



EXPEDITIONARY
LEARNING

Grade 4: Module 2B: Unit 1: Lesson 7

Mid-Unit Assessment: Reading about Caterpillars, Answering Questions, and Determining the Main Idea



This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
Exempt third-party content is indicated by the footer: © (name of copyright holder). Used by permission and not subject to Creative Commons license.



Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can determine the main idea using specific details from the text. (RI.4.2)</p> <p>I can interpret information presented through charts or graphs. I can explain how that information helps me understand the text around it. (RI.4.7)</p> <p>I can determine the meaning of academic words or phrases in an informational text. (RI.4.4)</p> <p>I can determine the meaning of content words or phrases in an informational text. (RI.4.4)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none">• I can make inferences about caterpillar defense mechanisms by examining articles that include text and diagrams.• I can determine the main idea of a text on caterpillar defense mechanisms.• I can find the meanings of unfamiliar words to help me better understand “Award-Winning Survival Skills: How Animals Elude Prey.”	<ul style="list-style-type: none">• Mid-Unit 1 Assessment• Animal Defenses research journal glossary



Agenda	Teaching Notes
<ol style="list-style-type: none">Opening<ol style="list-style-type: none">Reviewing Learning Targets (5 minutes)Work Time<ol style="list-style-type: none">Mid-Unit 1 Assessment: Answering Questions and Determining the Main Idea of a Text about Caterpillars (30 minutes)Rereading an Informational Text: A Closer Look at Words (15 minutes)Closing and Assessment<ol style="list-style-type: none">Reflect on Learning Targets: Tracking My Progress (10 minutes)Homework<ol style="list-style-type: none">Continue your independent reading.	<ul style="list-style-type: none">This is the third lesson where students reread sections from <i>Animal Behavior: Animal Defenses</i>. In the previous lessons, students worked in expert Jigsaw groups to examine a diagram in their section of the anchor text, determine the main idea of their section, and identify details that support the main idea. In this lesson, students make meaning of unfamiliar words in their section of the text.Students work in partners while figuring out the meaning of unknown words. You may wish to determine the partnerships in advance and strategically group students. One possible arrangement you may consider would be to partner ELLs who speak the same home language in the same group, allowing them to have more meaningful discussions and clarify points in their native language. Or, you may partner students who have demonstrated proficiency with this target with students who have been struggling so the proficient students may support the students who struggle.In advance: Determine partnerships.Post: Learning targets.



Lesson Vocabulary	Materials
progress, track, reflect	<ul style="list-style-type: none">• Mid-Unit 1 Assessment: Reading about Caterpillars, Answering Questions, and Determining the Main Idea (one per student)• Mid-Unit 1 Assessment: Reading about Caterpillars, Answering Questions, and Determining the Main Idea (answers, for teacher reference)• <i>Animal Behavior: Animal Defenses</i> (one per student)<ul style="list-style-type: none">– Teacher model—“Avoiding Danger” (page 7–9, stopping at “Self-Defense”; last two paragraphs on page 21; “Escape Artists” first two paragraphs on page 22)– Group 1—“Bad Smells, Bad Tastes, and Powerful Poisons” (page 55–top of 56, stopping at “Poisonous Prey”; pages 58–60)– Group 2—“Venomous Stings and Bites” (page 73; “How Venom Works” box on page 76; “Stinging Tentacles” pages 77–78)– Group 3—“Mimicry” (pages 91–94)• Close Readers Do These Things anchor chart (from Module 1, Unit 1, Lesson 3; or re-created in this module, Lesson 2)• Vocabulary Strategies anchor chart (from Lesson 3)• Equity sticks• Animal Defenses research journal (from Lesson 1; one per student)• Animal Defense Mechanisms glossary (page 26 of Animal Defenses research journal; from Lesson 3; one per student and one to display)• Sticky notes (two per student)• Animal Defense Mechanisms Word Wall (from Lesson 3)• Blank Word Wall cards (one index card for every two students)• Tracking My Progress, Mid-Unit 1 recording form (one per student and one to display)



