



EXPEDITIONARY  
LEARNING

# **Grade 4: Module 2B: Unit 1: Lesson 8**

## **Preparing for a Text-Based Discussion: Science Talk about Animal Defenses**



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can effectively engage in discussions with diverse partners about fourth-grade topics and texts. (SL.4.1)</p> <ul style="list-style-type: none"><li>a. I can prepare myself to participate in discussions.</li><li>a. I can draw on information to explore ideas in the discussion.</li></ul>	
Supporting Learning Targets	Ongoing Assessment
<p>I can effectively participate in a Science Talk about animal defense mechanisms.</p> <ul style="list-style-type: none"><li>a. I can prepare for the Science Talk by using evidence from animal defense mechanism texts.</li></ul>	<ul style="list-style-type: none"><li>• Animal Defense Mechanisms: Preparing for a Science Talk note-catcher</li></ul>



Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Engaging the Reader: Quiz-Quiz-Trade (15 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. What Is a Science Talk? (10 minutes)</li> <li>B. Preparing Evidence and Questions for the Science Talk (30 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Reflecting on the Learning Targets (5 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Review notes for the Science Talk.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• In this lesson, students prepare for the first of two Science Talks in this unit. This series of Science Talks helps students make progress towards SL.4.1, which is formally assessed in Module 3.</li> <li>• Science Talks are discussions about big questions or scientific ideas. They provide students the opportunity to collectively theorize and build on each other's ideas. These talks provide a window on student's thinking that helps teachers figure out what students really know and what their misconceptions may be.</li> <li>• Students will need graphic organizers and texts from Lessons 2–7 to prepare for the Science Talk.</li> <li>• In the opening of this lesson, students use the Quiz-Quiz-Trade protocol to interact with the vocabulary words from this unit in a new way. This routine will be repeated throughout the module for students to deepen their understanding of important vocabulary they will use in their performance task.</li> <li>• In advance:               <ul style="list-style-type: none"> <li>– Review Science Talks, Quiz-Quiz-Trade protocol, and Fist to Five in Checking for Understanding techniques (see Appendix).</li> <li>– Prepare sets of Vocabulary word cards using Word Wall words (see supporting materials) so every student has a card.</li> <li>– Hang chart paper for Science Talk Norms anchor chart.</li> </ul> </li> <li>• Post: Learning targets.</li> </ul>

Lesson Vocabulary	Materials
Science Talk, effectively, participate, prepare, evidence	<ul style="list-style-type: none"> <li>• Vocabulary word cards (see Teaching Notes and supporting materials)</li> <li>• Science Talk Norms anchor chart (new; teacher-created)</li> <li>• Preparing for a Science Talk note-catcher (page 11 of the Animal Defenses research journal; one per student and one to display)</li> <li>• Preparing for a Science Talk note-catcher (completed, for teacher reference)</li> </ul>



Opening	Meeting Students' Needs
<p><b>A. Engaging the Reader: Quiz-Quiz-Trade (15 minutes)</b></p> <ul style="list-style-type: none"><li>• Tell students that today they will discuss the question: “How do animals’ bodies help them survive?” Explain that now that they have read about animal defense mechanism, they should have new thoughts or ideas related to this question. Explain that today they will prepare for this talk by reviewing the vocabulary that they have collected related to animal defenses. Remind students that they have been recording vocabulary words into their Animal Defenses research journals and that the class has also been building a Word Wall with these terms.</li><li>• Tell students they will do a short activity called Quiz-Quiz-Trade using words from the Word Wall to help build their understanding of these words. Remind students that they practiced vocabulary with this activity in Lesson 6. Review the directions: Quiz-Quiz-Trade:<ol style="list-style-type: none"><li>1. Find a partner.</li><li>2. Read definition—Read your word’s definition to your partner. Allow him or her to guess the word or ask for a hint.</li><li>3. Give a hint—If your partner needs a hint, say one thing that helps you remember the meaning of this word. Allow your partner to guess and share your word.</li><li>4. Switch—Have your partner read his or her definition and let you guess or receive a hint.</li><li>5. Trade cards and find a new partner. Repeat Steps 2 through 5.</li></ol></li><li>• Ask students to read directions and clarify or model the process if necessary. Distribute <b>Vocabulary word cards</b>. Point out to students that the word is on one side of the card and the definition is on the other. Tell them to be sure to cover the word so their partner cannot see it when trying to guess the word.</li><li>• Give students 8 minutes to quiz and trade. Collect the Vocabulary word cards (which will be used in a different way in Lesson 9).</li></ul>	



