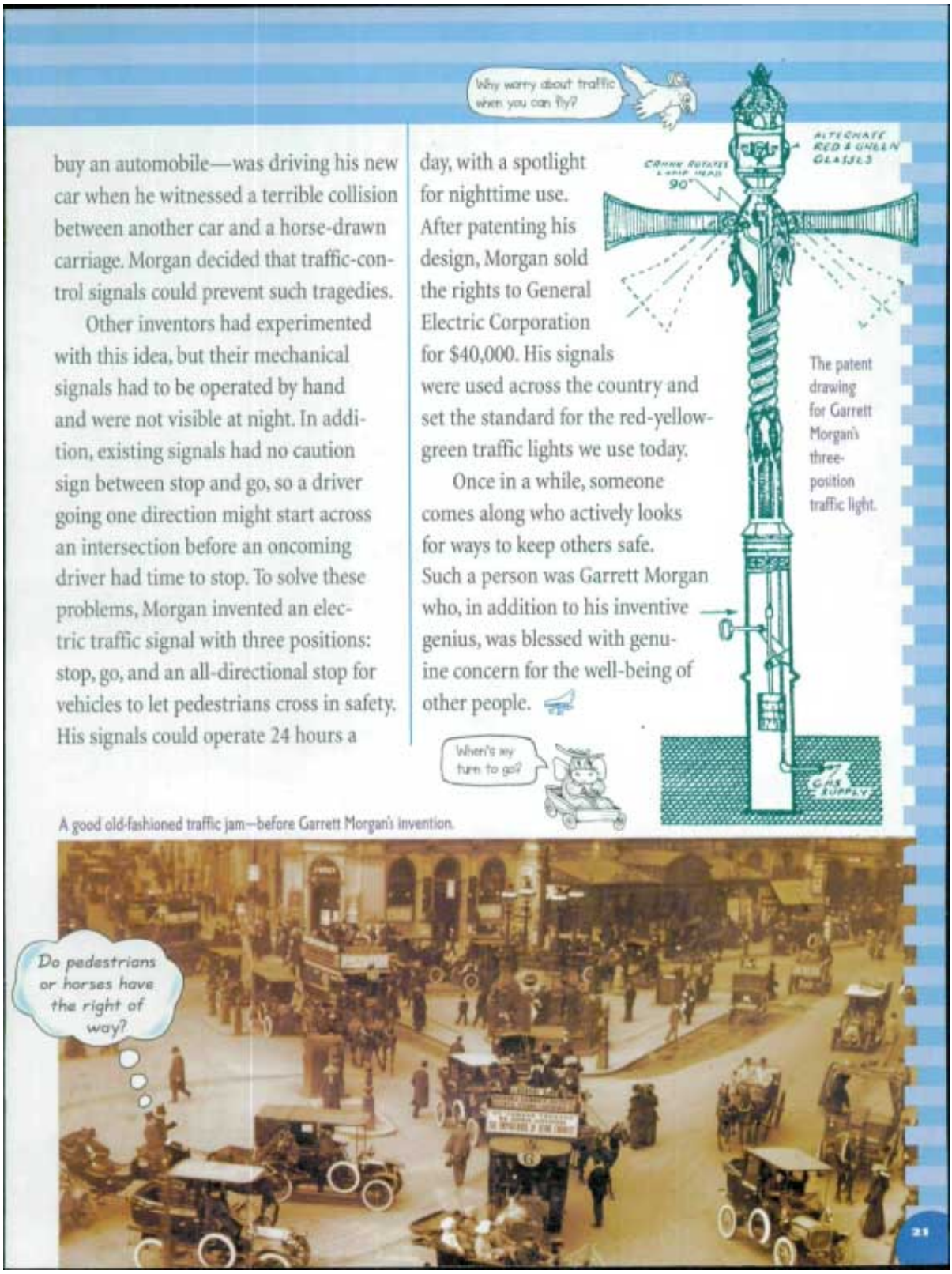
Anxious survivors of the tunnel disaster wait to see if Garrett Morgan's invention will save the trapped workers.

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



Why worry about traffic when you can fly?

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.

When's my turn to go?

The patent drawing for Garrett Morgan's three-position traffic light.

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.

Shashank Nakate/Buzzle.com

Invention of the Traffic Signal note-catcher

Refer to the article "Garrett Morgan: Inventor Hero" to help you respond to these questions.

Reread Paragraph 2 silently; then use details from the text to answer the questions on the right.	Locate and circle the phrase "mechanically minded." What do you think "mechanically minded" means? What words from the text make you think so? Underline the parts of this paragraph that explain how Garrett Morgan demonstrated he was "mechanically minded."
Whisper read Paragraph 6, then use details from the text to answer the questions on the right.	Why did Garrett Morgan think people needed a traffic-control signal?

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.

Reread Paragraph 8 aloud together with your group members, then use details from the text to answer the questions on the right.	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. How did these qualities lead Garrett Morgan to the development of his traffic-control signal?
Refer to the visual elements at the end of the article.	What types of visual elements are used to help the reader understand what people's problem was? Explain. What types of visual elements are used to help the reader understand the solution to people's problem? Explain.
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 what people needed. How did Garrett Morgan's invention of the traffic-control signal meet people's needs?

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.	Locate and circle the phrase "mechanically minded." What do you think "mechanically minded" means? What words from the text make you think so? Underline the parts of this paragraph that explain how Garrett Morgan demonstrated he was "mechanically minded."	Give students 1 or 2 minutes to read the second paragraph and circle the phrase "mechanically minded." 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). 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: *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.* Ask students to record a response to the first question, then read the second question aloud. Draw their attention to the word *demonstrated*. Ask them to quickly discuss what they think *demonstrated* means. After 1 minute, invite one or two students to share their thinking. Listen for: Demonstrated *means showed what someone did.*

Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
		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: *Garrett Morgan demonstrated he was mechanically minded because he was "a successful factory owner (in Cleveland)"; by age 30 he had opened his own sewing machine shop; he "expanded to a tailoring factory (with 32 employees)."*
Whisper read Paragraph 6, then use details from the text to answer the questions on the right.	Why did Garrett Morgan think people needed a traffic-control signal?	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: *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.*

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.	What were some of the problems with other inventors' ideas for a traffic signal?	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: *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."*
	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.	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: *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.*

Invention of the Traffic Signal: Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
	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?	As time allows, consider asking students to come to the front of the classroom to dramatize the problems and solutions they describe. 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: *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.*

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.	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. How did these qualities lead Garrett Morgan to the development of his traffic-control signal?	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: *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.* 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: *Garrett Morgan was a great inventor who wanted nothing more than to make people's lives safer.* Ask students to read and restate the second question in their own words. Invite a few to share out how they restated the question. 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: *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.*

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.	What types of visual elements are used to help the reader understand what people's problem was? Explain. What types of visual elements are used to help the reader understand the solution to people's problem? Explain.	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: *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?"* 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: *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.*

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.	In your own words, explain what people needed. How did Garrett Morgan's invention of the traffic-control signal meet people's needs?	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: *People needed a way to avoid collisions in busy intersections and a way for pedestrians to cross intersections safely.* 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: *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).*

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 INVENTION
Explain why people needed or wanted this invention.

- "Many attempts to manufacture an airplane had earlier met with failure."
- People had wanted to invent airplanes since the time of Leonardo da Vinci.

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

1 How did the invention you are studying change people's lives?	1 How did the invention you are studying change people's lives?
2 What special skills helped the inventor(s) you are learning about succeed where others did not?	2 What special skills helped the inventor(s) you are learning about succeed where others did not?
3 Which three vocabulary terms do you think are most important to the gist of the article you read? Explain your thinking.	3 Which three vocabulary terms do you think are most important to the gist of the article you read? Explain your thinking.
4 Which quote from the text best helps you explain how people's needs were met by this invention?	4 Which quote from the text best helps you explain how people's needs were met by this invention?
5 What similarities do you notice between the inventor you are studying and Philo Farnsworth?	5 What similarities do you notice between the inventor you are studying and Philo Farnsworth?

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

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	Ongoing Assessment
• 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.	• 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
1. Opening A. Homework Review and Engaging the Reader (5 minutes) 2. Work Time A. Determining the Gist: Expert Text 3 (10 minutes) B. Second Read: Close Reading Guide: "Airplane" or Expert Text Note-catcher: "The Two-Fold Genius of Garrett Morgan" (30 minutes) C. Drawing on Information from Multiple Sources to Answer Questions Quickly (10 minutes) 3. Closing and Assessment A. Debrief and Review Learning Targets (5 minutes) 4. Homework A. Graphic Novel Sketch, Part 2. B. Independent reading.	• 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: – Review the Gallery Walk protocol (see Appendix) for Work Time A. • Post: Learning targets, lesson vocabulary from expert texts.

Lesson Vocabulary	Materials
conduct research, take notes, invention, developed, explain, needed/needs, met, quotes, drawing, multiple resources From "The Twofold Genius of Garrett Morgan": apprentice, equipment, running, transportation, eventually From "Airplane": unreliable, destination, accomplish, efficient, requirement	• 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
A. Homework Review and Engaging the Reader (5 minutes) • 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.	• Offer to scribe for students who struggle with the physical act of writing to capture their praises and questions.

Work Time	Meeting Students' Needs
A. Determining the Gist: Expert Text 3 (10 minutes) • 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: – Traffic signal expert groups: *apprentice*, *equipment*, *running*, *transportation*, *eventually* – Airplane expert groups: *unreliable*, *destination*, *accomplish*, *efficient*, *requirement* • 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: 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.	• 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
• 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: – "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."	
B. Second Read: Close Reading Guide: "Airplane" or Expert Text Note-catcher: "The Twofold Genius of Garrett Morgan" (30 minutes) • Focus students' attention on the first two 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." • Underline the key terms students are familiar with from previous units and lessons: *conduct research*, *take notes*, *invention*, *developed*, *explain*, *needed/needs*, *met*, and *quotes*. 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: * "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.	• 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
• 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: 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 *not* 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: * "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?"	• 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
• After 1 or 2 minutes, cold call a few students to share out. Listen for ideas like: – "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.	
C. Drawing on Information from Multiple Sources to Answer Questions Quickly (10 minutes) • 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. * 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: * "I can answer a question quickly, drawing on information from multiple sources." • Help students focus on the terms *drawing*, *multiple*, and *sources*.	• 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 *drawing*, *multiple*, and *sources* to support ELLs.

Work Time (continued)	Meeting Students' Needs
• 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: – "*Drawing* 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; *multiply* means when you add the same number more than one time. I think *multiple* and *multiply* have the same root, so I determined that *multiple* means more than one. When I tried that in the sentence, it made sense." – "I remembered that *sources* 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 *quickly*. • 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. * 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: – "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."	• 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
– "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. * 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: – "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. * 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: – "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

A. Debrief and Review Learning Targets (5 minutes)
• Direct students to the learning targets and ask:
  * "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:
  – "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**.
	• Provide a sentence frame to support all students in responding to this prompt: "I have worked toward _____ by_____."

Homework	Meeting Students' Needs
• 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. *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.* *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.*	• 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

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.

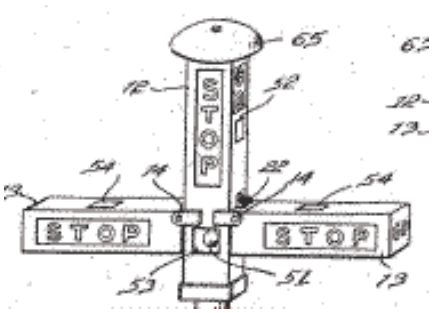
Yet, until the beginning of the 20th century, the idea of a practical flying machine was only a dream. Balloons and gliders had been flown before 1900, but they were unreliable and could not carry a person over a long distance and land at a chosen destination. It was not until Orville and Wilbur Wright 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 New Book of Knowledge. Grolier Online, 2013. Web. 16 Sept. 2013

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.

Whisper read Paragraph 1, then use details from the text to answer the questions on the right.	Locate and circle the word *increase* in this paragraph. Underline the words from the text that help you determine the meaning of *increase*. What does it mean? Locate and circle the word *decrease* in this paragraph. Underline parts of the word and/or words from the text that help you determine the meaning of *decrease*. What does it mean?
Reread Paragraph 2 aloud with group members; then use details from the text to answer the questions on the right.	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." How was the Wright brothers' *Flyer* different from previous "flying machines"? Why do you think "powered, controllable aircraft" were able to do what earlier flying machines could not?

Invention of the Airplane Note-catcher

Directions: Refer to the article "Airplane" to help you respond to these questions.

Reread Paragraph 3 silently; then use details from the text to answer the questions on the right.	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. Sketch a picture to show what larger airplanes need to become airborne. Explain what airplanes do for people.
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.

Expert Text Note-catcher: Traffic Signal

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.

