



EXPEDITIONARY
LEARNING

Grade 4: Module 2B: Unit 1: Overview



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Unit 1: Building Background Knowledge: Animal Defenses and the Research Process

In the first unit of this module, students begin by building background knowledge on animal defense mechanisms using an Animal Defenses research journal to record notes and synthesize new information. Listening closely and close reading of informational texts about animal defense mechanisms will prepare students for the mid-unit assessment in which they examine visuals in the text and read about caterpillars' defense mechanisms. Students then begin a deeper and more focused

study of the topic by researching the millipede and its defense mechanisms. They will continue to record notes and to synthesize new information in their Animal Defenses research journals. This whole-class study of the millipede will act as a model for students as they research an animal of their choice in Unit 2. At the end of this unit, students select their “expert animal” to research with a small group during Unit 2.

Guiding Questions and Big Ideas

- **How do animals' bodies and behaviors help them survive?**
- **How can a writer use knowledge from their research to inform and entertain?**
- *To protect themselves from predators, animals use different defense mechanisms.*
- *In order to entertain and inform, writers become researchers.*



Mid-Unit 1 Assessment	Reading about Caterpillars, Answering Questions, and Determining the Main Idea This assessment centers on standards NYS ELA CCLS RI.4.2, RI.4.4, and RI.4.7. Students read an informational text (including diagrams) about an animal’s defense mechanisms. They answer selected-response text-dependent questions that challenge them to interpret information presented in the diagrams and explain how the information in the diagrams contribute to an understanding of the text in which it appears. They then identify the main idea and supporting details of each section of the text.
End of Unit 1 Assessment	Answering Questions and Summarizing Texts about Animal Defense Mechanisms This two-part assessment centers on standards NYS ELA CCLS RI.4.1, RI.4.2, and SL.4.2. In the first part of the assessment, students read a new text on an animal and its defense mechanisms. They then answer multiple-choice text-dependent questions that include comprehension of key passages and vocabulary. Students then identify the main idea of the text before writing a text summary. In the second part of the assessment, students listen to a transcript read aloud and then write to paraphrase the information presented.



Content Connections

This module is designed to address English Language Arts standards as students read informational texts about animal defense mechanisms. However, the module intentionally incorporates science practices and themes to support potential interdisciplinary connections to this compelling content. These intentional connections are described below.

Big ideas and guiding questions are informed by the New York State Common Core K–8 Science Framework:

- Next-Generation Science Standards 4L-S1-1
- From Molecules to Organisms: Structure and Processes

NYS Science Standard 4:

Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

Key Idea 2:

- Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.

Key Idea 5:

- Organisms maintain a dynamic equilibrium that sustains life. Key Idea 6: Plants and animals depend on each other and their physical environment.

Texts

1. Christina Wilsdon, *Animal Behavior: Animal Defenses* (Chelsea House Publishing (L); 1st edition, April 2009), ISBN: 978-1-60413-089-8.
2. Marilyn Singer, *Venom* (Plain City, Ohio: Darby Creek Publishing, 2007), ISBN: 978-1-58196-043-3. (Teacher copy only.)
3. Lea Winerman, “Award-Winning Survival Skills” in *Science World*, Nov. 2002, 8–13.

This unit is approximately 3 weeks or 14 sessions of instruction.

