



EXPEDITIONARY
LEARNING

Grade 5: Module 2A: Unit 3: Lesson 7

Conducting Research: Analyzing a Variety of Sources to Capture Information about My Insect



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

I can locate an answer or solve a problem efficiently, drawing from multiple informational sources. (RI.5.7)

I can become knowledgeable about a topic by conducting research projects. (W.5.7)

I can use several sources to build my knowledge about a topic. (W.5.7)

I can document what I learn about a topic by taking notes. (W.5.8)

Supporting Learning Targets

- I can build my knowledge about rainforest insects by examining different resources.
- I can build my knowledge about my rainforest insects by watching videos.
- I can document my learning by taking notes.

Ongoing Assessment

- Students' field journals
- Students' research notes
- Admit and exit tickets



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Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Homework Review and Introduce Learning Targets (10 minutes)2. Work Time<ol style="list-style-type: none">A. Taking Notes: Using Text Features and Pictures to Find Important Information Quickly (10 minutes)B. Expert Groups Instruction: Additional Practice and Independent Expert Group Work (15 minutes)C. Taking Notes from Videos (20 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Reviewing Learning Targets (5 minutes)4. Homework	<ul style="list-style-type: none">• In advance: Preview the video students will be watching: “Butterfly Eggs and Caterpillar Survival—Life in the Undergrowth” (see link in materials, below).• In advance: Find a close-up photograph of an ant to display. You can find an image by performing an image search for ‘ant’ in a search engine.• Cue up the video to play during Work Time. The video is approximately six minutes long.• Please bear in mind that Youtube, social media video sites, and other website links may incorporate inappropriate content via comment banks and ads. While some lessons include these links as the most efficient means to view content in preparation for the lesson, be sure to preview links, and/or use a filter service, such as www.safeshare.tv, for actually viewing these links in the classroom.



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Lesson Vocabulary	Materials
key (on a map), text box, documentary; migration, massive, subsequently, dependent, exclusively, protective, distinctive, chrysalides, generations, ancestors, population, occurring, survival	<ul style="list-style-type: none"> • Half sheets of paper to use for entry tickets (one per student) • Image of an ant (one to display; see Teaching Note) • Ant Range Map (from Lesson 5) • Expert Group Materials: Ant Life Cycle Graphic and Ant task card (one per student in Ant Expert Group) and Butterfly Life Cycle Graphic and Butterfly task card (one per student in Butterfly Expert Group) • Features of Informational Text anchor chart (from Unit 1) • Video: “Butterfly Eggs and Caterpillar Survival—Life in the Undergrowth” (6:30) Available at: http://www.youtube.com/watch?v=GCo2uCLXvhk

Opening	Meeting Students’ Needs
<p>A. Homework Review and Introduce Learning Targets (10 minutes)</p> <ul style="list-style-type: none"> • Distribute half sheets of paper and ask students to write: <ul style="list-style-type: none"> * A list of insects and spiders that live in the area and what role those insects play in the local ecosystem. • Tell students that this is a pre-assessment: They aren’t expected to know the answer to this question yet. Give them a few minutes to write. • Ask for volunteers to share out. Lead the students to an understanding that because insects and spiders are food for many other organisms in the food chain, they are a valuable part of any ecosystem. • Remind students of their homework: Ask if anyone found any arthropods to write about. Invite students to share. • Ask the students to read the first two learning targets and pair-share about what they think they will be doing in today’s lesson. Validate their speculation that they will be looking at pictures and watching videos in order to learn more about their rainforest insects. Clarify academic vocabulary in the learning targets (knowledge, examining, documenting). 	<ul style="list-style-type: none"> • Consider allowing students to just draw their observations, ideas, or notes in their journals. This allows all students to participate in a meaningful way. • All students developing academic language will benefit from direct instruction of academic vocabulary, especially when discussing learning targets.