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.	Locate and circle the word *increase* in this paragraph. Underline the words from the text that help you determine the meaning of *increase*. What does it mean? Locate and circle the word *decrease* in this paragraph. Underline parts of the word and/or words from the text that help you determine the meaning of *decrease*. What does it mean?	Allow students 2 or 3 minutes to whisper read, circle, underline, and work with group members to determine the meaning of the word *increase*. Invite a few students to share out what they think *increase* means and which words or phrases they underlined to help them determine the meaning. Listen for: *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.* Allow students 2 or 3 minutes to whisper read, circle, underline, and work with group members to determine the meaning of the word *decrease*. Invite a few students to share out what they think *decrease* means and which words or phrases they underlined to help them determine the meaning. Listen for: *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.*

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.	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."	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: *Balloons and gliders were unreliable; they could not carry people long distances; they could not land at a "chosen destination."*
	How was the Wright brothers' *Flyer* different from previous "flying machines"?	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: *The Wright brothers'* Flyer *was the first "powered, controllable aircraft."*
	Why do you think "powered, controllable aircraft" were able to do what earlier flying machines could not?	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: *A powered, controllable aircraft would be reliable, able to take people long distances, and able to take people to specific destinations.*

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.	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. Sketch a picture to show what larger airplanes need to become airborne. Explain what airplanes do for people.	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: *The designer will have to make sure there is efficient power or the capacity to store a lot of fuel.* 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 *airborne* by thinking about the meaning of familiar parts of this word: *air-* and *-borne*. After 1 minute, ask a few students to share their thinking aloud. Listen for: *I think* airborne *means going up in the air.* 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: *I drew a plane with a large engine and bigger wings because the article says that larger planes need larger engines and wings.*

Invention of the Airplane Close Reading Guide
(For Teacher Reference)

Directions	Questions	Teaching Notes
		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: *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."*
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.	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: *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.*

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

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	Ongoing Assessment
• 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.	• Graphic Novel Sketch, Part 2 (from homework) • Mid-Unit Assessment A or B • Tracking My Progress, Mid-Unit 3 recording forms

Agenda	Teaching Notes
1. Opening A. Homework Review and Engaging the Reader (10 minutes) B. Review Learning Targets (5 minutes) 2. Work Time A. Mid-Unit 3 Assessment (30 minutes) B. Reflection on Learning Targets (10 minutes) 3. Closing and Assessment A. Debrief: Sharing Reflections on Learning Targets (5 minutes) 4. Homework A. Read independently.	• 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 ELACCSS 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	• 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: – "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: – "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
A. Homework Review and Engaging the Reader (10 minutes) • 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: * "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."	• 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
B. Review Learning Targets (5 minutes) • Read aloud each learning target. Ask students to pay attention to familiar vocabulary words and be ready to share their meaning. ∗ "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. – *develop*: change or grow over time – *society*: civilization, people, group – *needs*: wishes, desires, requirements – *quotes*: written accounts of someone's exact words – *drawing*: pulling something from – *sources*: providers of information – *unfamiliar*: new	

Work Time	Meeting Students' Needs
A. Mid-Unit 3 Assessment 30 minutes) • 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: – **"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: – **"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: – **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: 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).**	• 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
B. Reflection on Learning Targets (10 minutes) • 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
A. Debrief: Sharing Reflections on Learning Targets (5 minutes) • 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.	• 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**
• Read independently for at least 30 minutes and respond to one question on your **Independent Reading Choice Board**. *Notes: Score students' Expert Text note-catchers from this assessment and be prepared to return them by Lessons 9* *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.*	• 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

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

What need or want inspired the development of this invention?

How were people's needs met, and by whom?

Expert Text Note-catcher

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.

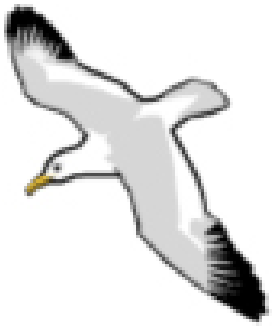
   If you wanted to know what intersections were like *before* Garrett Morgan's invention of the traffic light, which ONE of the four articles listed above would be best? Explain how you made your decision (refer to visual elements and text from the article).

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.

	**1485 Leonardo da Vinci - The Ornithopter**
	**1783 Joseph and Jacques Montgolfier, the first hot air balloon**
	**1799–1850s George Cayley**
	**1891 Lilienthal's Glider in Flight**
	**A Drawing of a Wright Brothers Glider (1900)**

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 Wright Brothers' Flyer

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.

Actual Flight of the Flyer at Kitty Hawk

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.

NASA. "History of Flight." Web. 06 Feb. 2014. <http://www.grc.nasa.gov/WWW/k-12/UEET/StudentSite/historyofflight.html

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)

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.

Expert Text Note-catcher

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."

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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*

Summarizing Notes:

Planning a Graphic Novelette, Part I: *The Invention of Television*

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	Ongoing Assessment
• 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.	• Independent Reading Choice Board response (from homework) • Storyboard, Section 1 charts

Agenda	Teaching Notes
1. Opening A. Homework Review and Engaging the Reader (5 minutes) 2. Work Time 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 A. Debrief and Review Learning Targets (10 minutes) 4. Homework A. Independent reading. B. Homework task card.	• 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: – 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 *The Boy Who Invented TV*. – 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)
	– 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	• Independent Reading Criteria anchor chart (new; teacher-created) • *Investigating the Scientific Method with Max Axiom, Super Scientist* (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) – Model Expert Text Note-catcher 1: "The TV Guy" – Model Expert Text Note-catcher 2: *The Boy Who Invented TV* • 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
A. Homework Review and Engaging the Reader (5 minutes) • 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: * "Which has been your *best* 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.	• 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

A. Introducing Storyboards: Writing a Summary Paragraph for Storyboard, Section 1: The Television (25 minutes)
• Ask students to quickly collect their book ***Investigating the Scientific Method with Max Axiom, Super Scientist*** and sit in their triads.
• Read the first learning target aloud"
  * "I can explain what life was like before television by summarizing my notes on a storyboard."
• Draw students' attention to the term *summarizing*, which has been discussed in previous lessons.
• Encourage students to use context clues, including their knowledge of the term *summarizing*, as they discuss the meaning of the new term, *storyboard*, in their triads.
• After 1 minute, invite a few students to share possible definitions for the term *storyboard*. They may generate ideas such as:
  – "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, *Max Axiom*."
• Direct students to open their *Max Axiom* texts to pages 4 and 5.
• Ask them to consider the visual elements and text on page 4 *only*:
  * "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.**
	• 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
• 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.	• 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

B. Using Narrative Techniques to Add to the Storyboard (20 minutes)
• Read the second learning target aloud:
  * "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 *inspired*, *development*, and *dialogue* and clarify definitions if needed.
• Underline the phrase *narrative techniques*. 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:
  * "I can introduce the character who invented television by including descriptive details."
• Focus students attention on the familiar terms *introduce*, *character*, *including*, and *descriptive details*. 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 *Max Axiom*. 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:
  * "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:
  – "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."
	• To support visual learners, display a working definition of *narrative techniques* 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

• 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:
  * "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:
  – "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:
  – "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.
	• 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

• Ask students to read the text in the thought bubbles on each of the note-catchers in their note-catcher packets before discussing:
  * "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 *Max Axiom* and read the speech bubbles aloud together.
• Invite several students to explain what information is communicated on page 5 of *Max Axiom*.
• 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:
  * "What might Philo Farnsworth say to introduce himself and explain how he met people's needs?"	

Work Time (continued)	Meeting Students' Needs
• After 1 or 2 minutes, cold call several students to share their thinking aloud. Listen for ideas such as: – "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
A. Debrief and Review Learning Targets (10 minutes) • 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: – "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: * "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: * "How do the storyboards you created today demonstrate progress toward each of the learning targets?"	• 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
• After 2 or 3 minutes, cold call several students to share their thinking whole class. Listen for responses such as: – "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**
• 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.	• 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

Independent Reading Criteria Anchor Chart

Interest	**Some ways interest can be detected:** • 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:** • 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 *you*:** • 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.

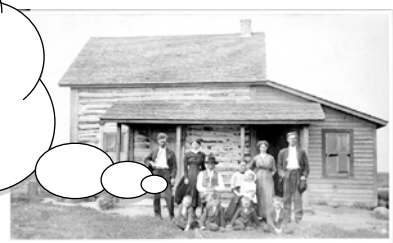
Storyboard, Section 1 Chart:
The Television

Why Invent Television?

Storyboard, Section 1 Chart:
The Television (Answers, for Teacher Reference)

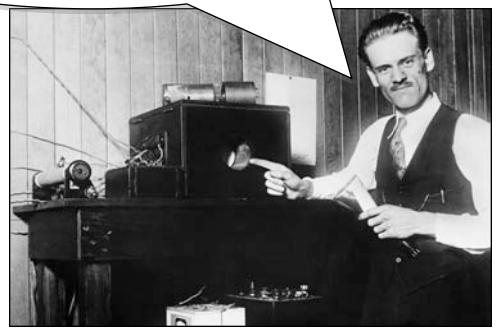
Why Invent Television?

We spend so much time doing chores and live so far away from friends and family. I wish we had something fun to do.



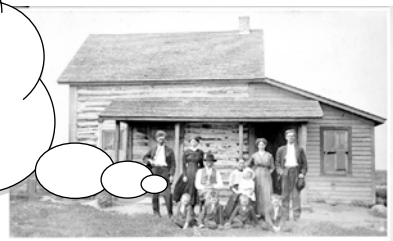
People wanted an invention like the television for entertainment and communication. People who lived on farms before the television was invented did not have very many things to do for fun. It was also hard for them to communicate with many other people or learn about things happening far away because 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.

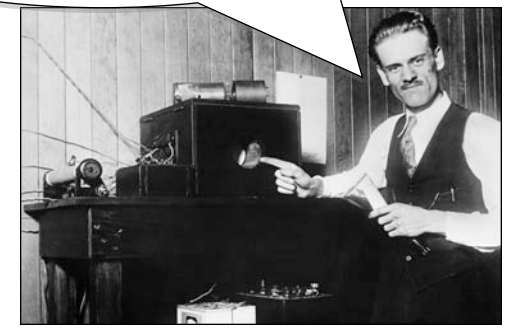


Storyboard, Section 1 Chart:
The Television (Pictorial Example)

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.

Model Expert Text Note-catcher 2:
The Boy Who Invented TV

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.

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

Fred Hultstrand History in Pictures Collection, NDIRS-NDSU, Fargo

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*

Summarizing Notes:

Planning a Graphic Novelette, Part II: *The Invention of Television*

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	Ongoing Assessment
• 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.	• 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
1. Opening A. Homework Review and Engaging the Reader (5 minutes) 2. Work Time A. Storyboard, Section 2: Explaining Philo Farnsworth's Background (20 minutes) B. Storyboard, Section 3: Explaining How Philo Farnsworth Developed a Solution (20 minutes) C. Revising to Add Linking Words (10 minutes) 3. Closing and Assessment A. Debrief and Review Learning Targets (5 minutes) 4. Homework A. Homework task card. Brainstorming Visual Elements B. Independent Reading	• 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: – 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	• 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

A. Homework Review and Engaging the Reader (5 minutes)
• 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:
  * "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:
  * "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.
	• 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

A. Storyboard, Section 2: Explaining Philo Farnsworth's Background (20 minutes)
• 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:
  * "I can explain Philo Farnsworth's background by summarizing my notes on a storyboard."
• Draw students' attention to the terms *background*, *summarizing*, and *storyboard*, 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:
  * "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:
  – "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.
	• 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

• Continue reading aloud, but pause after the fourth step. Clarify the meaning of the term *distinct*. 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:
  * "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

B. Storyboard, Section 3: Explaining How Philo Farnsworth Developed a Solution (20 minutes)
• Read the second learning target aloud or invite a student to read it aloud:
  * "I can explain how Philo Farnsworth developed television by summarizing my notes on a storyboard."
• Point out the familiar terms *developed*, *television*, *summarizing*, and *storyboard*. 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:
  * "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:
  – "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:
  – **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.
	• 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
• 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.	