Lesson	Lesson Title	Long Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 1	Building Background Knowledge: What Are Animal Defense Mechanisms?	<ul style="list-style-type: none"> I can explain what a text says using specific details from the text. (RI.4.1) I can make inferences using specific details from the text. (RI.4.1) 	<ul style="list-style-type: none"> I can infer about animal defense mechanisms based on information in pictures and text. I can support my inferences with details and examples from pictures and texts. I can document my research using a research journal. 	<ul style="list-style-type: none"> Observations during carousel brainstorm Participation during unpacking of guiding questions Animal Defense Mechanisms: KWL Chart 	<ul style="list-style-type: none"> Guiding Questions anchor chart Performance Task anchor chart Carousel Brainstorm protocol
Lesson 2	Building Background Knowledge: Launching Research of Animal Defense Mechanisms	<ul style="list-style-type: none"> I can paraphrase portions of a text that are read aloud to me. (SL.4.2) I can explain what a text says using specific details from the text. (RI.4.1) I can infer what a text says using specific details from the text. (RI.4.1) 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) 	<ul style="list-style-type: none"> I can explain what it means to be a researcher. I can paraphrase information presented in a read-aloud on animal defense mechanisms. I can infer about a text by examining its visual. 	<ul style="list-style-type: none"> Animal Defense research journals-pages 2 and 3: Listening Closely and Examining Visuals note-catchers Observations from participation in Animal Defense Mechanisms: KWL chart construction 	<ul style="list-style-type: none"> Close Readers Do These Things anchor chart Performance Task anchor chart Back-to-Back, Face-to-Face protocol
Lesson 3	A Closer Read for Vocabulary: Words Related to Animal Defenses	<ul style="list-style-type: none"> I can paraphrase portions of a text that is read aloud to me. (SL.4.2) 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) I can use a variety of strategies to read words, (RF.4.3) I can use a variety of strategies to determine the meaning of words and phrases. (L.4.4) 	<ul style="list-style-type: none"> I can paraphrase information presented in a read-aloud on animal defense mechanisms. I can use different strategies to help me read unfamiliar words. I can determine the meanings of unfamiliar words to help me better understand “Award-Winning Survival Skills.” 	<ul style="list-style-type: none"> Listening Closely note-catcher (page 2 of Animal Defenses research journal) Glossary (pages 24-26 Animal Defenses research journal) 	<ul style="list-style-type: none"> Vocabulary Strategies anchor chart



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Lesson 4	A Closer Read for Main Ideas: What Is Important about Animal Defenses?	<ul style="list-style-type: none"> I can paraphrase portions of a text that is read aloud to me. (SL.4.2) I can determine the main idea using specific details from the text. (RI.4.2) 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) 	<ul style="list-style-type: none"> I can paraphrase information presented in a read-aloud on animal defense mechanisms. I can determine the main idea of sections of “Award-Winning Survival Skills.” I can identify details that support the main idea of sections of “Award-Winning Survival Skills.” 	<ul style="list-style-type: none"> Listening Closely note-catcher (page 4 of Animal Defenses research journal) Determining the Main Idea note-catcher (page 5 of Animal Defenses research journal) 	<ul style="list-style-type: none"> Vocabulary Strategies anchor chart Back-to-Back, Face-to-Face protocol
Lesson 5	Reading Scientific Text: Building Expertise on Animal Defense Mechanisms	<ul style="list-style-type: none"> I can paraphrase portions of a text that is read aloud to me. (SL.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 main idea using specific details from the text. (RI.4.2) 	<ul style="list-style-type: none"> I can paraphrase information presented in a read-aloud on animal defense mechanisms. I can make inferences about animal defense by examining articles that include text and visuals. I can determine the main idea of a section of Animal Behaviors: Animal Defenses. 	<ul style="list-style-type: none"> Listening Closely note-catcher (Page 6 of Animal Defenses research journal) Examining Visuals note-catcher (page 7 of Animal Defenses research journal) Determining Main Ideas note-catcher (page 8 of Animal Defenses research journal) Observation of participation during Jigsaw 	<ul style="list-style-type: none"> Jigsaw protocol
Lesson 6	Reading Scientific Text: Reading Closely on Animal Defense Mechanisms	<ul style="list-style-type: none"> I can determine the main idea using specific details from the text. (RI.4.2) I can paraphrase portions of a text that are read aloud to me. (SL.4.2) I can document what I learn about a topic by taking notes. (W.4.8) 	<ul style="list-style-type: none"> I can identify details that support the main idea of a section of Animal Behaviors: Animal Defenses. I can paraphrase and take notes on information presented by my peers in Jigsaw groups. 	<ul style="list-style-type: none"> Determining the Main Idea note-catcher (page 8 in Animal Defenses research journal) Observation of participation during Jigsaw 	<ul style="list-style-type: none"> Jigsaw protocol