Work Time	Meeting Students' Needs
<p><b>A. What Is a Science Talk? (10 minutes)</b></p> <ul style="list-style-type: none"><li>• Post and read the learning targets:<ul style="list-style-type: none"><li>* “I can effectively participate in a Science Talk about animal defense mechanisms.”</li><li>* “I can prepare for the Science Talk by using evidence from animal defense mechanism texts.”</li></ul></li><li>• Introduce the Science Talk by saying that researchers share information they have learned with others and ask questions of other experts. This helps experts build their understanding by sharing their own thoughts as well as learn from what others say. Experts in the real world talk all the time to expand their thinking.</li><li>• Remind students of all the learning they have done so far about animals and their defense mechanisms. Tell them that they will have the opportunity to use what they’ve learned in a Science Talk. Share today’s first learning target for the Science Talk. “I can effectively participate in a Science Talk about animal defense mechanisms.” Ensure that students understand the meaning of the words <i>effectively</i> and <i>participate</i>.</li><li>• Inform students that a Science Talk is a discussion about big or important questions scientists have. While scientists discuss these big questions with one another, it is important for them to create a set of rules, or norms, that they will all follow so everyone’s ideas can be heard and considered.</li><li>• Start a <b>Science Talk Norms anchor chart</b>. Focus students’ attention on the phrase <i>effectively participate</i>. Ask students what it looks/sounds like to effectively participate with peers, listening for ideas such as: “Wait my turn to speak, so I am heard; don’t shout/speak too loudly; make sure everyone gets a turn to speak; no one person does most/all of the speaking; use information from text to support my ideas,” etc. Add students’ ideas to the anchor chart.</li></ul>	<ul style="list-style-type: none"><li>• Science Talks help your ELLs process their thinking verbally and learn from others’ thoughts.</li><li>• Encourage students to agree or disagree using thumbs-ups or thumbs-down. This can help students who struggle with language to process what their peers are saying.</li><li>• Consider drawing visuals next to each norm, giving ELLs another access point to understand the text. Providing visual models of academic vocabulary supports language development and comprehension.</li></ul>



Work Time (continued)	Meeting Students' Needs
<p><b>B. Preparing Evidence and Questions for the Science Talk (30 minutes)</b></p> <ul style="list-style-type: none"> <li>Ask the class the Science Talk question: “How do animals’ bodies help them survive?” During this talk, students will begin to deepen their understanding of how animals’ bodies and behaviors help them survive.</li> <li>Refer to the second learning target for today: “I can prepare for the Science Talk by using evidence from animal defense mechanism texts” and explain the importance of experts sharing specific evidence from texts in their discussions with others.</li> <li>Show the <b>Preparing for a Science Talk note-catcher</b> on page 11 of their research journals and invite students to open to it. Point out the different sections for recording notes on this page. Indicate to students that they will only be taking notes on the first section (T-chart) of the recording form labeled “Preparation.” The last three sections will be saved for the actual Science Talk as well as for teacher feedback and goal setting when the Science Talk is over.</li> <li>Briefly model how to fill in the left column titled “When I read or see that (evidence) ...” and use evidence from texts used in learning about animal defense mechanisms. Say something like: “We’ll use our Animal Defenses research journal and the texts we’ve read in this unit to collect evidence that answers the Science Talk question. I’ll start by flipping to the first Listening Closely note-catcher” (turn to page 2 of the research journal). “I’ll skim this page to see if there is any evidence I can use that will answer the Science Talk question. I remember that this text was about how spiders use venom to survive—I’ll write it in the first box of my note-catcher: ‘most spiders are venomous.’ I’ll also note where I found this information—it was on page 8 of <i>Venom</i>, so I’ll write that after my note.”</li> <li>Explain to students that the right column labeled “It makes me think that animals’ bodies help them survive by ...” is a space for them to justify their facts from the left column. Again, briefly model how to record an example of what could be written in the right column. Say something like: “So, how does the venom help spiders survive? I think that it paralyzes or kills the spiders’ prey and its enemies. So I’ll write that in this box.”</li> <li>Remind students that they will only be recording important facts about their animal’s body that help it survive and why they think the fact is accurate in the T-chart in the first section of the Preparing for a Science Talk note-catcher. Explain that the second section, “My Science Talk Notes: Ideas and Questions,” will be used during the Science Talk and needs to be left blank until the class begins the discussion in Lesson 9.</li> <li>Give students 20 minutes to complete their first section of the Preparing for a Science Talk note-catcher. Confer with the class as necessary, and remind them to use specific evidence from the text to support their thinking.</li> </ul>	<ul style="list-style-type: none"> <li>When reviewing the graphic organizers or recording forms, consider using a document camera to visually display the document for students who struggle with auditory processing.</li> <li>Providing models of expected work supports all students, especially challenged learners.</li> <li>During Work Time B, you may want to pull a small group of students to support in finding evidence from their notes. Some students will need more guided practice before they are ready for independent work.</li> <li>Allow ELLs and other students to use pictures and symbols as necessary on their recording forms.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Circulate and check in with students as they work independently. To ensure that students use specific evidence from texts they've read, ask them questions like: "Where in the text did you find that fact?" or "How do you know that fact helps answer our question, 'How do animals' bodies help them survive?'" Encourage them to record page numbers and text titles with their evidence so they can easily refer to it if needed during the Science Talk.</li></ul>	
Closing and Assessment	Meeting Students' Needs
<p><b>A. Reflecting on the Learning Targets (5 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to gather together with their Preparing for a Science Talk note-catcher. Ask them to look over their notes and decide how prepared they feel for tomorrow's Science Talk using the Fist to Five assessment strategy.<ul style="list-style-type: none"><li>– Fist—"I am completely confused about what I'm supposed to do and am not prepared at all!"</li><li>– One finger—"I kind of know what I'm doing but still need more support and/or time."</li><li>– Two fingers—"I'm getting there. I know what I need to do, I just need a little more support and/or time."</li><li>– Three fingers—"I'm almost there."</li><li>– Four fingers—"I'm feeling really good about tomorrow's Science Talk."</li><li>– Five fingers—"I'm ready to do the Science Talk right now! Let's go!"</li></ul></li></ul>	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Review notes for the Science Talk.<ul style="list-style-type: none"><li>– If you rated yourself at a three or less on the Fist to Five, reread your note-catchers and add more information in your Preparing for a Science Talk note-catcher in order to be better prepared for the Science Talk.</li><li>– If you rated yourself at a four or five on the Fist to Five, take some time tonight to review your notes on Preparing for a Science Talk note-catcher for the Science Talk.</li></ul></li></ul>	