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Work Time	Meeting Students' Needs
<p>A. Taking Notes: Using Text Features and Pictures to Find Important Information Quickly (10 minutes)</p> <ul style="list-style-type: none"> Send students to their expert group tables. Ask them to take out their journals and set up a C/F/Q/R Note-catcher on their next blank page. Tell students that the focus today is on learning from studying visual information. Say: "Have you ever heard the expression 'A picture is worth a thousand words'? What do you think this means?" Pause and ask students to share their thoughts. Then continue: "Smart readers know how to 'read' pictures as well as words, because they know that there is often a lot of valuable information in images." Tell students they will look at the same image several times, just like they often reread complex text. Display image of an ant. Ask students to take notes in two columns of their C/F/Q/R Note-catcher: <ol style="list-style-type: none"> Two FACTS you observe about the photo Any QUESTIONS you have looking at the photo Ask students to share in their expert groups: <ul style="list-style-type: none"> * "What did you learn by just looking at the picture?" * "How was looking at the picture different from doing research by reading?" Listen for comments about the size, color, and general appearance of the ant, and for some to say they have gotten a clearer idea of what the ants look like from the picture than from the text. Direct the students' attention to the Ant Range Map. Ask students what the key indicates, and if they can't answer, explain that the <i>key</i> indicates where you can find ants in the world. Ask: <ul style="list-style-type: none"> * "What have you learned about ants from studying this map?" 	<ul style="list-style-type: none"> Students needing additional support may benefit from a partially filled-in C/F/Q/R Note-catcher. Visuals can help students comprehend questions and discussions. Chart main points in answers and post all questions asked for students during discussion of research.



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Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">Solicit the answer that ants live everywhere except the Arctic and Antarctica. Have students record this fact in their C/F/Q/R Note-catcher.Next, ask the students to study the “Fast Facts” on the right side of the page, including the graphic that shows an ant’s size relative to a paper clip. Explain that this is an informational <i>text box</i>, and it is a text feature that they will be including when they write their rainforest field journals. Ask:<ul style="list-style-type: none">* “What categories are included in this text box that are the same as our research categories?”(Answer = food source, behavior, physical characteristics.) Have students record any new information in all columns of their C/F/Q/R Note-catcher.	
<p>B. Expert Groups Instruction: Additional Practice and Independent Expert Group Work (15 minutes)</p> <ul style="list-style-type: none">Tell students that like yesterday, groups studying each topic will work on their own for part of the time, and with your support for part of the time.Distribute the Expert Group Materials for both the ant and butterfly expert groups. Then review the task cards with both groups (the task cards for both groups are very similar).Clarify the directions as necessary. Emphasize that students should focus on the illustrations in their graphics for part I on their task cards and then move on to focus on the text that accompanies their graphics for part II on their task cards.Circulate to support groups as needed.	<ul style="list-style-type: none">When possible, provide text or materials for research found in students’ L1. This can help students understand materials presented in English.Consider providing smaller chunks of text for research (sometimes just a few sentences) for ELLs. Teachers can check in on students’ thinking as they write or speak about their text.