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Lesson 7	Mid-Unit Assessment: Reading about Caterpillars, Answering Questions, and Determining the Main Idea	<ul style="list-style-type: none"> 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) 	<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 	<ul style="list-style-type: none"> Close Readers Do These Things anchor chart Vocabulary Strategies anchor chart
Lesson 8	Preparing for a Text-based Discussion: Science Talk about Animal Defenses	<ul style="list-style-type: none"> I can effectively engage in discussions with diverse partners about fourth-grade topics and texts. (SL.4.1) I can prepare myself to participate in discussions. <ol style="list-style-type: none"> I can draw on information to explore ideas in the discussion. 	<ul style="list-style-type: none"> I can effectively participate in a Science Talk about animal defense mechanisms. <ol style="list-style-type: none"> I can prepare for the Science Talk by using evidence from animal defense mechanism texts. 	<ul style="list-style-type: none"> Animal Defense Mechanisms: Preparing for a Science Talk note-catcher 	<ul style="list-style-type: none"> Science Talk Norms anchor chart Quiz-Quiz-Trade protocol Fishbowl protocol
Lesson 9	Text-Based Discussion: Science Talk about Animal Defenses	<ul style="list-style-type: none"> I can effectively engage in discussions with diverse partners about fourth-grade topics and texts. (SL.4.1) <ol style="list-style-type: none"> I can draw on information to explore ideas in the discussion. I can follow our class norms when I participate in a conversation. I can ask questions that are on the topic being discussed. I can connect my questions and responses to what others say. 	<ul style="list-style-type: none"> I can effectively participate in a Science Talk about animal defense mechanisms. <ol style="list-style-type: none"> I can ask questions so I am clear about what is being discussed. I can ask questions on the topic being discussed. I can follow our class norms when I participate in a conversation. I can observe others participating in a Science Talk. 	<ul style="list-style-type: none"> Preparing for a Science Talk note-catcher 	<ul style="list-style-type: none"> Science Talk Norms anchor chart Science Talk protocol



Lesson	Lesson Title	Long Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 10	<ul style="list-style-type: none"> Determining Main Idea and Summarizing: Reading Closely about Millipedes 	<ul style="list-style-type: none"> I can paraphrase portions of a text that is read aloud to me. (SL.4.2) I can determine the main idea using specific details from the text. (RI.4.2) I can summarize informational text. (RI.4.2) 	<ul style="list-style-type: none"> I can determine the main idea of a section of Venom. I can summarize a section of Venom using the main idea and supporting details found in the text. 	<ul style="list-style-type: none"> Listening Closely note-catcher (page 12 of Animal Defenses Research Journal) Determining the Main Idea note-catcher (page 13 of Animal Defenses Research Journal) 	<ul style="list-style-type: none"> Summarizing Informational Text anchor chart
Lesson 11	Close Reading: Learning About Poisonous Animals	<ul style="list-style-type: none"> I can explain what a text says using specific details from the text. (RI.4.1) I can make inferences using specific details from text. (RI.4.1) I can interpret information presented through charts or graphs. I can explain how the 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) 	<ul style="list-style-type: none"> I can make inferences based on information from pictures and text in a section of Animal Behavior: Animal Defenses, "Poisonous Prey". I can support my inferences with details and examples from pictures and texts in a section of Animal Behaviors: Animal Defenses, "Poisonous Prey". I can find the meanings of unfamiliar words to help me better understand a section of Animal Behaviors: Animals Defenses, "Poisonous Prey". 	<ul style="list-style-type: none"> Listening Closely note-catcher (page 14 of Animal Defenses research journal) "Poisonous Prey" note-catcher (pages 15-20 Animal Defenses research journal) 	<ul style="list-style-type: none"> Close Readers Do These Things anchor chart Back-to-Back, Face-to-Face protocol

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Lesson 12	Close Reading Continued: Learning About Poisonous Animals	<ul style="list-style-type: none"> I can explain what a text says using specific details from the text. (RI.4.1) I can make inferences using specific details from text. (RI.4.1) 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) I can use a variety of strategies to read words. (RF.4.3) I can use a variety of strategies to determine the meaning of words and phrases. (L.4.4) 	<ul style="list-style-type: none"> I can make inferences based on information from pictures and text in a section of Animal Behavior: Animal Defenses, “Poisonous Prey”. I can support my inferences with details and examples from pictures and texts in a section of Animal Behaviors: Animal Defenses, “Poisonous Prey”. I can find the meanings of unfamiliar words to help me better understand a section of Animal Behaviors: Animals Defenses, “Poisonous Prey”. 	<ul style="list-style-type: none"> “Poisonous Prey” note-catcher (continued from Lesson 11; pages 15-20 Animal Defenses research journal) 	<ul style="list-style-type: none"> Close Readers Do These Things anchor chart Vocabulary Strategies anchor chart Ink-Pair-Share Protocol
Lesson 13	Science Talk: Synthesizing What We Know about Millipedes	<ul style="list-style-type: none"> I can effectively engage in discussions with diverse partners about fourth-grade topics and texts. (SL.4.1) <ol style="list-style-type: none"> I can prepare myself to participate in discussions. I can draw on information to explore ideas in the discussion. I can follow our class norms when I participate in a conversation. I can ask questions that are on the topic being discussed. I can connect my questions and responses to what others say. I can accurately synthesize information from two texts on the same topic. (RI.4.9) 	<ul style="list-style-type: none"> I can effectively participate in a Science Talk about millipede defense mechanisms. <ol style="list-style-type: none"> I can prepare for the Science Talk by using evidence from animal defense mechanism texts. I can ask questions so I am clear about what is being discussed. I can ask questions on the topic being discussed. I can follow our class norms when I participate in a conversation. 	<ul style="list-style-type: none"> Preparing for a Science Talk note-catcher (page 22 Animal Defenses research journal) Observation of Science Talk 	<ul style="list-style-type: none"> Science Talk Norms anchor chart Participating in a Science Talk anchor chart Science Talk protocol



Lesson	Lesson Title	Long Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 14	End of Unit Assessment: Answering Questions and Summarizing Texts about Animal Defense Mechanisms	<ul style="list-style-type: none">• I can explain what a text says using specific details from the text. (RI.4.1)• I can make inferences using specific details from text. (RI.4.1)• I can determine the main ideas using specific details from the text. (RI.4.2)• I can summarize informational or persuasive text. (RI.4.2)• I can paraphrase portions of a text that is read aloud to me. (SL.4.2)	<ul style="list-style-type: none">• I can paraphrase information read aloud about animal defense mechanisms.• I can determine the main idea of “Hearing Sounds through the Ground.”• I can summarize “Hearing Sounds through the Ground” using the main idea and supporting details found in the text.	<ul style="list-style-type: none">• End of Unit 1 Assessment• Tracking My Progress, End of Unit 1 recording form	



Optional: Experts, Fieldwork, and Service

Experts:

- Invite a biologist or zoologist to discuss animal defense mechanisms.

Fieldwork:

- Arrange for a visit to a local zoo to observe animal defense mechanisms.

Service:

- N/A

Optional: Extensions

- Conduct a deeper study of millipedes: Compare and contrast different species and their defenses.
- Create a food web with the millipede to explore the relationships between predators and prey.
- Read about the habitats and ecosystems and the role of individual species in maintaining balance.
- Adopt a millipede as a class pet and observe and record its behaviors.
- Collaborate with the art teacher to teach students how to create scientific drawings and create a scientific drawing of the millipede.
- Conduct hands-on science experiments and demonstrations. Note: The goal of the lessons in this unit is for students to build scientific knowledge while becoming better readers. These lessons do not fully address science content standards, nor do they replace hands-on, inquiry-based science.



Preparation and Materials

Animal Defenses Research Journal

In Lessons 2–14, students will use an Animal Defenses research journal to record notes and observations about general animal defense mechanisms and the millipede. This journal will be referenced and used in Units 2 and 3 as students write the informational and narrative pieces of the final performance task. Prior to Lesson 2, this journal should be prepared for students and will be used in each subsequent lesson of the unit. Later, in Unit 2, once students have selected an animal to research with a small group, they will use another journal for their research (Expert Animal research journal) with similar graphic organizers and note-catchers. This will help students gather evidence from the texts they read and synthesize their new learning in a similar fashion to Unit 1.

In advance of this unit, consider preparing the Animal Defenses research journal (in Lesson 1) as a copied and stapled packet. In addition, consider providing students with a research folder for use throughout the module. This will help students keep their materials (research journals, texts, writing) organized and in one place.

Note: Each lesson contains a completed page of the Animal Defenses research journal for teacher reference.