C. Revising to Add Linking Words (10 minutes)
• Direct students' attention to the posted learning targets and read the third one aloud:
  * "I can connect the ideas on my three storyboards by using linking words and phrases."
• Invite a few students to consider the familiar terms *connect*, *storyboards*, and *linking words and phrases* 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:
  * "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:
  – "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:
  – "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.
	• 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
– 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: – "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: * "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: * "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: – "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

A. Debrief and Review Learning Targets (5 minutes)
• 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:
  * "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:
  * "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:
  – "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:
  * "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:
  – "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.
	• 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
• Complete the Homework Task Card: Unit 3, Lesson 7: Brainstorming Visual Elements. • Read independently for at least 30 minutes.	• 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

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

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*

Summarizing Notes:

Planning a Graphic Novelette, Part III: *The Invention of Television*

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	Ongoing Assessment
• 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.	• 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
1. Opening A. Homework Review and Engaging the Reader (5 minutes) 2. Work Time 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 A. Debrief and Review Learning Targets (5 minutes) 4. Homework A. Independent reading.	• 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: – 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	• 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) • *Investigating the Scientific Method with Max Axiom, Super Scientist* (book; one for teacher use) • Document camera • Sticky notes (three per student) • Independent Reading Choice Board (from Lesson 1)

Opening	Meeting Students' Needs
A. Homework Review and Engaging the Reader (5 minutes) • 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.	• 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

A. Storyboard, Section 4: Explaining How Television Changed People's Lives (15 minutes)
• Direct students' attention to the posted learning targets and have them read the first one aloud together:
  * "I can explain how television changed people's lives by summarizing my notes on a storyboard."
• Point out the terms *television*, *summarizing*, and *storyboard*. 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:
  * "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:
  – "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:
  * "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?"
	• 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
• 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.	
B. Peer Critique and Adding Visual Elements (20 minutes) • Read the second learning target aloud: ∗ "I can support readers' comprehension of the information on my storyboard by including illustrations." • Point out the familiar terms *comprehension*, *storyboard*, and *illustrations*. 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: ∗ "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?"	• 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

• After both groups have shared, display these directions:
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.
  • 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.
	• 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

C. Revising to Incorporate Precise Vocabulary (15 minutes)
• 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:
  * "I can use precise language and scientific vocabulary to explain the invention of television."
• Point out the familiar phrases *precise language* and *scientific vocabulary*. Invite students to provide definitions of each phrase. Listen for:
  – "*Precise language* means words that are specific and mean exactly what you want them to mean."
  – "*Scientific vocabulary* 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 ***Investigating the Scientific Method with Max Axiom, Super Scientist*** under a **document camera**.
	• 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
• Call students' attention to the information box used to define the term *levee*. 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
A. Debrief and Review Learning Targets (5 minutes) • Ask students to read the learning targets aloud together: ∗ "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.	• 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
• Read independently for at least 30 minutes. • Complete a new box on your **Independent Reading Choice Board.**	• 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

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

End of Unit Assessment, Part I:

Text-Dependent Questions and Storyboard Draft: "You Can Do a Graphic Novel" Excerpt

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	Ongoing Assessment
• 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.	• 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
1. Opening A. Introduction of Learning Targets and Engaging the Writer (5 minutes) 2. Work Time 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 A. Debrief and Review of Learning Targets (5 minutes) 4. Homework A. Complete the Unit 3, Lesson 9 homework task. B. Independent reading and choice board response.	• 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)
	• In advance: – 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	• 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: – "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: – "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)
	• Homework: Unit 3, Lesson 9 (one per student) • Independent Reading Choice Board (from Lesson 1)

Opening	Meeting Students' Needs

A. Introduction of Learning Targets and Engaging the Writer (5 minutes)
• Direct students' attention to the posted learning targets and ask for volunteers to read them aloud:
  * "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:
  * "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?"
	• 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
• After about 1 minute, cold call a few students to share their group's thinking with the class. Listen for responses such as: – "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
A. End of Unit Assessment, Part I, A: Text-Dependent Questions: "You Can Do a Graphic Novel" Excerpt (15 minutes) • 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.	• ELLs receive extended time as an accommodation on New York State assessments.

Work Time (continued)	Meeting Students' Needs
B. Chalk Talk and End of Unit Assessment, Part B (35 minutes) • 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: – 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: * "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.	• 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

• After 3 or 4 minutes, ask triads to whisper read each response to the question and accompanying comments and then discuss:
  * "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:
  – **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.
	• 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

A. Debrief and Review of Learning Targets (5 minutes)
• Ask students to take their storyboards and mingle to quickly find a partner who is *not* an expert on the same invention.
• Once each student finds a partner, ask pairs to think about and then discuss:
  * "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:
  * "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.
	• 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
• 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.** *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.* *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.*	

EXPEDITIONARY LEARNING

Grade 5: Module 2B: Unit 3: Lesson 9
Supporting Materials

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, Section1:
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, Section1:
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, Section1:
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

Library of Congress Prints and Photographs Division Washington, D.C LC-USZ62-45621
United States Department of Transportation

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

John Oxley Library, State Library of Queensland.
Wright Brothers Negatives. Library of Congress P&P Division, Washington, D.C Reproduction Number: LC-USZ62-5515

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

End of Unit Assessment, Part II:
Storyboard Draft, Sections 2 and 3

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	Ongoing Assessment
• 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.	• 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
1. Opening A. Homework Review and Engaging the Writer (12 minutes) B. Introduction of Learning Targets (3 minutes) 2. Work Time A. End of Unit Assessment, Part II, A: Storyboard, Section 2 (20 minutes) B. End of Unit Assessment, Part II, B: Storyboard, Section 3 (20 minutes) 3. Closing and Assessment A. Debrief and Review of Learning Targets (5 minutes) 4. Homework A. Complete the Homework: Unit 3, Lesson 10. B. Independent reading and choice board response.	• 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: – 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
	• Storyboard, Section 1: The Traffic Signal or Storyboard, Section 1: The Airplane (from Lesson 9) • Traffic signal expert group resources: – "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: – "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)
	• Blue highlighters (one per student) • Homework: Unit 3, Lesson 10 • Independent Reading Choice Board (from Lesson 1)

Opening	Meeting Students' Needs
A. Homework Review and Engaging the Writer (12 minutes) • 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 *not* 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: 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.	• 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

B. Introduction of Learning Targets (3 minutes)
• Invite students to read each of the learning targets aloud together:
  * "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:
  * "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:
  – "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
A. End of Unit Assessment, Part II, A: Storyboard, Section 2 (20 minutes) • Help students gather their resources from Lessons 2–5: – 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: – **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.	• 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
B. End of Unit Assessment, Part II, B: Storyboard, Section 3 (20 minutes) • 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: – **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
A. Debrief and Review of Learning Targets (5 minutes) • Ask students to discuss with a nearby partner: * "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.	• 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**
• 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.** *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.* *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).*	• 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

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?

3

{caption box}

4

Storyboard, Section 2: The Airplane

What Was the Wright Brothers'

3

{caption box}

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

Homework: Unit 3, Lesson 10

Reflect on the Storyboard, Sections 2 and 3 you completed for Part II of the end of unit assessment to help you respond to these questions:

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

End of Unit Assessment, Part III:
Storyboard Draft, Section 4

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	Ongoing Assessment
• 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..	• 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
1. Opening A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time 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 A. Debrief: Tracking My Progress (5 minutes) 4. Homework A. Independent reading and choice board response.	• 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: – 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	• 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: – "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: – "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)
	• 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

A. Homework Review and Engaging the Writer (5 minutes)
• 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:
  * "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:
  * "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:
  * "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."
	• 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

A. Language: Editing Sentences (15 minutes)
• Ask students to join their triad members.
• Tell them to read the first learning target aloud together:
  * "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 *edit*, *address*, *interest*, *expanding*, *combining*, *reducing*, *meaning*, and *style*.
• 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.
  – *edit*: correct individual sentences for grammar, spelling, or punctuation
  – *address*: attend to; take into consideration
  – *interest*: attention, curiosity, attentiveness
  – *expanding*: increasing, making longer
  – *combining*: joining, merging, linking
  – *reducing*: making shorter, smaller
  – *meaning*: the main point, main idea being conveyed
  – *style*: flair, elegance
• If students are unable to determine the meaning of any key terms from the target, provide definitions.
• Ask triads to discuss:
  * "Why would an author edit his or her work by expanding, combining, or reducing sentences?"
• Listen for students to share ideas such as:
  – "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."
	• 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
– "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 *Investigating the Scientific Method with Max Axiom, Super Scientist*. 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: * "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: – "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: – "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: – "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.	• 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
• After 2 minutes, cold call various triads to share out their edited sentences. Listen for suggestions such as: – "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: – "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: * "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: – "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: – "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
• Distribute students' **Storyboards, Sections 1, 2, and 3** from Parts I and II of the end of unit assessment. Then, provide these directions: 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.	• 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

B. End of Unit Assessment, Part III: Storyboard, Section 4 (25 minutes)
• Ask students to read aloud the second learning target:
  * "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:
  – "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:
  – 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:
  – **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.
	• 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
• 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.	
C. Tracking My Progress (10 minutes) • Ask students to read the final learning target aloud: * "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.	• 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
A. Debrief: Tracking My Progress (5 minutes) • 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.	• 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**
• Read your independent reading book for at least 30 minutes and respond to one of the questions on your **Independent Reading Choice Board.** *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.* *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).*	

EXPEDITIONARY LEARNING

Grade 5: Module 2B: Unit 3: Lesson 11
Supporting Materials

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?

7

{caption box}

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 LEARNING

Grade 5: Module 2B: Unit 3: Lesson 12

Peer Critique and Revision: Storyboard, Sections 1–4

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	**Ongoing Assessment**
• 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.	• 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
1. Opening A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time A. Peer Critique Protocol (25 minutes) B. Revise Storyboard, Sections 1–4 (20 minutes) 3. Closing and Assessment A. Storyboard Gallery Walk (8 minutes) B. Review of Learning Targets (2 minutes) 4. Homework A. Independent reading and choice board response.	• 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 f 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: – 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	• 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
A. Homework Review and Engaging the Writer (5 minutes) • 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: * "How does the author of your independent reading book *best* 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."	• 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

A. Peer Critique Protocol (25 minutes)
• Ask students to join their triads. Read aloud the first learning target:
  * "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:
  * "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:
  – 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.
	• 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
• For the first exchange: – 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: – 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

B. Revise Storyboard, Sections 1–4 (20 minutes)
• Ask students to read the second learning target aloud together:
  * "I can use feedback from peers to revise my storyboards to better meet the criteria."
• Point out the key terms *revise* and *criteria*.
• 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:
  – "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.
	• 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
A. Storyboard Gallery Walk (8 minutes) • 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: 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.	• Consider allowing students who struggle with the physical act of writing, or whose writing is often illegible, to dictate their praise to a scribe.
B. Review of Learning Targets (2 minutes) • 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
• 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.** *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.*	

EXPEDITIONARY LEARNING

Grade 5: Module 2B: Unit 3: Lesson 12
Supporting Materials

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.

Four Corners Sheets

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	_ Three- to five-sentence summary that explains what people needed or wanted _ Summary includes linking words _ Summary includes key terms	_ 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 one of the following visual elements *in addition to* the thought and speech bubble: _ 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)	_ Three- to five-sentence summary that provides information about the inventor(s) _ Summary includes linking words _ Summary includes key terms		Includes at least one of the following visual elements: _ Close-up image _ Definition box (scientific) _ Definition box (academic) _ Frame/panel with image _ Diagram _ Ambient noise	
3 – Developing a Solution	_ Three- to five-sentence summary that provides information about the inventor(s) developing a solution _ Summary includes linking words _ Summary includes key terms		Includes at least one of the following visual elements: _ 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	_ 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		Includes at least one of the following visual elements: _ 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

Storyboard Revision:
Managing the Sequence of Events and Using Sensory Details

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	**Ongoing Assessment**
• 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.	• Storyboard revisions (from homework) • Independent Reading Choice Board response (from homework) • End of Unit Assessment Storyboards(1–4) revised

Agenda	Teaching Notes
1. Opening A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time 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 A. Debrief and Review of Learning Targets (5 minutes) 4. Homework A. Finish storyboard revisions.	• 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: – 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	• 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

A. Homework Review and Engaging the Writer (5 minutes)
• 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 *not the same triad*.
• Once students are partnered, ask them to consider and discuss:
  * "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.
	• 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:
	  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

A. Peer Critique and Revision: Using Transitions to Manage the Sequence of Events (25 minutes)
• Read the first learning target aloud:
  * "I can use a variety of transitional words and phrases to manage the sequence of events in my storyboard drafts."
• Underline the word *transitional* 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:
  * "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:
  – "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 *sequence of events*. Ask students to think about and discuss:
  * "What sequence of events did you plan out on your storyboards?"
• If students are unfamiliar with the word *sequence* or *events*, 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:
  – "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.
	• Consider displaying a working definition of *transition* 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
• 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: * "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 – 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: * "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: – "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: * "Which of these transitions would be *best* 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: – "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.	• 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

• 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:
  * "Which of these transitions would be *best* 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:
  – "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.
	• 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 *whereas*: "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:
	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

• Then ask students to once again review each option, think about, and discuss:
  * "Which of these transitions would be *best* 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:
  – "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

B. Using Sensory Details to Convey Experiences and Events Precisely (15 minutes)
• Read the third learning target aloud:
  * "I can use sensory details to convey experiences and events precisely in my storyboard drafts."
• Underline the phrase *sensory details* 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 *see* and *hear* 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 handout**.
• Ask students to read Sentence 1 aloud with you:
  * "Philo Farnsworth tried to make himself look older."
• Ask students to consider and discuss:
  * "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:
  – "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:
  * "The crowd was very loud."
	• 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:
	1. Added sensory details to at least one sentence in each section, 1–4
	2. Asked for and received feedback from a triad member about my use of sensory details

Work Time (continued)	Meeting Students' Needs

• Ask them to discuss:
  * "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:
  – "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:
  * "The people were silent."
• Again, ask them to consider and then discuss:
  * "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:
  – "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
A. Debrief and Review of Learning Targets (5 minutes) • Pair up triads so one airplane triad is matched with one traffic signal triad. • Tell mixed triads to discuss: ∗ "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.	• 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
• 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. *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.*	• 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

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

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	Ongoing Assessment
• 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.	• Graphic Novelette: Section 1 • Peer Critique based on Graphic Novelette: Section 1

Agenda	Teaching Notes
1. Opening A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time 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 A. Debrief and Review of Learning Targets (5 minutes) 4. Homework 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.	• 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/rttt/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: – 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	• 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

A. Homework Review and Engaging the Writer (5 minutes)
• 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:
  * "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:
  * "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."
	• Display each question for student reference during the discussion.