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Work Time (continued)	Meeting Students' Needs
<p>C. Taking Notes from Videos (20 minutes)</p> <ul style="list-style-type: none"> Gather students whole group. Tell them they will continue to do research by watching a <i>documentary</i> video. Remind students that they learned (in Unit 1, Lesson 7) that <i>documentaries</i> are films or television programs that present information in a factual manner. Point out the root word, <i>document</i>—to find evidence to support an idea. Direct students' attention to the Features of Informational Text anchor chart and review the features of a documentary video that are listed there. Ask students to talk at their tables about what they can learn from watching a film that they might not get from reading a book. Listen for students to say that you can tell how things look and move around from watching a video. Briefly preview key aspects of the video (note: keep this short so as to not give too much of the thinking away). Tell students that this video is about both ants and butterflies. Tell students: "This video guest stars another insect—a kind of wasp called an ichneumon [pronounced ik-NEW-men] wasp. As you watch the video the first time through, think about how the ants contribute to the life cycle of the caterpillars, and how the caterpillars contribute to the life cycle of the wasp. These are ways that both contribute to the rainforest ecosystem." Show the video "Butterfly Eggs and Caterpillar Survival—Life in the Undergrowth" once through without stopping. After the first viewing, ask students to Think-Pair-Share what they learned from watching the video about how caterpillars (which eventually become butterflies) or ants contribute to the rainforest ecosystem. Show the video again. This time, pause it periodically to allow students to add to their C/F/Q/R Note-catchers, clarify vocabulary, and check for understanding. For example: <ul style="list-style-type: none"> * At :23 pause and tell students that the <i>gentian</i> is the name of the plant that the caterpillar is eating. * At 1:15, pause and define <i>pheromone</i> (a chemical released by an animal that causes other animals of the same species to behave in a certain way). 	<ul style="list-style-type: none"> When playing videos, use the subtitles, or provide a transcript, if available. Providing a visual can assist struggling learners in understanding the content of the video.



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Closing and Assessment	Meeting Students' Needs
<p>A. Reviewing Learning Targets.</p> <ul style="list-style-type: none">• Bring the class together. Review the learning targets. Cold call students to name one example of how they used text features and the video to help them build their knowledge of rainforest insects.• Collect students' journal and exit tickets as an ongoing assessment.	<ul style="list-style-type: none">• For students needing additional support producing language, consider offering a sentence frame, sentence starter, or a cloze sentence to assist with language production and provide the structure required. (e.g., "I used the text feature _____ to help me learn about rainforest insects. The text feature _____ helped me learn more about rainforest insects because _____.")
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Finish the expert group research that was begun during Work Time in today's lesson.• Use your field journal to record notes from nature at home, either by going outside, looking out your window, or at photographs in <i>The Most Beautiful Roof in the World</i>. Look for arthropods on which to focus your sketches and notes.• <p><i>Note: Review students' C/F/Q/R Note-catchers and exit tickets to ensure that they are recording information that is on topic and are getting progressively deeper with their understandings of their chosen arthropod. Note which students may need re-teaching or clarifying during future lessons.</i></p>	<ul style="list-style-type: none">•



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Supporting Materials



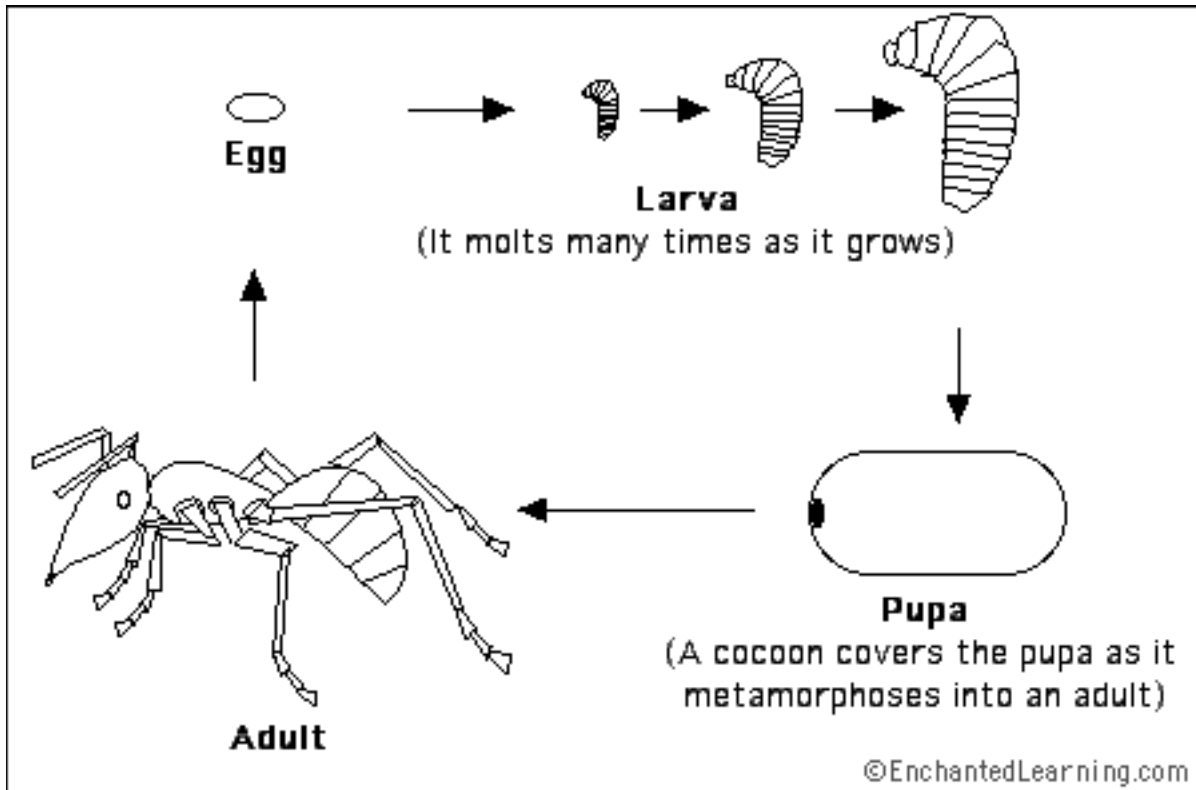
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Ant Expert Group Materials:
Ant Life Cycle Graphic

