

Lesson 1

Title	Building Background Knowledge: What are Animal Defense Mechanisms?		
Date	4/1/2017		
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Subject Area	ELA/embedded Science	Grade Level	4

Unit of Study	Animal Defense Mechanisms and Using Writing to Inform and Entertain
Specific Curriculum Frameworks addressed in this lesson	<p>RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p>4-LS1-1. Construct an argument that animals and plants have internal and external structures that support their survival, growth, behavior, and reproduction.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Animal structures can include legs, wings, fins, feathers, trunks, claws, horns, antennae, eyes, ears, nose, heart, stomach, lung, brain, and skin. • Plant structures can include leaves, roots, stems, bark, branches, flowers, fruit, and seeds.

Learning Targets and Assessments	
<p>Long Term Targets</p> <ul style="list-style-type: none"> • I can explain what a text says using specific details from the text. • I can make inferences using specific details from the text. <p>Supporting Targets (Visible/Posted for students)</p> <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. 	<p>Assessments OF Learning</p> <ul style="list-style-type: none"> • Observations during carousel protocol. • Notecatcher from Venom Read Aloud. <p>Assessments FOR learning</p> <ul style="list-style-type: none"> • Participation during unpacking of guiding questions. • Sticky Note co-construction of Animal Defense Mechanisms KWL chart. • Notecatcher from Venom Read Aloud.

Introduction of the lesson: Building engagement and setting purpose	
<p>Instructional Steps</p> <p>Reviewing Learning Targets (10 minutes)</p> <ul style="list-style-type: none"> • Review learning targets highlighting key vocabulary: infer. What does it mean to infer about something? Using equity sticks, listen for a few students to share responses. • Teach word: infer with hand gestures: “You take what you already know (point to head) and what you see in the text/picture (fan hands like 	<p>Differentiation</p> <ul style="list-style-type: none"> • Learning Targets posted for additional visual support for students with disabilities and ELLs. • Pre-teaching vocabulary from targets. • Modeling how to make an inference with a familiar example: a crying student. • Using a kinesthetic method to help solidify an important vocabulary word, infer, that will reappear many times throughout the unit.

book) and you put them together (lace fingers) to figure out what the author didn't explicitly say.

- If I see that Juan is crying, I can infer that he is sad. He didn't tell me that so I can't be 100% sure but my background knowledge tells me people often cry when they are upset and I saw his tears so I put the evidence I saw together with what I already know to make an inference.
- We will be making inferences today about animal defense mechanisms.
- Pre-teach vocabulary: **defense and mechanisms.** What do you think the word **defense** means? Listening for "to protect yourself or keep from getting hurt."
- What do you think the word **mechanism** means? Listening for "means or way that animals protect themselves."
- When we make inferences, we are taking what we know and connecting it to what we see in the text or the visual, so it is important that we can use details or evidence from the text or picture to prove our inference.
- Last learning target: What do you think it means to document research? Listening for "to write down what we are studying about, to take notes.
- Students self-assess understanding of today's learning targets using fist to five protocol (fist is I don't understand at all, 5 is I totally have it, 3 is somewhere in between)

Scaffolding plans for the body of the instruction

Instructional Steps

Discovering Our Topic: Carousel Brainstorm (40 minutes)

- Prepared Carousel Posters are posted around the room. Each poster has a visual or a quotation with the heading, "What can you infer about animal defenses from the pictures and/or text on this poster?"
- Students are divided into flexible groupings to ensure participation and an access point for every student.
- Review the directions for the Carousel Protocol.

Differentiation

- Students are flexibly grouped for the Carousel to include a mix of readiness, ELLs, SWDs and interest.
- Add sentence stems at each poster to support ELLs, SWDs and any other student needing support, "In the photograph I see....This makes me think that....."

- Your group will visit each poster, you will look at the picture or the text, talk to each other about what you notice and what it makes you think about animal defenses.
- You will decide, as a group, what you will record on the poster.
- When the timer sounds, you and your group will move to the next poster.
- For example, if I were looking at this picture of a millipede, I might say something like, “I notice that the millipede is curled up into a ball. I can infer that millipedes protect themselves by curling into a ball. The details that support this inference are that I can see the picture of the millipede and I know we are thinking about how animals protect themselves.” Next, I would share my inference with the group and if everyone agrees, we record it on the poster.”
- Post the directions for the Carousel Protocol and have a timer visible to students.
- What do we need to remember about working in groups? How will you decide whose ideas or suggestions for what to write you will record? Will the same person write each time? How can you be sure that every voice is heard? Listening to be sure that students understand the expectations for the protocol and how to work in groups.
- In their groups, students visit each poster, using a marker to record their inferences. (Each group has a different color marker so that when students do a gallery walk at the end, they can see what other groups wrote.)
- Support students as needed with guiding questions, pushing to use evidence from the text/visual and not simply background knowledge.
- Encourage students to push their thinking by not writing the same thing as the group(s) before them.
- Students walk to visit all posters, reading what other groups have written.
- Come back together to debrief and prepare for KWL chart co-construction. Debrief: “What patterns did you notice in all of the Carousel posters? Round Robin Quick Share.