Opening	Meeting Students' Needs
<p>A. Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Tell students that today they will complete a formal assessment in which they will do on their own much of what they have been practicing:<ul style="list-style-type: none">– Examine and make inferences about a diagram in an informational text.– Read an informational text.– Identify and record the main idea in the graphic organizer.– Answer questions that are dependent on the text.• Remind them that they will need to refer to the text in order to answer the questions thoroughly.• Encourage the students to do their best. Let them know that this is a chance to show what they know and how much effort they are making to read carefully and identify important details in an informational text. This also is an opportunity to discover even more about animal defense mechanisms.• Ask the students to read the first two learning targets silently:<ul style="list-style-type: none">* “I can make inferences about caterpillar defense mechanisms by examining articles that include text and diagrams.”* “I can determine the main idea of a text on caterpillar defense mechanisms.”• Have them give a thumbs-up if they are clear on what they will be expected to do, a thumbs-sideways if they understand part but not all of what to do, and a thumbs-down if they are very unsure about what they should do. Address any clarifying questions before beginning the assessment.	<ul style="list-style-type: none">• Discussing and clarifying the language of learning targets helps build academic vocabulary.



Work Time	Meeting Students' Needs
<p>A. Mid-Unit 1 Assessment: Answering Questions and Determining the Main Idea of a Text about Caterpillars (30 minutes)</p> <ul style="list-style-type: none">• Distribute the Mid-Unit 1 Assessment: Reading about Caterpillars, Answering Questions, and Determining the Main Idea to each student. Address any clarifying questions.• Give students 30 minutes to complete the assessment.• While students are taking the assessment, circulate to monitor their test-taking skills. This is an opportunity to analyze students' behaviors while taking an assessment. Document strategies students are using during the assessment. For example, look for students annotating their text, using their graphic organizer to take notes before answering questions, and referring to the text as they answer questions.	<ul style="list-style-type: none">• If students receive accommodations for assessments, communicate with the cooperating service providers regarding the practices of instruction in use during this study as well as the goals of the assessment.• For some students, this assessment may require more than the 30 minutes allotted. Consider providing students time over multiple days if necessary.• Asking students to identify challenging vocabulary helps them monitor their understanding of a complex text. When students annotate the text by circling these words, it can also provide a formative assessment for the teacher.
<p>B. Rereading an Informational Text: A Closer Look at Words (15 minutes)</p> <ul style="list-style-type: none">• Explain to students that they will now have a chance to reread their section from <i>Animal Behavior: Animal Defenses</i> again and practice figuring out the meaning of challenging words. Remind and point out on the Close Readers Do These Things anchor chart that close readers read and reread texts many times in order to deeply understand a text.• Review the Vocabulary Strategies anchor chart and use equity sticks to call on students to read the strategies listed in the previous lesson. Invite students to turn and talk, asking:<ul style="list-style-type: none">* “What strategy do you use most often trying to figure out what a word means?”	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Cold call two or three students to share their partner's response.• Tell students that they now are going to practice some of these strategies while rereading <i>Animal Behavior: Animal Defenses</i> to determine the meaning of some challenging words.• Invite students to take out their homework from Lesson 6—a list of words that you do not know the meaning of, the definition of one word from that list, and an explanation for how you figured out what the word meant. Explain to students that they will choose at least three of these words to define and record in their Animal Defenses research journals.• Invite students to open to the Animal Defense Mechanisms glossary on page 26 in the back of their research journals. Remind students that glossaries are a text feature authors often use in nonfiction texts, and that they are found at the end of books. Also remind students that they are formatted so the words appear in alphabetical order. Ask:<ul style="list-style-type: none">* “What do we do when recording a word into the glossary of our research journals?”• Listen for responses like: “We will find the word we are defining in the glossary, then write the definition, then write the vocabulary strategy we used to determine the meaning of that word, and then draw a quick sketch or diagram showing what that word means.”• Explain that with a partner from their expert Jigsaw group, students will reread the text after they have determined and recorded the definitions of these words and talk with their partners about their understanding of the words. Post the following directions:<ol style="list-style-type: none">1. Find the meaning of at least three words you recorded for homework after Lesson 6.2. With your partners, determine the meaning of each word.3. Find the word in your glossary and write the definition, the strategy you used to figure out the meaning, and a sketch representing the word.4. Reread the text with your partners.5. Discuss the following questions: How has your understanding of these words changed? Which words are still confusing for you and why? Record your questions on a sticky note.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• If necessary, review Steps 1 and 2 briefly by saying: “Let’s review how we did this with the word ‘predator.’ First we flipped through the glossary until we found it. Remember, it’s set up so the words are in alphabetical order, so since that starts with the letter P, it was toward the middle of the glossary. Then we wrote the definition of the word. We figured out that it meant an animal that lives by killing and eating another animal, so that’s what we wrote in the definition box. Then we thought about what vocabulary strategy we used to figure out the meaning of that word. We read on in the article and did some inferring to figure out what it meant. So I wrote ‘reading on in the text and infer’ in the ‘Vocabulary Strategy I Used to Learn This Word’ box. The last thing we did was a quick sketch showing what this word meant. I drew a sketch of an armadillo and a jaguar since that was an example from the article, and I drew an arrow pointing to the jaguar since that’s the predator in the sketch.”• Give students 10 minutes to look at least three words from their lists, record their definitions, strategy used, and sketch, and discuss their understanding. Circulate and support pairs as needed. Remind them to record their words at the end of their glossaries. If necessary, ask questions like: “How did you figure out the meaning of that word?” or “Are there any clues in the article that can help you figure out what that word means?” Listen for students discussing the meanings of the words and using strategies from the Vocabulary Strategies anchor chart when determining the meanings.• Cold call partners to share their definitions and visuals/notes for each word. Clarify the definition of each word if necessary.• Point out the Animal Defense Mechanisms Word Wall to students. Distribute one blank Word Wall card (index card) to each pair. Invite student pairs to choose a word they discussed to write on their Word Wall card and post to the Word Wall.	