Graphic:



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Text:

The life cycle of the ant has four stages: egg, larva, pupa, and adult. Fertilized eggs produce female ants (queens, workers, or soldiers); unfertilized eggs produce male ants. The worm like larvae have no eyes and no legs; they eat food regurgitated by adult ants. The larvae molt (shed their skin) many times as they grow. After reaching a certain size, they spin a silk-like cocoon (against a solid object, like the wall of the chamber) and pupate. During this time the body metamorphoses (changes) into its adult form. The pupa emerges as an adult. The entire life cycle usually lasts from 6 to 10 weeks. Some queens can live over 15 years, and some workers can live for up to 7 years.



Ant Expert Group Materials:
Ant Task Card

PART I: Graphic “Life Cycle of an Ant”

1. Study the graphic (illustration) of the life cycle of an ant (1–2 minutes).
2. Talk with your group members about the fact(s) you were able to learn from the graphic.
3. Discuss the words you would use to make a note about the fact(s) you learned from the graphic.
4. Record the fact(s) in the F column of your C/F/Q/R Note-catcher.
5. In the C (Category) column of your Note-catcher, write the text code for the kind of information you are recording (L for Life Cycle).
6. Write a gist statement about what this graphic is mostly about.

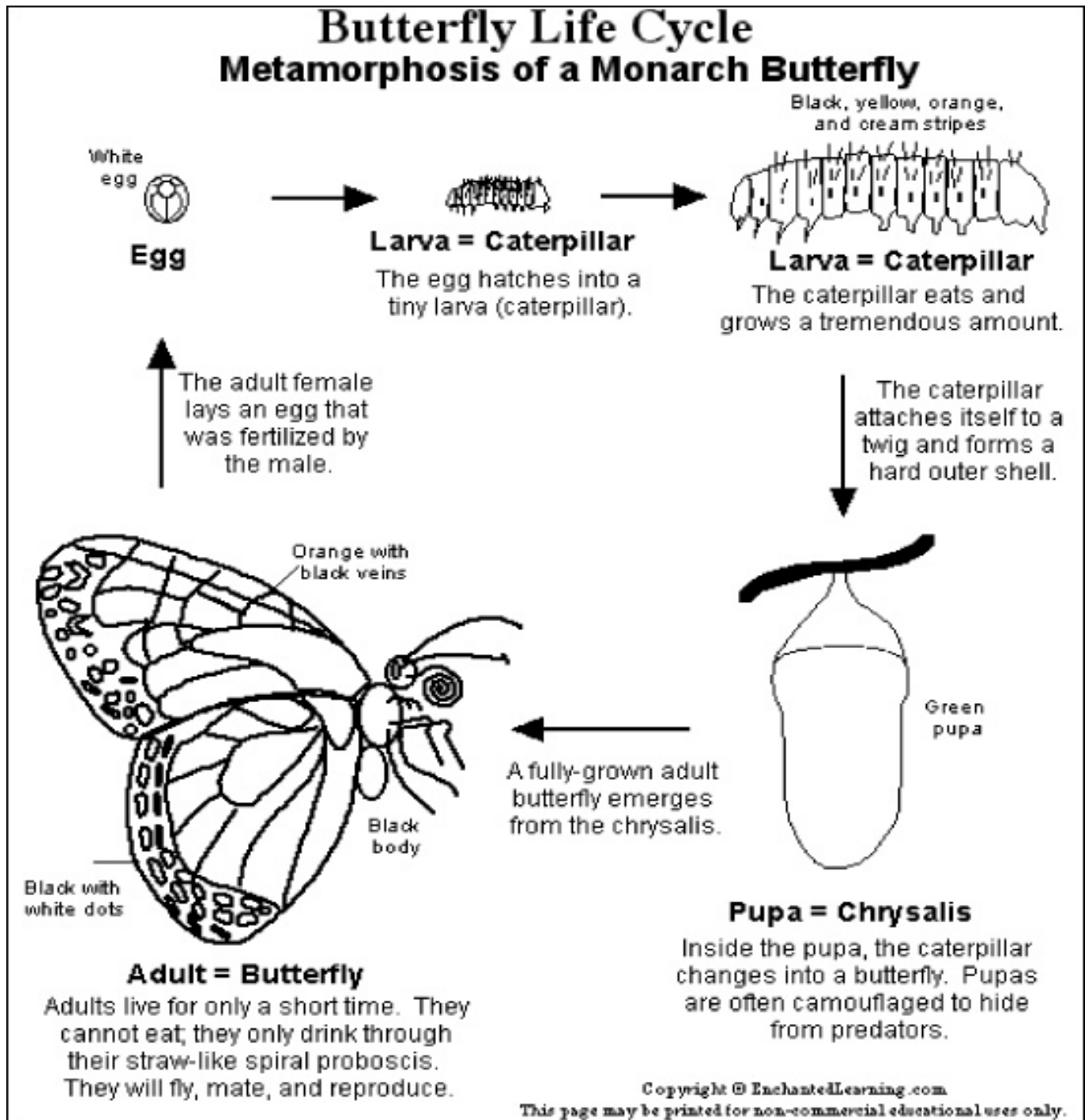
PART II: Text “Life Cycle”

AFTER writing your gist statement about the graphic:

1. Read the text “**Life Cycle**,” which accompanied the graphic you just studied.
2. Think about and discuss: How are the graphic and the text connected?
3. Add new information you learn from the text to your C/F/Q/R Note-catcher.



Butterfly Expert Group Materials:
Butterfly Life Cycle Graphic



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Butterfly Expert Group Materials:
Butterfly Task Card

PART I: Graphic

1. Study the graphic (illustration) of the life cycle of a butterfly (1–2 minutes).
2. Talk with your group members about the fact(s) you were able to learn from the graphic.
3. Discuss the words you would use to make a note about the fact(s) you learned from the graphic.
4. Record the fact(s) in the F column of your C/F/Q/R Note-catcher.
5. In the C (Category) column of your Note-catcher, write the text code for the kind of information you are recording (L for Life Cycle).
6. Write a gist statement about what this graphic is mostly about.

PART II: Text “Life Cycle”

AFTER writing your gist statement about the graphic:

7. Reread the text in the captions of graphic you just studied.
8. Think about and discuss: How are the graphic and the text connected?
9. Add new information you learn from the text to your C/F/Q/R Note-catcher.