Co-Construction of KWL Chart (15 minutes)

- Having the conversation and the carousel protocol first enables increased participation for students

- Post a piece of chart paper with 3 categories, KWL and review (K= What I already know, W= What I Want to know, and L=What I have Learned.)
- Today we will be working on the first two columns. What we Know and what we Want to know.
- Distribute two sticky notes to each student and model writing one, “I know...” and one, “I want to know....” on each sticky note.
- “I know that animals use defense mechanisms to help them survive.” and “I want to know if they are born with them or if they learn them from their parents.”
- When students have finished their two sticky notes invite them to come up and stick them in the correct column on the chart.
- Together with students, read the Knows and Want to Knows, recording them on the KWL Chart. (Consider putting a date on the chart, at the end of the first BBK unit, I used the L part as an informal assessment asking students to record their L’s (learns) using the same protocol.

Read Aloud of *Venom* (15 minutes)

- Show cover of *Venom* to students. What do you think venom means?
- What do you notice about this book? What do you think you will learn from it?
- Read the back cover of the book “Now what do you think *venom* means?”
- Display pages 4 and 5. Read Title “Introduction: Don’t Eat, Don’t Touch, Don’t... Well, Just Don’t!”
- What do you notice and what do you wonder about these pages? Listening for text features, headings, color, punctuation to grab reader’s attention and inform about the topic.)
- Read first 3 paragraphs, Turn and Talk, share one interesting thing you learned with your partner while listening to page 4.
- ASK: What is one thing your partner learned while listening to page 4?
- According to this text, “What does **poisonous** mean?”
- What do you think the suffix **-ous** means? Turns a word into an adjective, that describes the

who need more support in the construction of the KWL chart.

- Listening to a challenging, academic, grade level text read slowly, fluently and without interruption or explanation promotes fluency for students. They are hearing the text read aloud with accuracy and expression which also helps with comprehension.

quality of the base word. What are some other examples of words that end with **-ous**?

- After reading this, did your ideas about what venom means change? How?
- Read title and two paragraphs on page 5. Turn and Talk, sharing one interesting thing you learned from listening to page 5.
- Share one thing your partner learned while listening to page 5.
- We will use this book throughout the module to learn about animal defense mechanisms. You will have opportunities to read it in class and you may choose to read it on your own during independent reading time.

Preparing to Research (10 minutes)

- Display the Guiding Questions Anchor Chart:
- How do animals' bodies and behaviors help them **survive**? What does survive mean? What do you think is meant by bodies and behaviors?
- How can a writer use knowledge from their research to **inform** and **entertain** their reader? What does it mean to inform? What does it mean to entertain?
- Display Performance Task Anchor Chart: Review the first part of the performance task, "Write an introduction that describes your animal's physical characteristics, habitat, predators and defense mechanisms."
- During the first part of our unit, we will gather information about animal defense mechanisms and record it in our research journals. This will help us when it is time to work on our projects.

Self-Assessment/Debrief (5 minutes)

- Using a Whip Share protocol, students use one word to describe how they are feeling or what they are thinking about today's lesson.
- Final self-assessment: Students use Fist to Five protocol to self-assess on today's learning targets.

Synthesis: How will students synthesize their understanding?

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<p>Students will use the Carousel Protocol and the sticky notes regarding Know and Want to Know about animal defense mechanisms to synthesize their learning. Because this is the opening lesson of a new unit, there were many questions, but there was also a considerable amount of background knowledge from students. We will be able to build on this background knowledge throughout the first part of the unit by learning specific scientific vocabulary and in the second part by learning to use it in our writing.</p>	
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Considerations in terms of the lesson plan as a whole

<p>Materials Required for this lesson SmartBoard or Whiteboard with learning targets displayed for students. ELMO Carousel Protocol Directions Carousel Protocol Posters prepared ahead of time Student Groupings (consider having them listed) Different Color Markers for each group Visible Timer for Students Chart Paper for co-construction of KWL chart Sticky Notes <i>Venom</i> by Marilyn Singer (1 copy for teacher, consider purchasing other copies, I found that students loved this book and wanted to read it during free time or independent reading time so I purchased 3 more copies) Guiding Questions Anchor Chart: Write on a piece of chart paper prior to the lesson: “How do animals’ bodies and behaviors help them to survive?” and “How can a writer use knowledge from their research to both inform and entertain their reader?” Performance Task Anchor Chart</p>	
<p>Social Justice Orientation This lesson and unit opener is the first introduction this year to grade level academic science content. I know that my students need practice in developing this type of academic language to help them in their academic and real life careers. I also believe that working in groups empowers students to see that many times more can be accomplished when they work together for a common goal. This lesson helps them to begin the process of practicing how to do</p>	

<p>that successfully by lending some structure to the groupings (teacher chooses who works with who) but some autonomy (students decide who will write, how to take turns and practice listening to every voice.)</p>	
<p>Technology Integration Use of the SmartBoard and ELMO document camera ensure that students have access to directions displayed, a visible timer and the ability to see teacher modeling of different activities throughout the lesson.</p>	
<p>Assessment of Instruction (Teacher's Development) To what degree were you successful? I have already taught this lesson and consider it one of the most successful lessons that I have facilitated all year. Due to the high interest topic and lots of hands on activities and movement, I had 100% participation during the Carousel Protocol from every student. There was a huge amount of content and activities in this lesson but I was able to do it all in one lesson because students were highly engaged and off task behavior was kept to a minimum. This is how I taught it this year.</p>	