Work Time	Meeting Students' Needs

A. Creating Pages for a Graphic Novelette (20 minutes)
• Focus students' attention on the learning targets and read the first one aloud:
  * "I can create and label pages for my graphic novelette."
• Point out the words *label* and *graphic novelette*. Ask students to briefly discuss what it means to *label* something.
• Cold call a few students to share out. Listen for:
  – "*Label* 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.
	• 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
B. Planning Section 1 of a Graphic Novelette (20 minutes) • Direct students' attention to and read the second learning target aloud: * "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.	• 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
C. Peer Critique and Revision (10 minutes) • Ask students to read the third learning target aloud with you: * "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.	• 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
A. Debrief and Review of Learning Targets (5 minutes) • Bring students together whole group, then ask them to discuss with a classmate who is not a member of their triad: * "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.	• Provide a sentence starter to allow all students access to the conversation: "Referring to the rubric criteria helped me understand that I needed to _____."

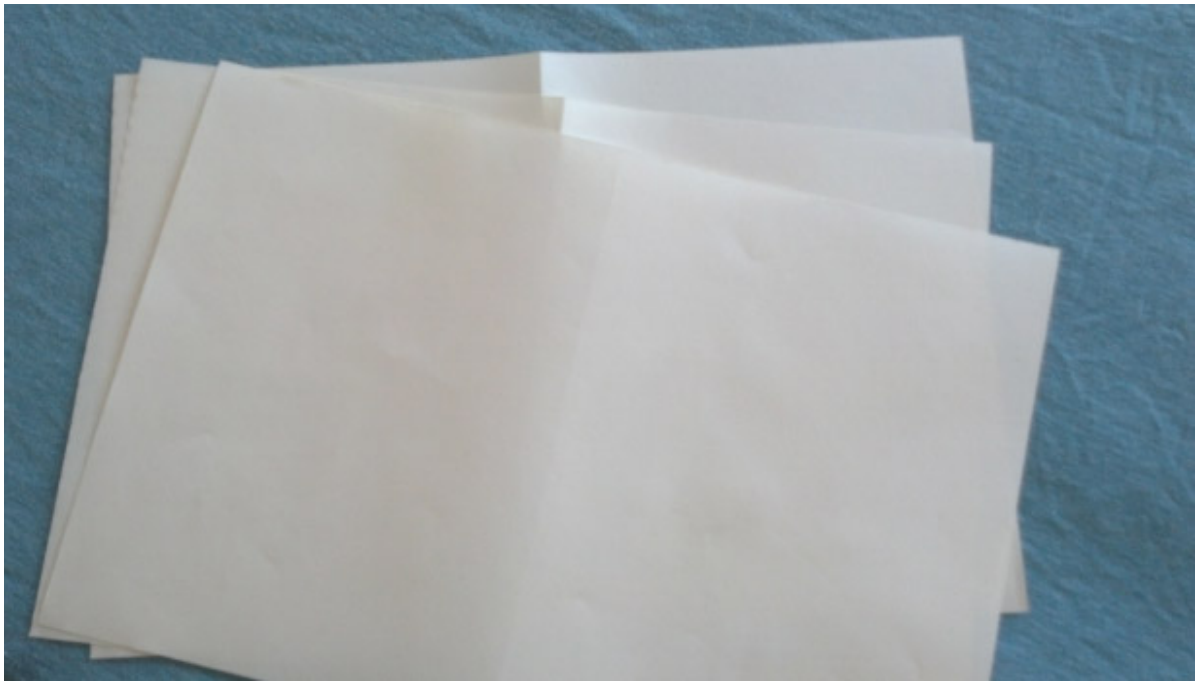
Homework	Meeting Students' Needs
• Complete graphic novelette Section 1 revisions and paste/add text and/or visual elements. • Read Section 1 of your graphic novelette aloud to someone at home or in front of a mirror to practice fluency skills in preparation for performance task presentations.	• For 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

Creating Pages:
Step 1

Fold each page in half.



Numbers strip

1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10

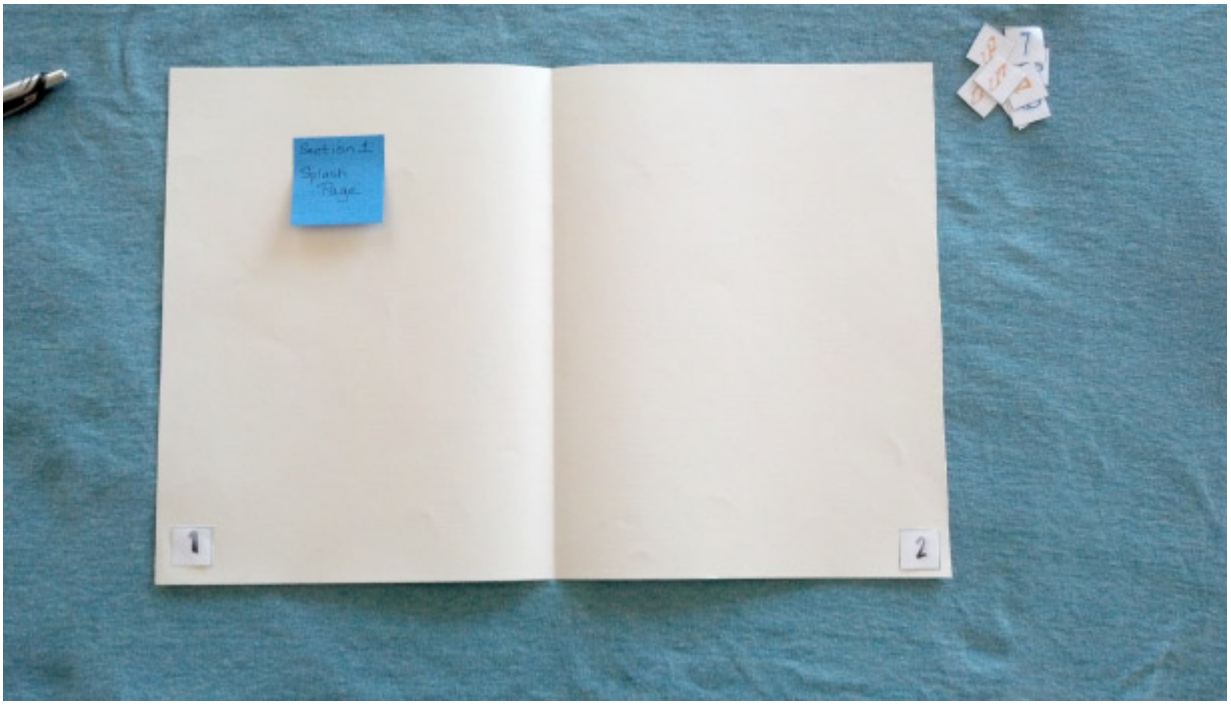
Creating Pages:
Step 2

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).

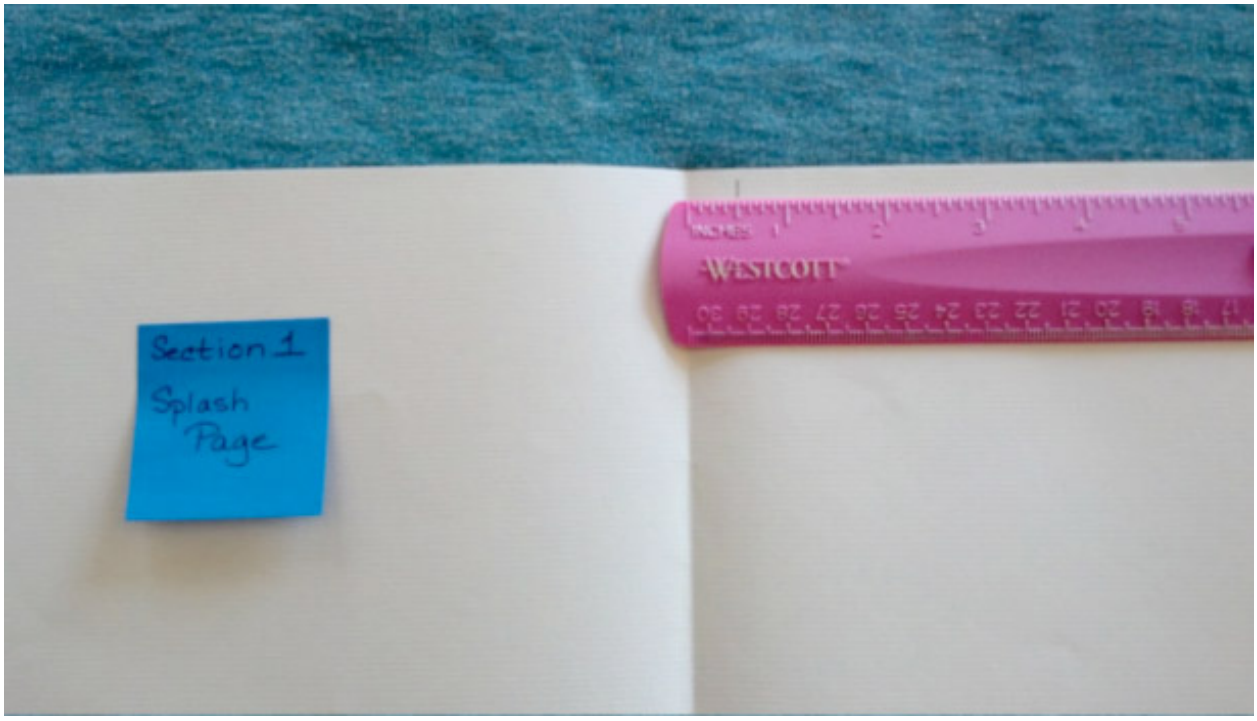
Creating Pages:
Step 2 (Continued)

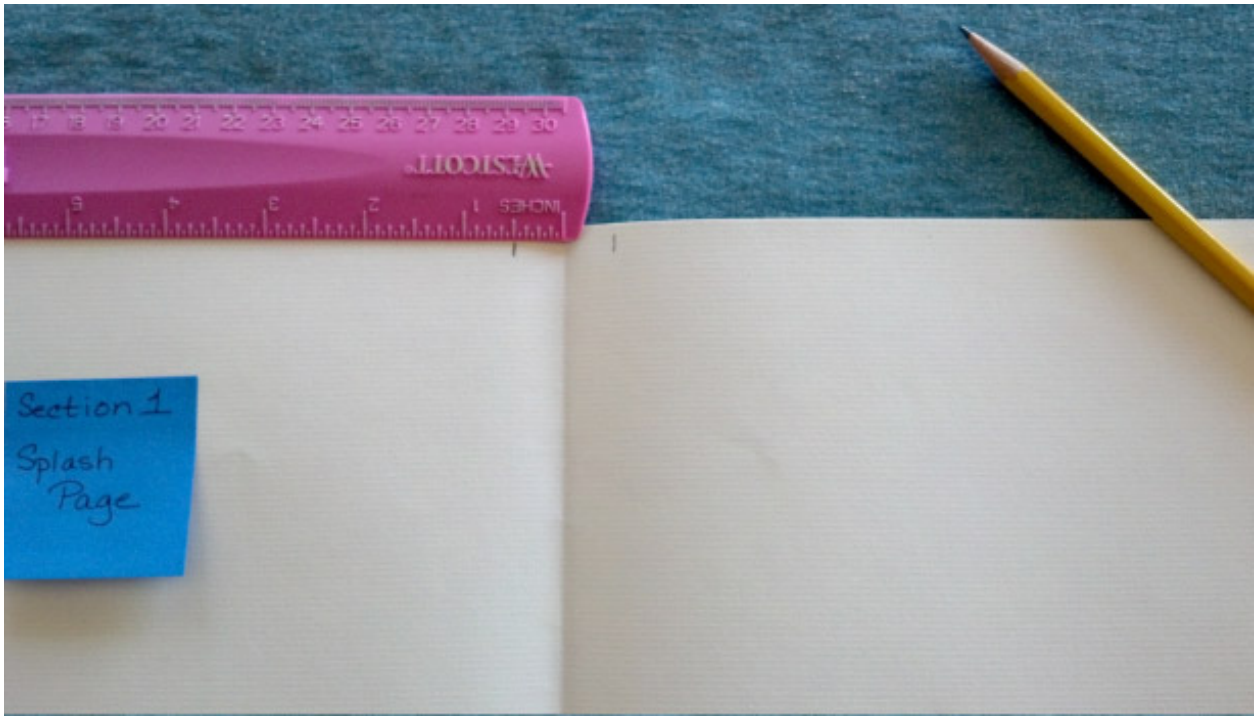
Open (unfold the page) and write "Section 1" on one of your sticky notes. Place the sticky note on the left side of the page. Then, glue the "1" in the lower left corner of the page, and glue "2" in the lower right corner of the page.