Closing and Assessment	Meeting Students' Needs
<p>A. Reflect on Learning Targets: Tracking My Progress (10 minutes)</p> <ul style="list-style-type: none">• Congratulate students on their hard work on the assessment. Distribute the Tracking My Progress, Mid-Unit 1 recording form. Remind students that successful learners keep <i>track</i> and <i>reflect</i> on their own learning. Point out that students have been doing this informally during debriefs when they consider how well they are progressing toward targets.• Review Step 1 in the self-assessment and remind students that this is where you would like them to explain what the target means to them. For example, the first target uses the phrase “determine the main idea using specific details.” They should write what the target means “in their own words” by explaining what it means to figure out the main idea of a text and how details are used to support it.• Point out the second step, and explain that this is similar to the thumbs-up, -sideways, or -down that they have used in previous lessons. They should also explain why they think they “need more help,” “understand some,” or are “on the way,” and give examples. Consider giving students an example such as: “I circled that I need more help, because I can’t remember what the word <i>determine</i> means.”• Collect students’ self-assessments to use as formative assessment to guide instructional decisions.	<ul style="list-style-type: none">• Developing self-assessment and reflection supports all students, but research shows it supports struggling learners most.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Continue your independent reading.	



EXPEDITIONARY
LEARNING

Grade 4: Module 2B: Unit 1: Lesson 7

Supporting Materials



This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

Exempt third-party content is indicated by the footer: © (name of copyright holder). Used by permission and not subject to Creative Commons license.



