



EXPEDITIONARY
LEARNING

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

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



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

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

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

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

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

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

Supporting Learning Targets

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

Ongoing Assessment

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



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



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



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



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



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



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



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



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



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



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



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



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



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



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Supporting Materials



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

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

SECTION 3: “CONDUCTING THE EXPERIMENT”

Step 5: Conduct the Experiment

Details that explain *how* to conduct an experiment

- _____
- _____
- _____

Visual Element Focus: “Colors”

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



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

Step 6: Analyzing Data and Drawing a Conclusion

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

- _____
- _____
- _____

Visual Element Focus: “Diagrams/Information Boxes”

How do diagrams and information boxes support your understanding of the sixth step Max Axiom uses to solve a problem?

Key Terms (scientific)

Key Terms (academic)



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

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

SECTION 3: “CONDUCTING THE EXPERIMENT”

Step 5: Conduct the Experiment

Details that explain *how* to conduct an experiment

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

Visual Element Focus: “Colors”

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



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

Step 6: Analyzing Data and Drawing a Conclusion

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

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

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

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

Key Terms
(scientific)
data, findings

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



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

INTERNET SEARCH TERMS

Define Draw

Search:

Draw

Search Results

draw

draw /dru:/

VERB

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

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



NOUN

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



Graphic Novel Template A

Name: _____

Date: _____

Directions:

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

A large rectangular frame containing three smaller rounded rectangular panels. One panel on the left is tall and narrow, while two panels on the right are stacked vertically and are wider than they are tall. All panels have rounded corners and are empty for drawing and text.



Graphic Novel Template B

Name: _____

Date: _____

Directions:

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



Graphic Novel Template C

Name:

Date:

Directions:

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

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