Mark the Binding

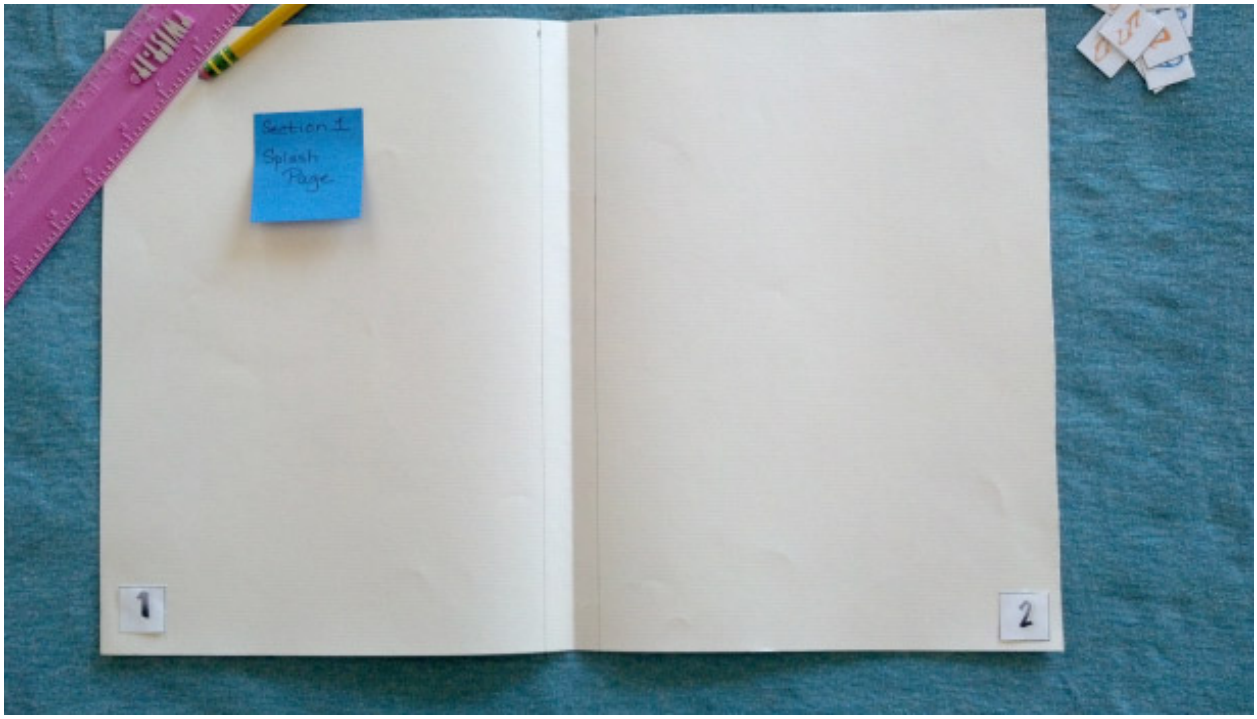
Use your ruler to measure half an inch from the right of your crease. Mark with a pencil. Repeat to make a mark half an inch from the left side of the crease as well.





Mark the Binding

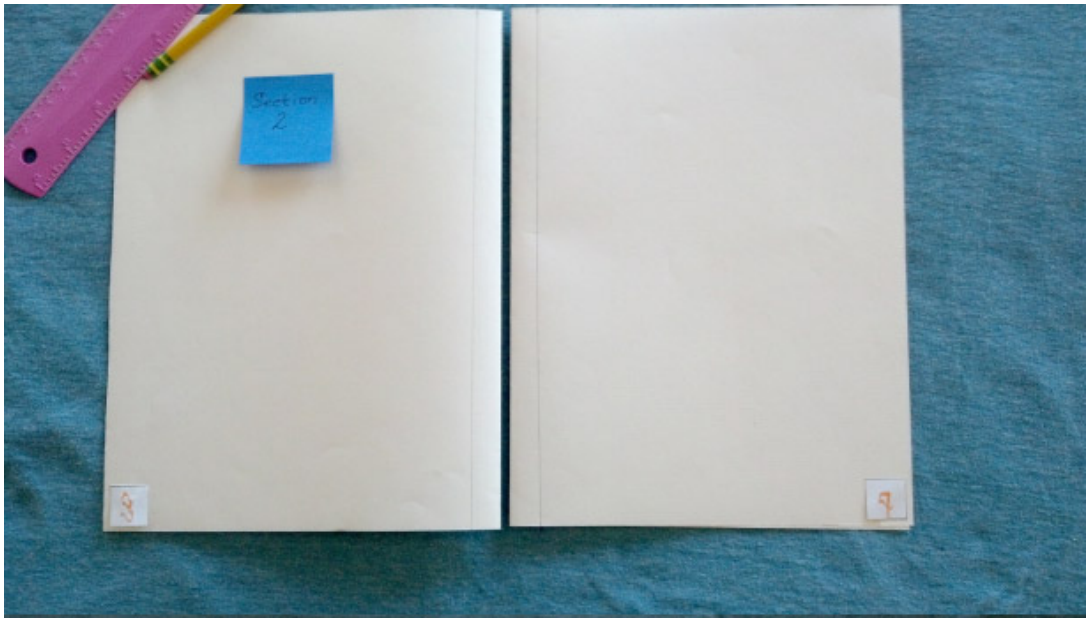
Line your ruler up vertically, using the mark you made on each side of the crease. Use your pencil to lightly draw a line to the left, then the right of the crease.



Creating Pages:
Step 3

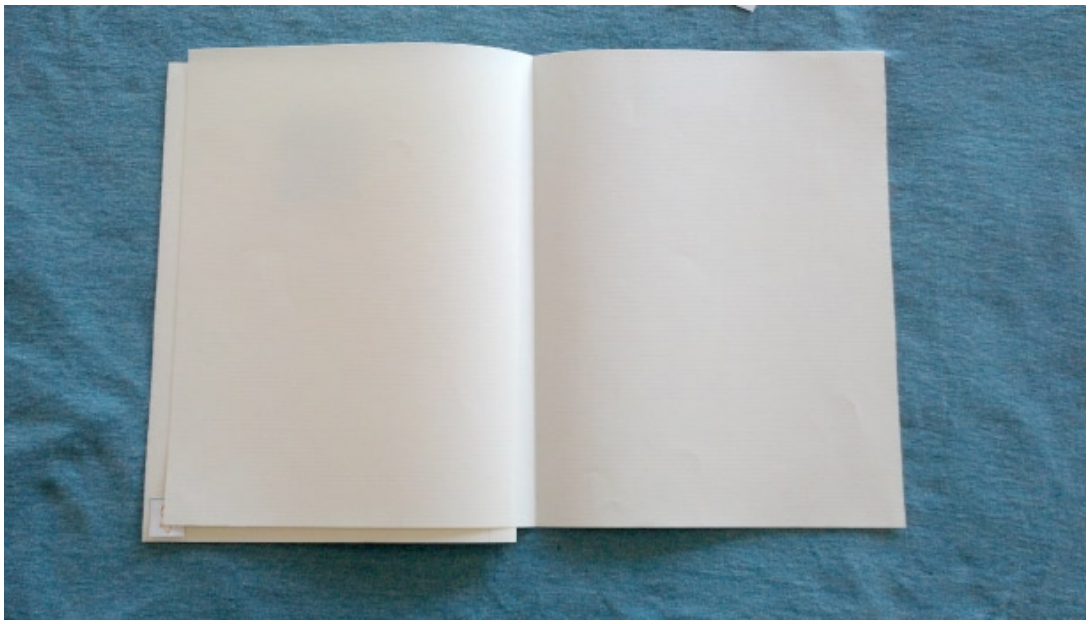
Fold your "Section 1" paper to the left, so the blank side is showing. Set another one of your folded pieces of paper right next to it, so it looks like two pages with a crease in the center.

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.

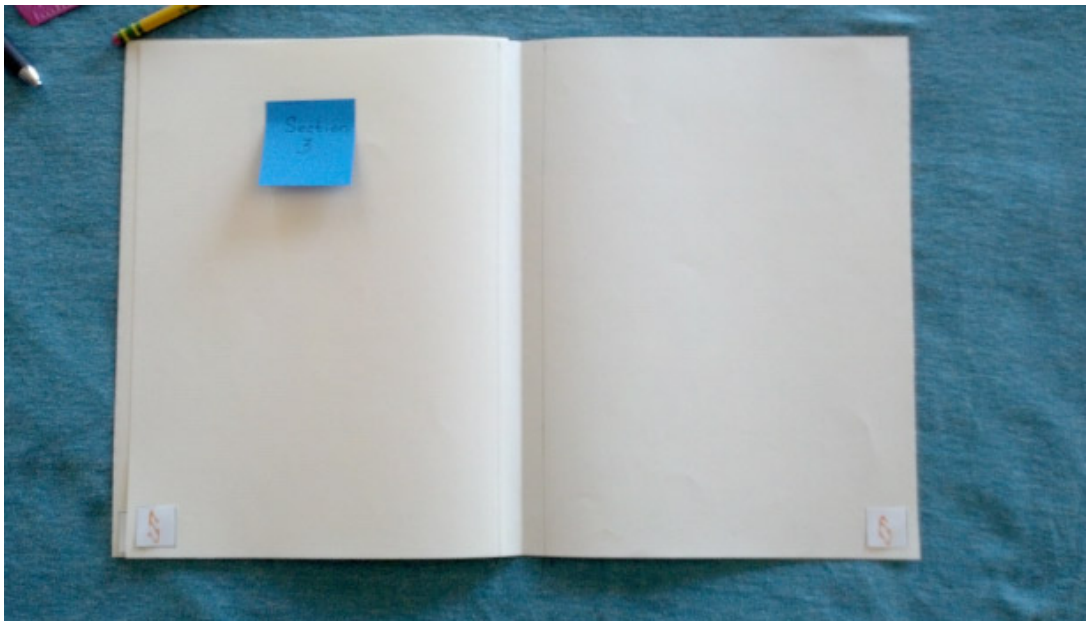


Creating Pages:
Step 4

Fold the right page of "Section 2" to the left, so there are two blank pages with a crease in the center.

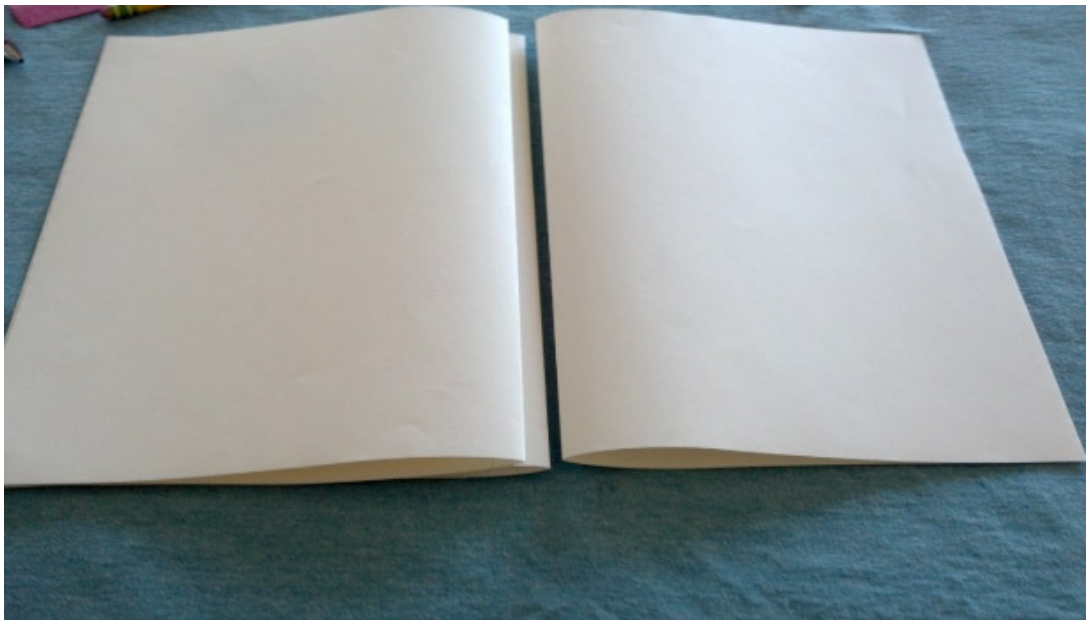


Write "Section 3" on another one of your sticky notes and place it on the left blank page. Glue a "5" onto the lower left and a "6" on the lower right. Then use your ruler to make half-inch marks to either side of the crease and use your ruler and pencil to make lines that indicate space for the binding.