Hanging by a Thread

Hanging by a Thread

By Sharon T. Pochron, Ph.D.
Photos by Ignacio Castellanos, Ph.D.
Art by Linda Weller

**Caterpillars have
a trick to get out
of danger.**

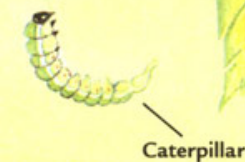
**How do
they know
when to use it?**

A wasp crept toward a caterpillar on a leaf. Dr. Ignacio Castellanos of Mexico watched. He knew the wasp was a caterpillar predator, which meant it ate caterpillars. He wondered what the caterpillar would do. Would it do anything?

As the predator walked closer to the caterpillar, the caterpillar spun a silk thread and jumped. It hung from the leaf by its thread. The wasp did not know where the caterpillar went. The caterpillar was safe!

Knowing Without Seeing

Caterpillars cannot see, hear, or smell very well. Castellanos wondered how the caterpillar knew the predator was



approaching. He and Dr. Pedro Barbosa of Maryland wanted to find out. They thought that maybe the caterpillar could feel the leaf wiggle, or vibrate.

Wasps and stinkbugs eat caterpillars. When these insects walk on a leaf to eat a caterpillar, the leaf wiggles. But the wind, falling sticks, and insects that do not eat caterpillars might also wiggle the leaf. Could caterpillars tell the difference between something safe and something



Hanging by a Thread

Thread



The caterpillar above is walking normally. But when a wasp shakes the leaf, the caterpillar knows it must get away—fast!



dangerous? Or did they hang from a thread every time the leaf wiggled?

The scientists wanted to make the leaf vibrate and watch what the caterpillar did. First, they needed to know how to make the leaf vibrate. They used a special machine to record vibrations. The scientists noticed that wasps made one kind of vibration. Insects that do not eat caterpillars made another kind of vibration. Wind, falling twigs, and dropping water each made a different kind of vibration.

Caterpillars Are Wiggle-Wise


The scientists put caterpillars on leaves and used another machine to make the leaves vibrate. When the leaves shook the way a predator would shake them, caterpillars behaved as if a real predator were on the leaf. They spun threads and hung.

When the leaves shook as if the wind were blowing or rain were falling, caterpillars did nothing. When the leaves shook as if insects that do not eat caterpillars were walking on the leaves, the caterpillars ignored the shaking.

The scientists also found that caterpillars could tell the difference between kinds of predators. Both stinkbugs and wasps have to be very close to a

caterpillar to see it, but stinkbugs must be even closer.

So when stinkbugs were on the leaf, caterpillars could hang from short threads and not be noticed. When wasps were on the leaf, caterpillars spun longer threads to hang farther down—and out of sight.

So now we know that caterpillars can tell dangerous wiggles from other kinds of wiggles. People might have to pay attention to what's in front of their nose, but caterpillars have to pay attention to what vibrates under their feet. 

NOVEMBER 2009

Highlights

17



Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea

Name: _____

Date: _____

Learning Targets Assessed:

I can determine the main idea using specific details from the text. (RI.4.2)

I can interpret information presented through charts or graphs. I can explain how that information helps me understand the text around it. (RI.4.7)

I can determine the meaning of academic words or phrases in an informational text. (RI.4.4)

I can determine the meaning of content words or phrases in an informational text. (RI.4.4)

Part 1: Use the text to answer the questions below.

1. Look at the diagram on the first page of “Hanging by a Thread.”
2. In the first column of the graphic organizer below, record three details you see in the diagram.
3. In the second column of the graphic organizer, record the inferences you make based on these details.

****NOTE: Do NOT complete the right-hand column of the graphic organizer yet!**



Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea

****NOTE: Do NOT complete the right-hand column of the graphic organizer yet!**

Details from the Diagram (explicit information)	My Inferences (what I infer about caterpillars)	Details in the Text That Support My Inferences (confirmed with explicit information) <small>*NOTE: Do NOT complete this right-hand column of the graphic organizer until you have done Steps 1–3 and have read the text in Part 2</small>
1.)	1.)	1.)
2.)	2.)	2.)
3.)	3.)	3.)

Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea

Part 2

Directions

1. Read “Hanging by a Thread” for the gist.
2. In the right-hand column of the graphic organizer above, record details from the text that support your inferences in the middle column.
3. Reread the text to answer the following questions.

1. According to “Hanging by a Thread,” how do caterpillars know to spin a thread and jump off a leaf?
 - a. Caterpillars see the leaf wiggle from the predator moving.
 - b. Caterpillars hear the leaf wiggle from the predator moving.
 - c. Caterpillars smell their predators on the leaf.
 - d. Caterpillars feel the leaf wiggle from the predator moving.
2. According to “Hanging by a Thread,” what best describes what Dr. Castellanos and Dr. Barbosa did to find out how caterpillars knew the predator was approaching?
 - a. They observed wasps approach caterpillars.
 - b. They recorded leaves vibrating.
 - c. They put caterpillars on leaves and used a machine to make the leaves vibrate in different ways.
 - d. They observed stinkbugs approach caterpillars.
3. Which line from the text is the best evidence to support the answer to Question 2?
 - a. “So when stinkbugs were on the leaf, caterpillars could hang from short threads and not be noticed.”
 - b. “When the leaves shook the way a predator would shake them, caterpillars behaved as if a real predator were on the leaf.”
 - c. “First, they needed to know how to make the leaf vibrate.”
 - d. “He knew the wasp was a caterpillar predator, which meant it ate caterpillars.”



Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea

4. In the section “Knowing without Seeing,” the text says, “The scientists wanted to make the leaf vibrate and watch what the caterpillar did.” Which word is a synonym for the word *vibrate*?
- a. shake
 - b. hang
 - c. dangerous
 - d. be still
5. Which line from the text is the best evidence to support the answer to Question 4?
- a. “It hung from the leaf by its thread.”
 - b. “When these insects walk on a leaf to eat a caterpillar, the leaf wiggles.”
 - c. “Could caterpillars tell the difference between something safe and something dangerous?”
 - d. “They used a special machine to record vibrations.”



Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea

**Part 3: Reread the text and determine the main idea for each section of the text.
Identify two details that support the main idea for each section.**

<i>Opening</i>	
Main Idea:	Supporting Details:
<i>Knowing without Seeing</i>	
Main Idea:	Supporting Details:
<i>Caterpillars Are Wiggle-Wise</i>	
Main Idea:	Supporting Details:

Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea
(Answers, for Teacher Reference)

Learning Targets Assessed:

I can determine the main idea using specific details from the text. (RI.4.2)

I can interpret information presented through charts or graphs. I can explain how that information helps me understand the text around it. (RI.4.7)

I can determine the meaning of academic words or phrases in an informational text. (RI.4.4)

I can determine the meaning of content words or phrases in an informational text. (RI.4.4)

Part 1: Use the text to answer the questions below.

1. Look at the diagram on the first page of “Hanging by a Thread.”
2. In the first column of the graphic organizer below, record three details you see in the diagram.
3. In the second column of the graphic organizer, record the inferences you make based on these details.

****NOTE: Do NOT complete the right-hand column of the graphic organizer yet!**

Details from the Diagram (explicit information)	My Inferences (what I infer about caterpillars)	Details in the Text That Support My Inferences (confirmed with explicit information) <small>*NOTE: Do NOT complete this right-hand column of the graphic organizer until you have done Steps 1–3 and have read the text in Part 2</small>
<p>1.) A stinkbug is on the leaf.</p> <p>2.) A caterpillar is on the leaf.</p> <p>3.) A white thread hanging from leaf to caterpillar</p>	<p>1.) The stinkbug wants to eat the caterpillar.</p> <p>2.) The stinkbug is a caterpillar’s predator.</p> <p>3.) Caterpillars swing from a white thread to get away from predators.</p>	<p>1.) “the caterpillar spun a silk thread and jumped. It hung from the leaf by its thread.”</p> <p>2.) “the caterpillar was safe!”</p> <p>3.) “they spun threads and hung”</p>

Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea
(Answers, for Teacher Reference)

Part 2

Directions

1. Read “Hanging by a Thread” for the gist.
2. In the right-hand column of the graphic organizer above, record details from the text that support your inferences in the middle column.
3. Reread the text to answer the following questions.