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## Supporting Materials



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Vocabulary Word Cards (Front):  
Animal Defense Words

**Teacher Directions:** Copy the following words and their definitions front to back and make enough copies so that each student will have a card (3 to 4 sets).

<b>defense mechanism</b>	<b>mimicry</b>
<b>predator</b>	<b>threaten</b>
<b>prey</b>	<b>venom</b>
<b>habitat</b>	<b>survive</b>



Vocabulary Word Cards (Back):  
Animal Defense Words

**Teacher Directions:** Copy the following words and their definitions front to back and make enough copies so that each student will have a card (3 to 4 sets).

<b>-traits or behaviors that protect animals</b>	<b>-defense of looking like another animal</b>
<b>-to pull out</b>	<b>-in danger</b>
<b>to do something wild with fear</b>	<b>-toxin that is injected with a stinger, fang, or spine</b>
<b>-a place where an animal lives</b>	<b>-to live</b>



**Animal Defenses Research Journal:**  
Preparing for a Science Talk  
(Completed, for Teacher Reference)

**Question:** How do animals' bodies help them survive?

**Preparation:** Look back in your Animal Defenses research journal and texts about animal defense mechanisms to find evidence to help you answer the Science Talk question.

<b>When I read or see that (evidence) ...</b>	<b>It makes me think that animals' bodies help them survive by ...</b>
(Example) most spiders are venomous ( <i>Venom</i> page 8)	(Example) I think that the venom paralyzes or kills the spider's prey and enemies.
the mimic octopus mimics other creatures to turn off predators ("Award-Winning Survival Skills: How Animals Elude Prey")	I think that since the mimic octopus can change to look like other dangerous animals, its enemies probably stay away from them because they think the octopus is dangerous and will poison or hurt them.
the three-banded armadillo rolls into a ball ("Award-Winning Survival Skills: How Animals Elude Prey")	I think that it rolls into a ball to protect the parts of its body that don't have a shell—its head, legs, and tail. By rolling into a ball, these parts are under its hard armor and protected from its enemies.
"bright colors can also be warning colors" ( <i>Animal Behavior: Animal Defenses</i> page 58)	I think that the colors warn predators that the animal is dangerous, so they learn to stay away from it.