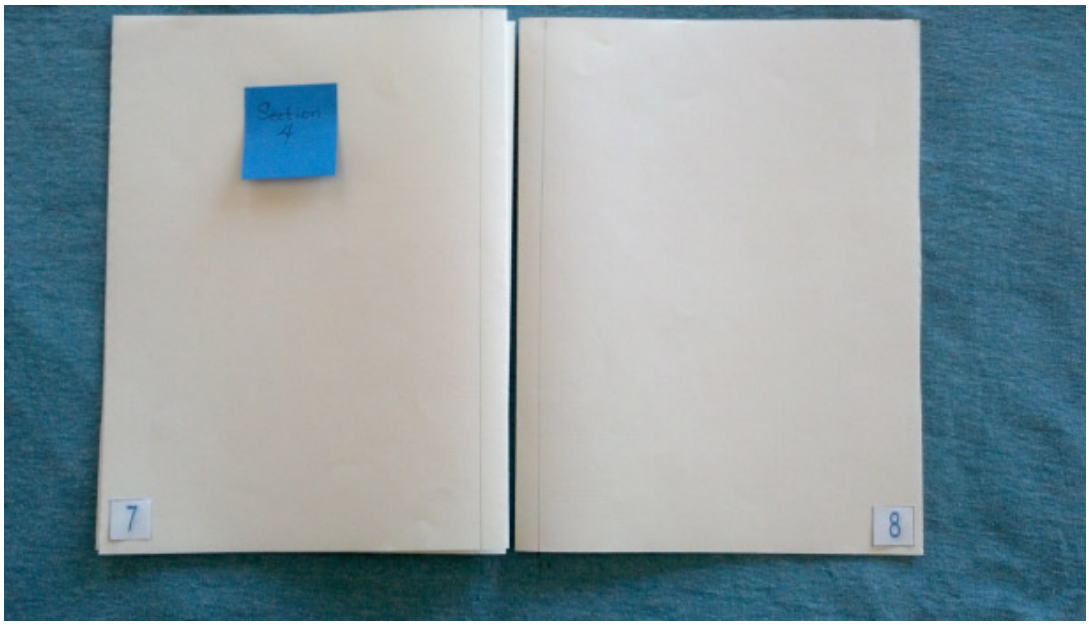


Creating Pages:
Step 5

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.

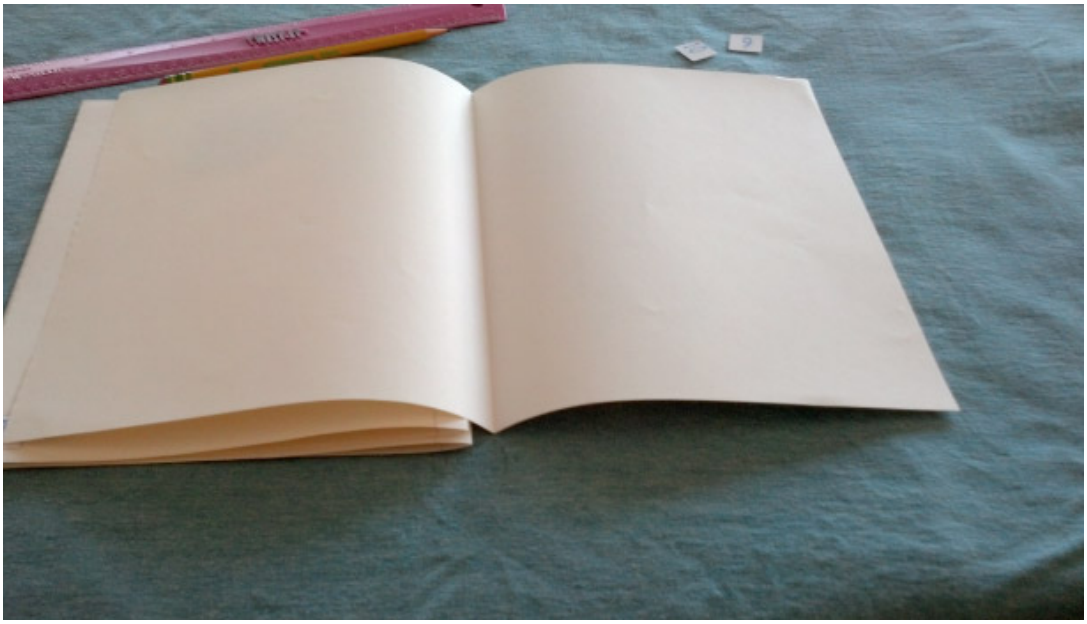


Write "Section 4" on another one of your sticky notes and place it on the left page. Glue a "7" on the lower left page and an "8" on the lower right page. Then, use your ruler to make half-inch marks to either side of the crease (gap) and use your ruler and pencil to make lines that indicate space for the binding.

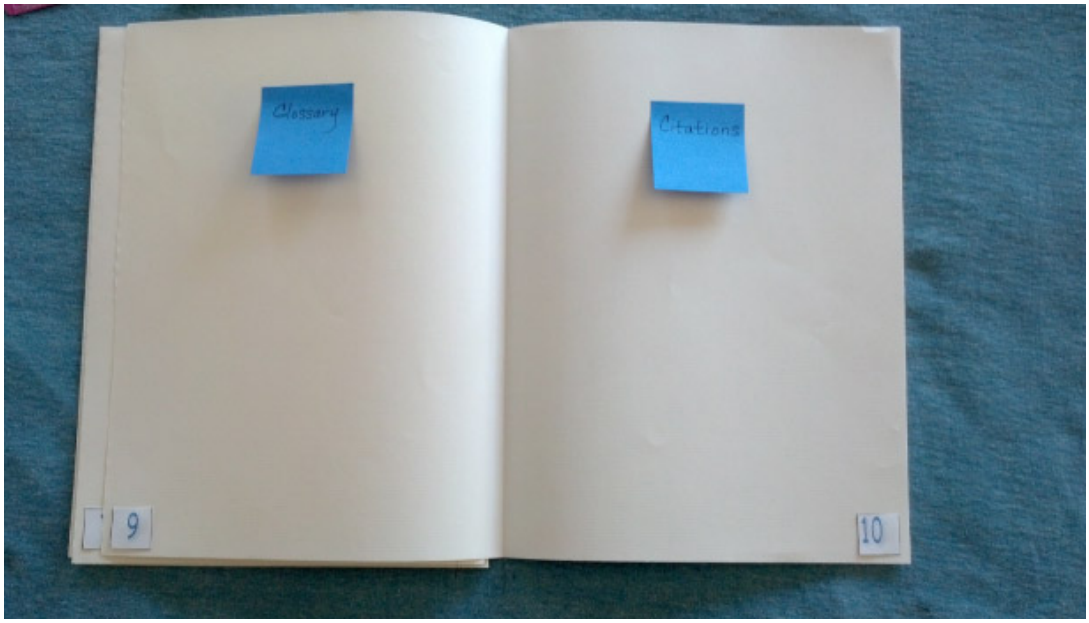


Glossary and Citations Pages

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	_ 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 Includes at least one of these visual elements: _ 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)

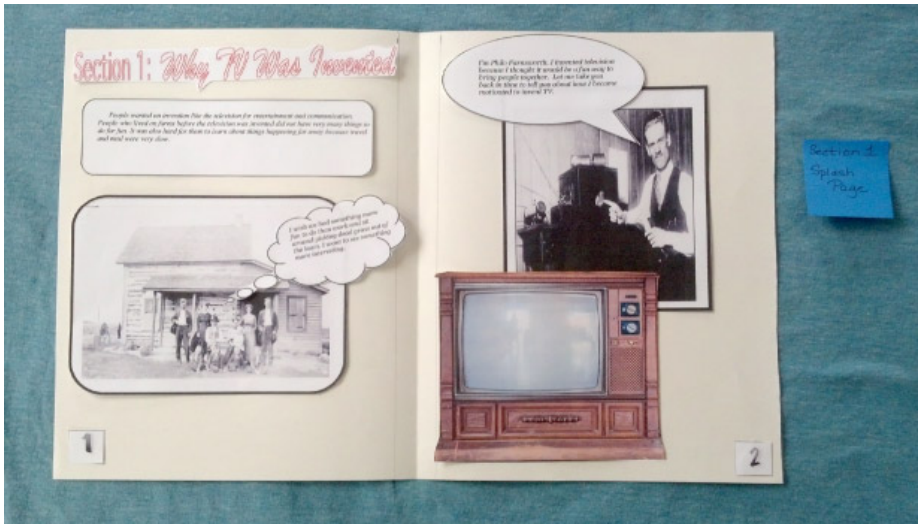
1. Open a blank word document.
2. Use "autoshapes" to create a rectangular frame for your caption, then add a text box to the caption frame. In the text box, type the best version of your three- to five-sentence summary from your end of unit storyboard draft for Section 1.
3. Use "wordart" or font to 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 "autoshapes," 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 "autoshapes," 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

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	Ongoing Assessment
• 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.	• Graphic Novelette: Sections 2, 3, and 4 • Peer critique based on Graphic Novelette rubric: Sections 2, 3, and 4

Agenda	Teaching Notes
1. Opening A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time 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 A. Graphic Novelette Share: Mixed Partners (8 minutes) B. Review of Learning Targets (2 minutes) 4. Homework 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.	• 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: – 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	• 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
A. Homework Review and Engaging the Writer (5 minutes) • 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: 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."	• Display directions for student reference during partner discussions.

Work Time	Meeting Students' Needs

A. Planning Section 2 of a Graphic Novelette (15 minutes)
• 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:
  * "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 *plan* in this target and ask:
  * "How did you *plan* 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:
  – "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.
	• 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
• 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.	
B. Planning Section 3 of a Graphic Novelette (15 minutes) • Refer students to the second learning target and ask them to read it aloud together: * "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
C. Planning Section 4 of a Graphic Novelette (15 minutes) • Refer students to the final learning target and ask them to read it aloud together: * "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
A. Graphic Novelette Share: Mixed Partners (8 minutes) • 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: 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.	• 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 _____."
B. Review of Learning Targets (2 minutes) • 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
• 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 *Max Axiom* 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.	• 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

Graphic Novelette Rubric:
Section 2

	4	3	2	1
Section 2	_ 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 Includes at least one of these visual elements: _ 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: _____

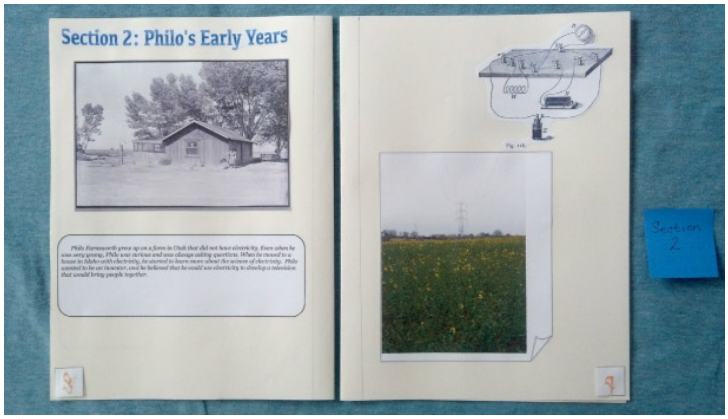
Section 2:
Text and Images (Option A)

Part I:

1. Open a blank word document.
2. Use "autoshapes" 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!

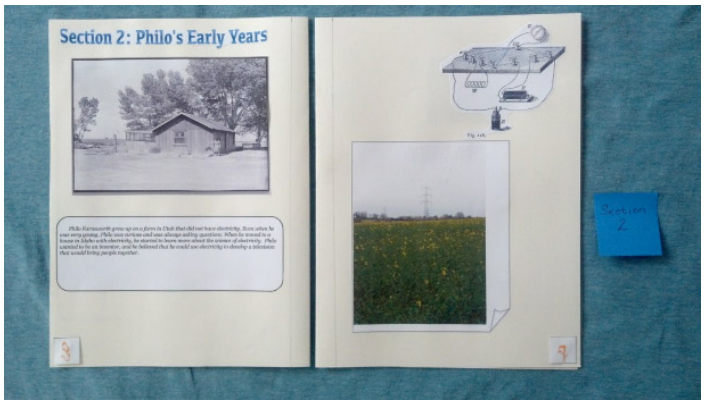
Section 2:
Text and Images (Option B)

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	_ 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 Includes at least one of these visual elements: _ 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: _____

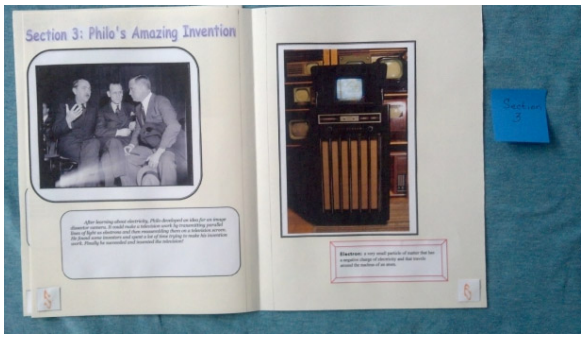
Section 3:
Text and Images (Option A)

Part I:

1. Open a blank word document.
2. Use "autoshapes" 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:

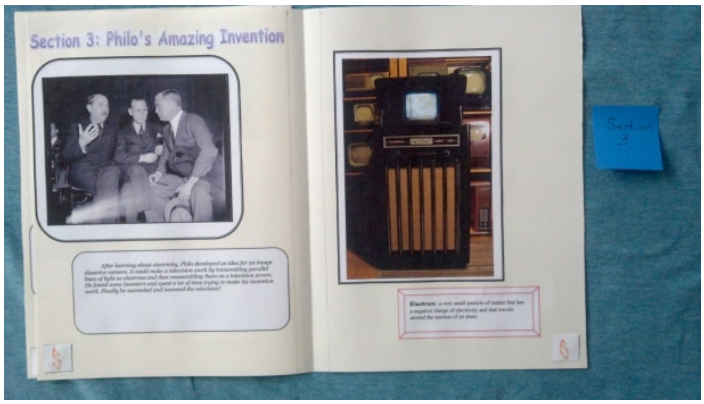
Text and Images (Option B)

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	_ 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 Includes at least one of these visual elements: _ 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 4:
Text and Images (Option A)

Part I:

1. Open a blank word document.
2. Use "autoshapes" 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.

Radio Electronics staff, Avery Slack photographer
Bundesarchiv, Bild 183-R26738 / CC-BY-SA

6. As time allows, glue pieces onto pages 7 and 8 of your novelette. Make sure not to glue anything past the binding lines!

Graphic Novelette Rubric:
The Cover

	4	3	2	1
Cover	_ 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

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	Ongoing Assessment
• 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.	• Glossary page with key terms alphabetized • Citations page • Table of contents page

Agenda	Teaching Notes
1. Opening A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time 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 A. Debrief and Review of Learning Targets (5 minutes) 4. Homework 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.	• 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: – 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
alphabetized, glossary, key terms, graphic novelette, citations, sources, table of contents	• 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) – 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
A. Homework Review and Engaging the Writer (5 minutes) • 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: 1. Review the cover sketch you created alongside the cover rubric to identify: • An area you feel is a strength of your sketch • An area you would like to refine on your sketch to better meet the criteria 2. 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."	• Display directions for student reference during partner discussions.

Work Time	Meeting Students' Needs

A. Creating a Glossary of Key Terms (20 minutes)
• Ask students to gather their **novelette pages** and join their triads.
• Ask them to read the first learning target aloud together:
  * "I can create an alphabetized glossary of academic and scientific key words for my graphic novelette."
• Underline the word *alphabetize*. 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:
  – "*Alphabetize* has the word *alphabet* 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—*glossary*, *key words*, *graphic novelette*—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:
  * "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:
  – "The example glossary lists and clearly defines five key terms."
  – "There is a combination of both academic and scientific terms."
  – "The key terms are *not* 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.
	• 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
• 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 *electricity* and *electron*, the first six letters are the same, so the seventh letter determines which comes first: I comes before O in the alphabet, so *electricity* 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

B. Creating a Citations Page (15 minutes)
• Read aloud the second learning target:
  * "I can create a citations page with a list of my sources for my graphic novelette."
• Underline the words *citations page* and *sources*.
• Display and distribute the **Citations example** and ask students to discuss what they think a *citations page* and *sources* are.
• After 1 minute, invite a few triads to share their thoughts whole group. Listen for ideas such as:
  – "We think a *citations page* 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 *sources* 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:
  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
• 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: – "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. *The Boy Who Invented TV* 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

C. Creating a Table of Contents (15 minutes)
• Focus students' attention on the third learning target and ask them to read it aloud together:
  * "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:
  – "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

A. Debrief and Review of Learning Targets (5 minutes)
• Focus students' attention whole group. Ask them to discuss with a nearby partner who is not a member of their triad:
  * "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.
	• Provide sentence starters to allow all students access to the conversation: "The examples and rubrics helped me understand _____."

Homework	Meeting Students' Needs
• 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.	• 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

Glossary Rubric

	4	3	2	1
Glossary	_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.	_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.	_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	_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

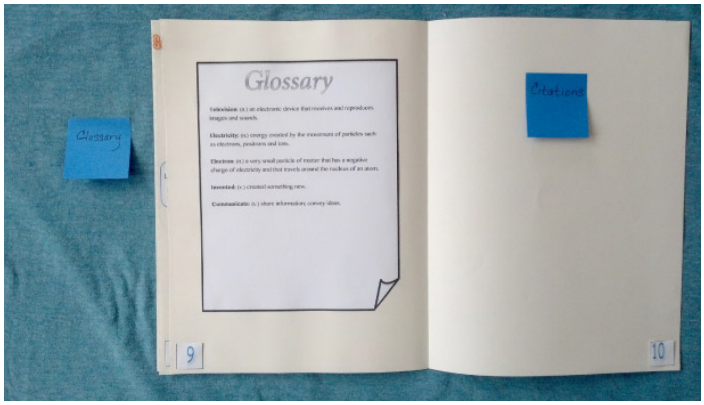
Creating a Glossary Task Card
(Option A)

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 "autoshapes" 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!



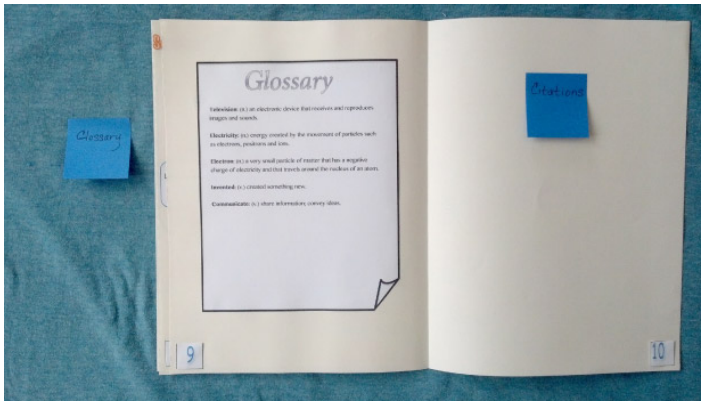
Creating a Glossary Task Card
(Option B)

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 Example

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	_Accurately cites all four expert texts from Lessons 2–5: *Last name of author comes before first name and is separated by a comma *Titles of books are italicized (or written in script/cursive) *Titles of articles are in quotes, and NOT italicized or scripted/cursive *If the text came from a website, the name of the website is listed after the name of the text.	_Accurately cites only three of the expert texts; or cites all four expert texts, but inaccurately	_Accurately cites only one or two of the expert texts; or cites two or three of the texts inaccurately	_Does not cite any expert texts accurately; or does not cite expert texts at all

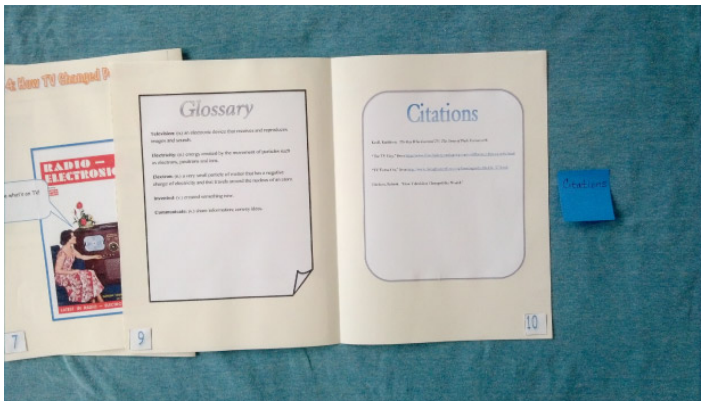
Creating a Citations Page Task Card
(Option A)

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 "autoshapes" 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!

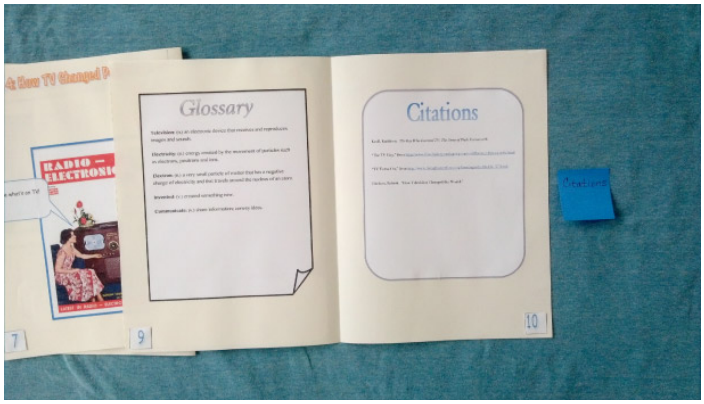


Table of Contents Example

Table of Contents

Table of Contents Rubric

	4	3	2	1
Table of Contents	_ 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

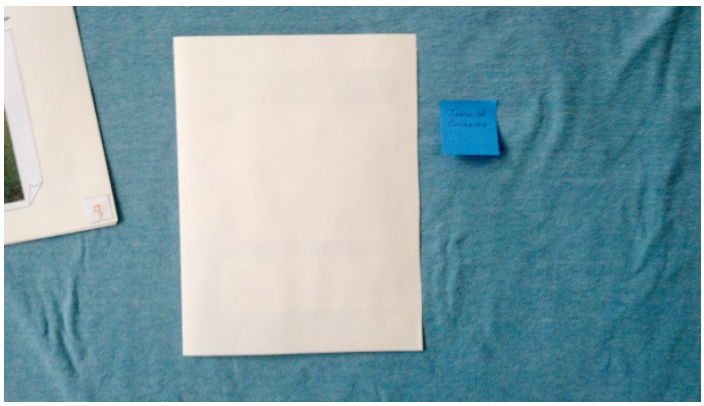
Creating the Table of Contents Task Card
(Option A)

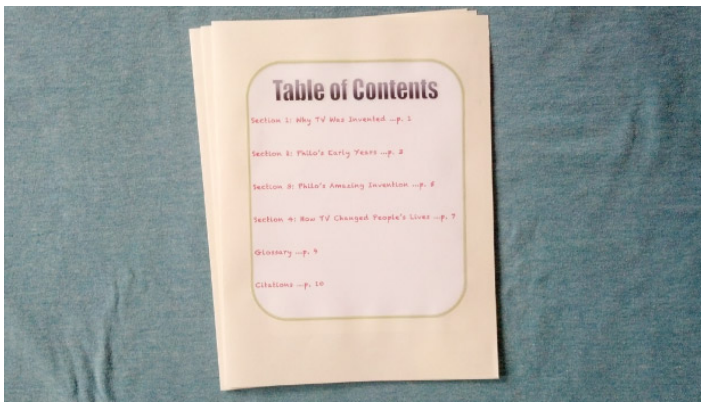
Part I:

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 "autoshapes" 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!





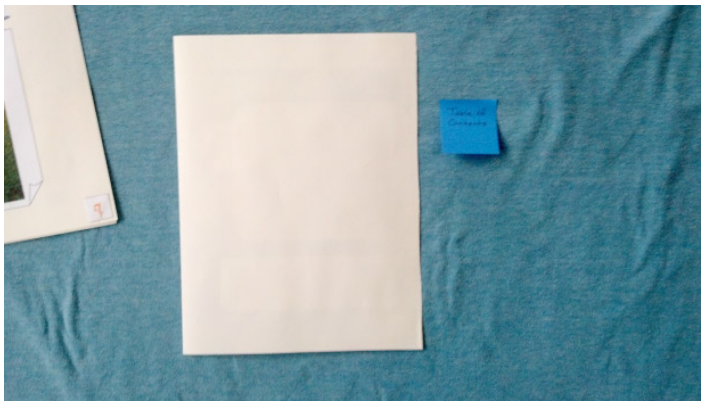
Creating the Table of Contents Task Card
(Option B)

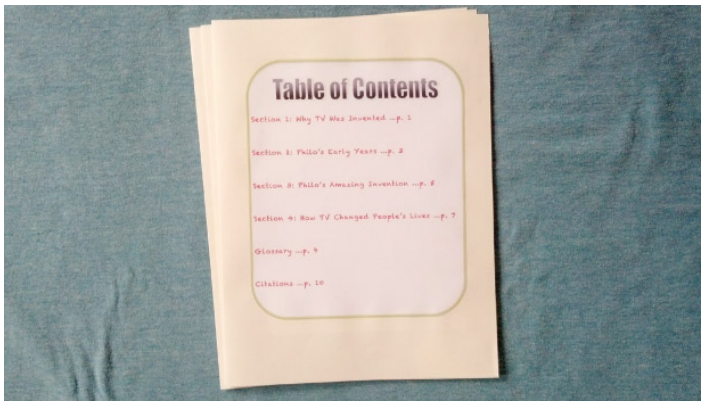
Part I:

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

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	Ongoing Assessment
• 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.	• Completed graphic novelette • Graphic Novelette presentations

Agenda	Teaching Notes
1. Opening A. Homework Review and Engaging the Writer (5 minutes) 2. Work Time 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 A. Debrief and Review of Learning Targets (5 minutes) 4. Homework A. Read your completed graphic novelette to someone at home or aloud in the mirror to practice fluency skills.	• 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: – 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	• 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

A. Homework Review and Engaging the Writer (5 minutes)
• 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:
  * "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:
  * "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."
	• Display each discussion question, for student reference.

Work Time	Meeting Students' Needs

A. Completing Graphic Novelettes: Creating a Cover and Binding the Pages (20 minutes)
• Direct students' attention to the posted learning targets and ask them to read the first target aloud with you:
  * "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:
  – "I think we will create the final versions of our covers."
  – "I think we will put (*bind*) all the pages and cover together."
• If students are unable to identify the two steps they will complete or what the word *bind* 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.
	• 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
B. Performance Task Practice and Presentations (30 minutes) • Redirect student attention to the learning targets and ask them to read the second one aloud with you: * "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
A. Debrief and Review of Learning Targets (5 minutes) • 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: * "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).	• 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
• Read your independent reading book for at least 30 minutes.	• 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

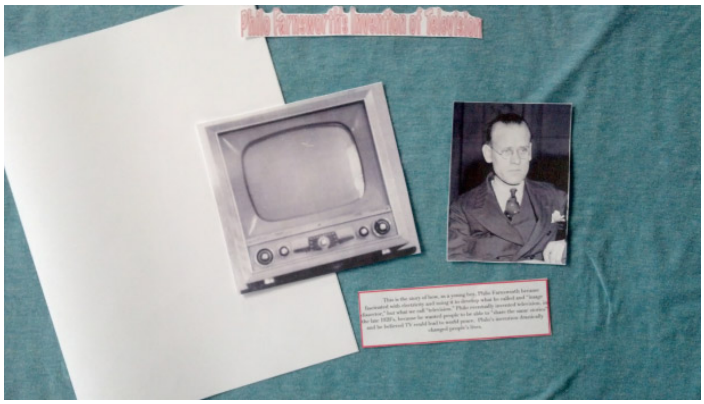
Creating a Cover Task Card
(Option A)

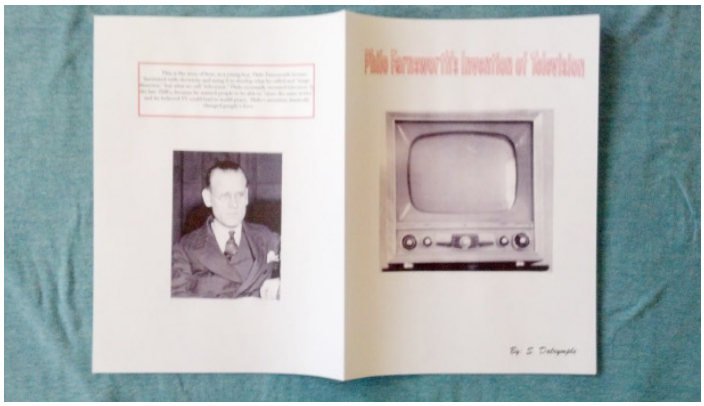
Part I:

1. Refer to your cover sketch to help you create the cover for your graphic novelette.
2. Use "autoshapes" 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

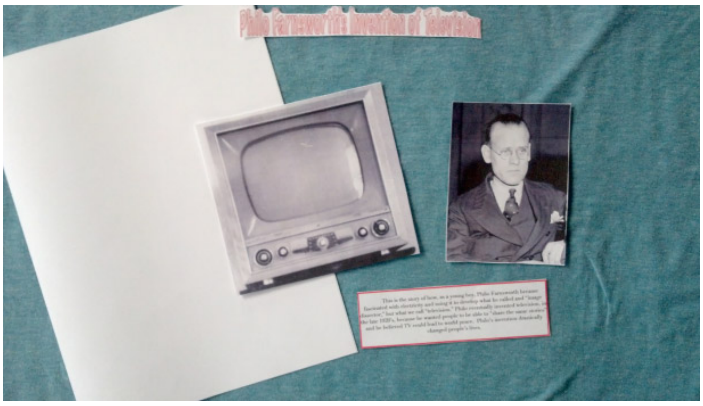
Creating a Cover Task Card
(Option B)

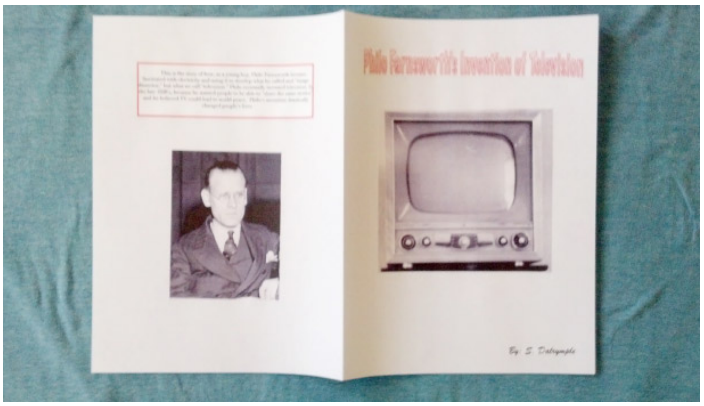
Part I:

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:

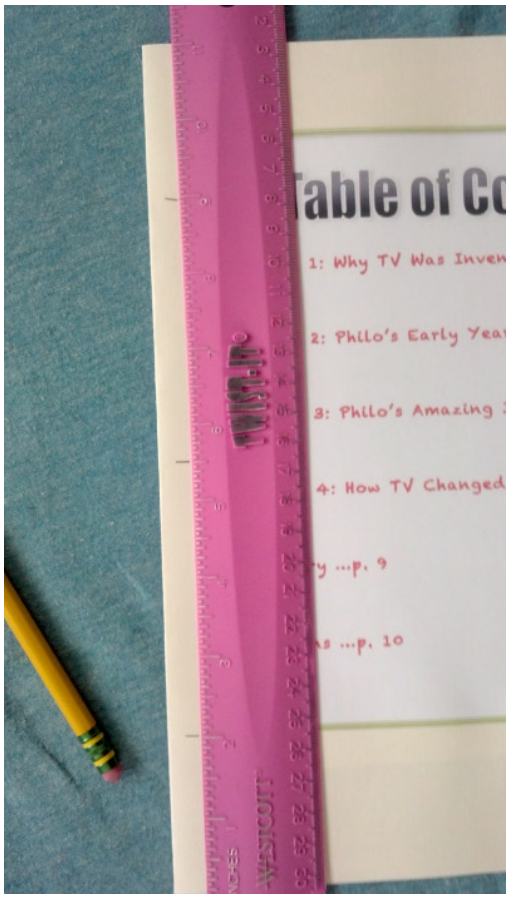
1. Neatly cut out each piece for your cover.
2. Glue the pieces onto the front and back of the cover for your novelette. Make sure not to glue past the binding lines!



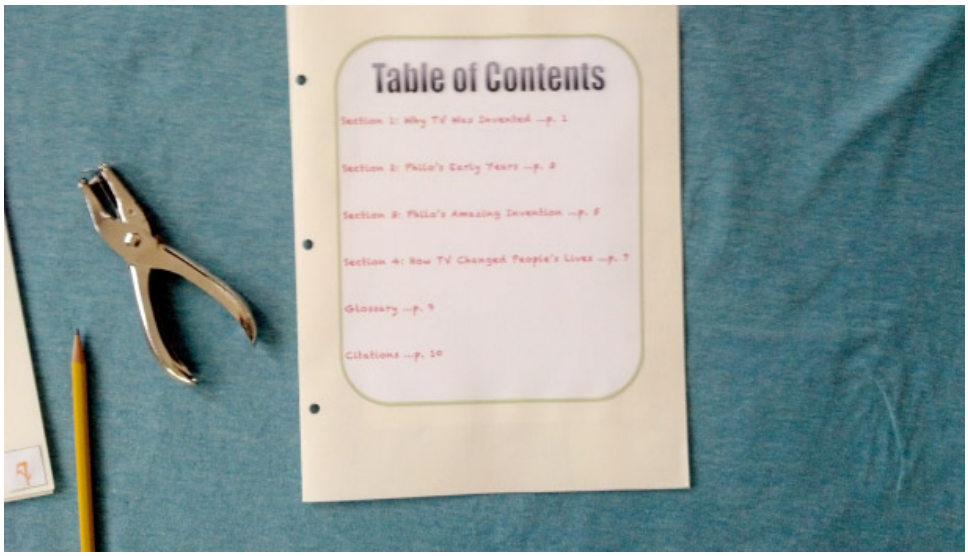


Harris and Ewing. "television Inventor tells Economoc Committee of Difficulties getting Patents." 1939. Photograph, Library of Congress. [reproduction number LC-DIG-hec-25858]
John Atherton

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.

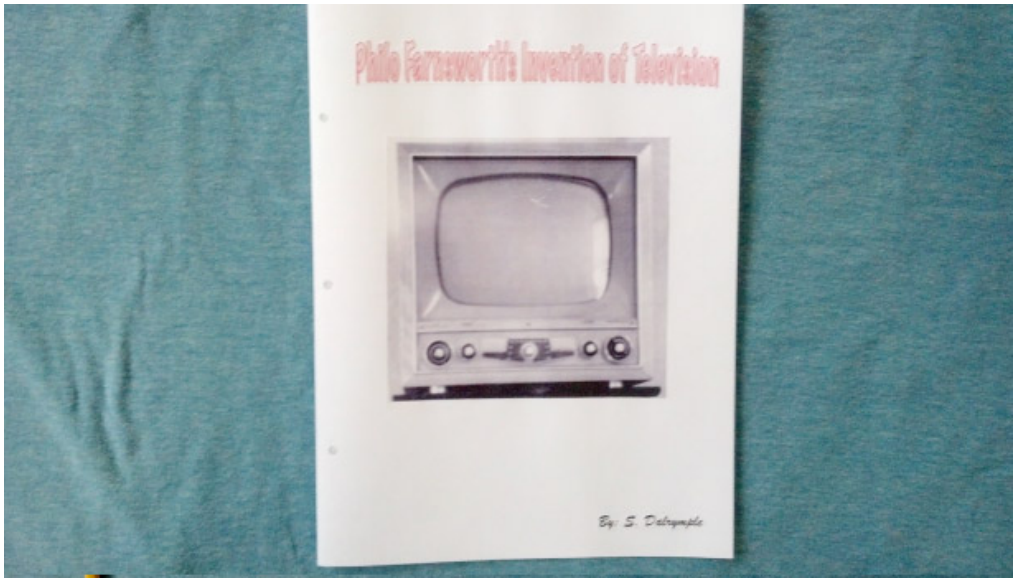
Binding Novelettes, Step 2

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.

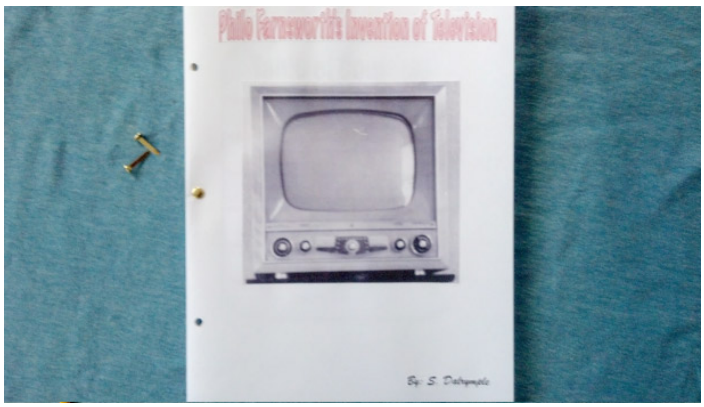
Repeat to mark and make holes in the cover for your novelette.

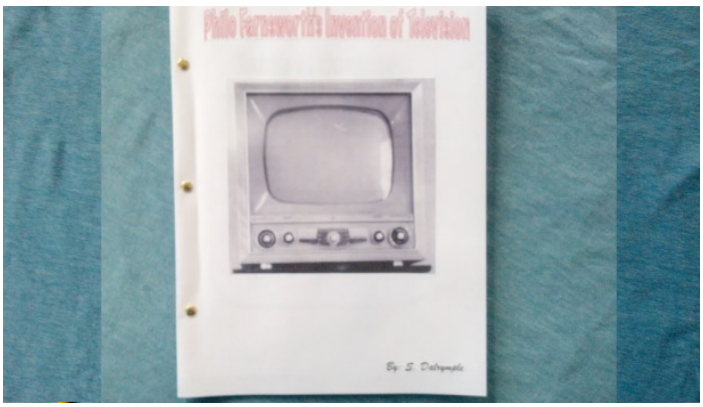


John Atherton

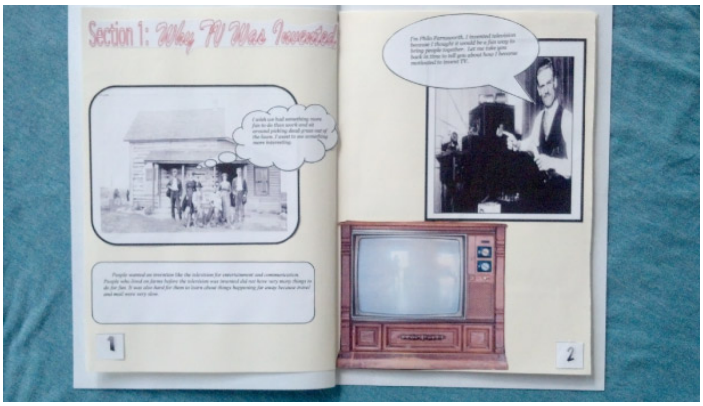
Binding Novelettes, Step 3

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	_ 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 Includes at least one of these visual elements: _ 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	_ 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 Includes at least one of these visual elements: _ 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	_ 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 Includes at least one of these visual elements: _ 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	_ 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 Includes at least one of these visual elements: _ 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	_ 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	_ 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.	_ 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.	_ 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	_ 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	_ Accurately cites all four expert texts from Lessons 2–5: *Last name of author comes before first name and is separated by a comma *Titles of books are italicized (or written in script/cursive) *Titles of articles are in quotes, and NOT italicized or scripted/cursive *If the text came from a website, the name of the website is listed after the name of the text.	_ Accurately cites only three of the expert texts; or cites all four expert texts, but inaccurately	_ Accurately cites only one or two of the expert texts; or cites two or three of the texts inaccurately	_ Does not cite any expert texts accurately; or does not cite expert texts at all

Complete Graphic Novelette Rubric
(For Teacher Reference)

	4	3	2	1
Table of Contents	_ 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	_ 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: _____

_____

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