1. According to “Hanging by a Thread,” how do caterpillars know to spin a thread and jump off a leaf?
 - a. Caterpillars see the leaf wiggle from the predator moving.
 - b. Caterpillars hear the leaf wiggle from the predator moving.
 - c. Caterpillars smell their predators on the leaf.
 - d. Caterpillars feel the leaf wiggle from the predator moving.**
2. According to “Hanging by a Thread,” what best describes what Dr. Castellanos and Dr. Barbosa did to find out how caterpillars knew the predator was approaching?
 - a. They observed wasps approach caterpillars.
 - b. They recorded leaves vibrating.
 - c. They put caterpillars on leaves and used a machine to make the leaves vibrate in different ways.**
 - d. They observed stinkbugs approach caterpillars.
3. Which line from the text is the best evidence to support the answer to Question 2?
 - a. “So when stinkbugs were on the leaf, caterpillars could hang from short threads and not be noticed.”
 - b. “When the leaves shook the way a predator would shake them, caterpillars behaved as if a real predator were on the leaf.”**
 - c. “First, they needed to know how to make the leaf vibrate.”
 - d. “He knew the wasp was a caterpillar predator, which meant it ate caterpillars.”



Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea
(Answers, for Teacher Reference)

4. In the section “Knowing without Seeing,” the text says, “The scientists wanted to make the leaf vibrate and watch what the caterpillar did.” Which word is a synonym for the word *vibrate*?
- a. **shake**
 - b. hang
 - c. dangerous
 - d. be still
5. Which line from the text is the best evidence to support the answer to Question 4?
- a. “It hung from the leaf by its thread.”
 - b. **“When these insects walk on a leaf to eat a caterpillar, the leaf wiggles.”**
 - c. “Could caterpillars tell the difference between something safe and something dangerous?”
 - d. “They used a special machine to record vibrations.”

Mid-Unit 1 Assessment: Reading about Caterpillars,
Answering Questions, and Determining the Main Idea
(Answers, for Teacher Reference)

**Part 3: Reread the text and determine the main idea for each section of the text.
Identify two details that support the main idea for each section.**

<i>Opening</i>	
Main Idea: Dr. Ignacio Castellanos observed what a caterpillar did to avoid a wasp.	Supporting Details: <ul style="list-style-type: none"> • Dr. Ignacio Castellanos of Mexico watched.” • “As the predator walked closer to the caterpillar, the caterpillar spun a silk thread and jumped
<i>Knowing without Seeing</i>	
Main Idea: Scientists wondered if caterpillars can feel leaves vibrate when a predator comes close and hang from a thread to protect themselves.	Supporting Details: <ul style="list-style-type: none"> • “Caterpillars cannot see, hear, or smell very well.” • “The scientists wanted to make the leaf vibrate and watch what the caterpillar did.”
<i>Caterpillars Are Wiggle-Wise</i>	
Main Idea: Caterpillars can tell what is making the leaf shake from the way it vibrates.	Supporting Details: <ul style="list-style-type: none"> • “When the leaves shook the way a predator would shake them, caterpillars behaved as if a real predator were on the leaf.” • “The scientists also found that caterpillars could tell the difference between kinds of predators.”



Tracking My Progress Mid-Unit 1

Name: _____

Date: _____

Learning target: I can determine the main idea using specific details 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 1

Learning target: I can interpret information presented through charts or graphs. I can explain how that information helps me understand the text around it.

1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this



I understand some of this



I am on my way!



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



Tracking My Progress Mid-Unit 1

Learning target: I can determine the meaning of unfamiliar words in an informational 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:
