EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3:
Overview

Reading and Writing Like a Scientist:
Observing Nature, Conducting Research, and Creating a Field Journal Entry

Unit 3: Reading and Writing Like a Scientist: Observing Nature, Conducting Research, and Creating a Field Journal Entry

In this third unit, students will focus on the literacy skills that scientists need to use in order to take field notes, deepen their knowledge through research, and communicate information in writing. First, students will learn how to write field notes like a scientist, by observing carefully and writing precisely about their local natural environment. Then they will work within expert groups to conduct research on the insects found in the rainforest, taking notes from print and digital sources. The mid-unit assessment will gauge students' mastery of note-taking skills: They will read and take notes on passages of unfamiliar informational text on a different rainforest species—the howler monkey. Students will then return to their focus on insects and will write narratives in the form of rainforest explorers' field journal entries that incorporate their research notes on insects. This will be the unit's final performance task. For the on-demand end of unit assessment, students will use the notes they took during the mid-unit assessment to create an additional field journal page on the howler monkey. (As an extension, students also may create a field guide to the local environment, drawing on their observations from nature and making parallels to the information they have gathered about the rainforest.)

Guiding Questions And Big Ideas

- **What is unique about living things in the rainforest?**
- **How do scientists communicate what they learn about the natural world?**
- *Research is a process.*
- *Scientists observe closely and record those observations in various ways.*
- *Authors organize informational text in specific ways to convey scientific ideas and concepts.*

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Mid-Unit Assessment	**On-Demand Note-Taking about Howler Monkeys** This assessment centers on NYSP12 ELA CCSS RI.5.1, RI.5.2, RI.5.7, W.5.8, and W.5.9. Students will be given three unfamiliar informational texts about monkeys and will be asked to take structured notes. The passages will include text, illustrations, and graphic displays of information. Students will read the texts and take notes using a graphic organizer that they create. Completion of this task will assess the students on their ability to locate an answer within a text (RI.5.7) and take notes about a topic (W.5.8), as well as explain what the text says using quotes (RI.5.1) and determine the main idea (RI.5.2).
End of Unit Assessment	**On-Demand Note-Taking about Howler Monkeys** This assessment centers on NYSP12 ELA CCSS RI.5.1, RI.5.2, RI.5.7, W.5.8, and W.5.9. Students will be given three unfamiliar informational texts about monkeys and will be asked to take structured notes. The passages will include text, illustrations, and graphic displays of information. Students will read the texts and take notes using a graphic organizer that they create. Completion of this task will assess the students on their ability to locate an answer within a text (RI.5.7) and take notes about a topic (W.5.8), as well as explain what the text says using quotes (RI.5.1) and determine the main idea (RI.5.2).

Performance Task	**A Rainforest Field Journal Entry** After researching scientific texts on an arthropod that Meg Lowman might see in the rainforest, students will write a page from a field journal in which they incorporate information that they have gathered from research. They will also include an informational text box that states how it contributes to the rainforest ecosystem and lists the essential characteristics of that arthropod. This performance task intentionally blends informational and narrative writing, and centers on NYSP12 ELA CCSS RI.5.7, RI 5.9, W.5.2, W.5.3, W.5.4, W.5.5, W.5.7, W.5.8, and W.5.9.

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Content Connections

This module is designed to address English Language Arts standards. However, the module intentionally incorporates Social Studies and Science content that many teachers may be teaching during other parts of the day. These intentional connections are described below.

NYS Social Studies Core Curriculum:

- Geographic reasoning: people, places regions, environment, and interactions in Brazil/Latin America

NYS Science:

- Standard 4, Living Environment:
  - Key Idea 6: Plants and animals depend on each other and their physical environment.
  - Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.

Central Texts

1. Kathryn Lasky, *The Most Beautiful Roof in the World: Exploring the Rainforest Canopy*, photographed by Christopher G. Knight (New York: Gulliver Green, 1997); ISBN: 978-0-15-200893-2 (from Unit 2: full text in hand for every student).
2. Paul Mason, *Rainforest Research Journal* (New York: Crabtree Publishing Company, 2011); ISBN: 978-0-7787-9924-5 (just ONE text for teacher modeling).

Unit-at-a-Glance

This unit is approximately 3 weeks or 15 sessions of instruction.

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 1	How to Write Like a Scientist in the Field: Introduction to the Elements of Field Journals	• I can compare and contrast the organizational structure of different informational texts. (RI.5.5) • I can compare and contrast multiple accounts of the same event or topic. (RI.5.6) • I can analyze how visual elements add to the meaning, tone, or beauty of literary text. (RL.5.7) • I can effectively engage in discussions with diverse partners about fifth-grade topics and texts. (SL.5.1)	• I can describe the features of a field journal. • I can compare and contrast an informational text and a field journal. • I can describe how authors of field journals use a combination of drawings and text to communicate about their research. • I can describe how field journals include a blend of informational and narrative writing. • I can follow our classroom norms for collaboration when I examine field journals with a partner.	• Field Journal Note-catchers • Exit tickets
Lesson 2	Learning to Observe Closely and Record Accurately: How to Create a Field Journal	• I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) • I can write narrative texts about real or imagined experiences or events. (W.5.3) • I can write routinely for a variety of reasons. (W.5.10)	• I can use specific language and vocabulary to describe events precisely in my field journal. • I can use sensory details to enhance my descriptions of experiences and events in my field journal. • I can use formatting and pictures to add to the meaning of the text in my field journal entries.	• Students' field journals

Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 3	Writing Narratives from First-Person Point of View: Imagining Meg Lowman's Rainforest Journal	• I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) • I can write narrative texts about real or imagined experiences or events. (W.5.3) • I can explain what a text says using quotes from the text. (RI.5.1)	• I can write a field journal entry from Meg Lowman's point of view. • I can use specific language and vocabulary to describe a photograph of the rainforest. • I can use sensory details to enhance the descriptions in my rainforest field journal. • I can find information in *The Most Beautiful Roof in the World* to incorporate into a rainforest field journal entry.	• Field journals • Journals (rainforest field journal entry)
Lesson 4	Taking Notes and Citing Quotes from Text: Gathering Information on Our Rainforest Insects	• I can use quotes to explain the meaning of informational texts. (RI.5.1) • I can determine the main idea(s) of an informational text based on key details. (RI.5.2) • I can use a variety of sources to develop an understanding of a topic. (RI.5.9) • I can document what I learn about a topic by taking notes. (W.5.8)	• I can record quotes from a text about entomology in my notes. • I can paraphrase a text about entomology. • I can take notes on a text using a Category/Facts/Questions/Response (C/F/Q/R) Note-catcher.	• Field journals • C/F/Q/R Note-catcher
Lesson 5	Structuring the Search: Categorizing Our Research	• I can locate an answer or solve a problem efficiently, drawing from multiple informational sources. (RI.5.7) • I can document what I learn about a topic by taking notes. (W.5.8) • I can summarize or paraphrase information in my notes and in finished work. (W.5.8)	• I can sort information about rainforest insects into categories. • I can take notes by recording direct quotes from a text about rainforest insects. • I can take notes by paraphrasing information from a text about rainforest insects.	• Students' field journals • Exit tickets

Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 6	Conducting Research: Asking and Answering Our Questions about Rainforest Arthropods	• I can explain what a text says using quotes from the text. (RI.5.1) • I can determine the main idea(s) of an informational text based on key details. (RI.5.2) • I can summarize an informational text. (RI.5.2) • I can build knowledge about multiple aspects of a topic by conducting research. (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) • I can effectively engage in discussions with diverse partners about fifth-grade topics and texts. (SL.5.1)	• I can take notes by recording direct quotes from a text about rainforest insects. • I can take notes by paraphrasing information from a text about rainforest insects. • I can use evidence from the text to answer questions. • I can take notes from different sources about insects in the rainforest. • I can work cooperatively with my classmates in an expert research group.	• Students' field journals • Journals (C/F/Q/R Note-catchers) • Ant question charts (ant groups) • Butterfly Life Cycle graphic (butterfly group)
Lesson 7	Conducting Research: Analyzing a Variety of Sources to Capture Information about My Insect	• 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)	• I can build my knowledge about rainforest insects by examining different resources. • I can build my knowledge about rainforest insects by watching videos. • I can document my learning by taking notes.	• Students' field journals • Students' research notes • Admit and exit tickets

Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 8	Mid-Unit 3 Assessment: On-Demand Note-Taking about Howler Monkeys	• I can explain what a text says using quotes from the text. (RI.5.1) • I can determine the main idea(s) of an informational text based on key details. (RI.5.2) • I can locate an answer or solve a problem efficiently, drawing from multiple informational sources. (RI.5.7) • I can document what I learn about a topic by taking notes. (W.5.8) • I can summarize or paraphrase information in my notes and in finished work. (W.5.8)	• I can use three different sources to find information about howler monkeys. • I can record my information about howler monkeys in an accurate and organized way. • I can reflect on my learning.	• Mid-Unit 3 Assessment • Tracking My Progress, Mid-Unit 3
Lesson 9	Making Inferences about Informational Text: Science Talk on How My Insect Contributes to the Rainforest Ecosystem	• I can prepare myself to participate in discussions. (SL.5.1a) • I can draw on information to explore ideas in the discussion. (SL.5.1b) • I can follow our class norms when I participate in a conversation. (SL.5.1c) • I can ask questions that are on the topic being discussed. (SL.5.1d) • I can connect my questions and responses to what others say. (SL.5.1e) • After a discussion, I can explain key ideas about the topic being discussed. (SL.5.1f)	• I can share my ideas with my peers during a Science Talk about the contribution of insects to the rainforest ecosystem. • I can use the ideas of my peers in order to help inform my ideas about the contribution of insects to the rainforest ecosystem. • I can gather my notes on informational texts as evidence in order to prepare for a Science Talk about the contribution of insects to the rainforest ecosystem. • I can synthesize my ideas about the contribution of insects to the rainforest ecosystem after the Science Talk.	• Science Talk (observations/notes) • Journal: Synthesis Statement

Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 10	Blending Informative and Narrative Writing: Transforming Research Notes into Field Journal Entries	• I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) • I can write narrative texts about real or imagined experiences or events. (W.5.3) • I can choose evidence from fifth-grade informational texts to support analysis, reflection, and research. (W.5.9)	• I can write a field journal entry from the point of view of a rainforest scientist. • I can choose evidence from my notes in order to write a field journal entry that includes specific details about the contributions of ants or butterflies to the rainforest.	• Rainforest Field Journal graphic organizer
Lesson 11	Writing and Revising Our Texts: Using Peer Critique to Improve First Drafts	• I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) • I can write narrative texts about real or imagined experiences or events. (W.5.3) • I can choose evidence from fifth-grade informational texts to support analysis, reflection, and research. (W.5.9) • I can write for a variety of reasons. (W.5.10)	• I can organize the events I describe in my rainforest journal entry in chronological order. • I can use linking words and phrases to connect my ideas. • I can include precise and scientific vocabulary in my rainforest journal entry.	• Rainforest Field Journal Entry graphic organizer • Postcards
Lesson 12	Using Peer Feedback and Summarizing Our Research in Informational Text Boxes	• I can write narrative texts about real or imagined experiences or events. (W.5.3) • I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) • I can choose evidence from fifth-grade informational texts to support analysis, reflection and research. (W.5.9)	• I can give feedback to my peers respectfully. • I can improve my writing based on feedback from my peers. • I can summarize the most important information about an ant or a butterfly in a text box.	• Homework questions • Peer feedback sheets • Exit tickets

Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 13	Revision and Illustration: Strengthening the Writing in My Rainforest Field Journal and Adding a Labeled Drawing	• With support from peers and adults, I can use a writing process to produce clear and coherent writing. (W.5.4) • I can use text, formatting, illustrations, and multimedia to support my topic. (W.5.2)	• I can identify where I will need to revise my field journal entry so that my ideas, organization, and language meet our rubric for quality. • I can use text, formatting, and illustrations to support the topic of my rainforest field research journal. • I can create a labeled drawing of an insect that is detailed and accurate.	• Field journal entry drafts • Scientific drawings (first draft)
Lesson 14	Revising and Polishing Our Final Products	• I can use the writing process to produce clear and coherent writing (with support). (W.5.5) • I can use conventions to send a clear message to my reader. (L.5.2) • I can use technology to publish a piece of writing (with support). (W.5.6) (optional; for schools with adequate technology only)	• I can finalize my field journal entry so that my ideas, organization, language, and use of conventions meet our rubric for quality. • I can summarize the most important information about an ant or a butterfly in a text box. • I can create a scientific drawing of an insect that is detailed and accurate. • I can give my classmates kind, helpful, and specific feedback about their rainforest field journal entries. • I can use the feedback I receive from my classmates to improve my work.	• Drafts of field journal narratives, informational text boxes, and labeled drawings • Project Management checklists

Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 15	End of Unit Assessment: Writing a Rainforest Field Journal Entry about Howler Monkeys	• I can use a variety of strategies to locate an answer or solve a problem efficiently in informational texts. (RI.5.7) • I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) • I can write narrative texts about real or imagined experiences or events. (W.5.3) • I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) • I can use several sources to build my knowledge about a topic. (W.5.7) • I can choose evidence from fifth-grade informational texts to support analysis, reflection, and research. (W.5.9)	• I can write a field journal entry about howler monkeys using ideas, organization, language, and use of conventions that meet our rubric for quality. • I can summarize the most important information about howler monkeys in a text box.	• End of Unit 3 Assessment • Tracking My Progress, End of Unit 3 recording form

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Optional: Experts, Fieldwork, And Service

Experts:
- Invite a specialist in insects (maybe someone from a local zoo) to come speak to the class or provide feedback on students' draft field journal entries.
- **Fieldwork:**
- Build in time for students to continue working on their field journals in local parks, etc.

Service:
- Help the class to organize a fundraiser to contribute to a rainforest preservation organization.

Optional: Extensions

- Students create a fully developed field journal page based on their direct observations of their local natural environment.

Additional Resources for Teacher Reference

- *A Field Guide to Your Own Back Yard*, John Hanson Mitchell
- *Nature Connection: An Outdoor Workbook for Kids, Families, and Classrooms*, Clare Walker Leslie
- *Keeping a Nature Journal*, Clare Walker Leslie
- *How to Keep a Naturalist's Notebook*, Susan Leigh Tomlinson
- *A Naturalist's Teaching Manual*, Jennifer Bauer Wilson

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Additional Texts for Specific Lessons	
Lesson 1 Field Journals	**OPTION A**: Ideally, teachers will use any combination of field journals including, but not limited to, these titles. Gather enough texts so every pair of students can look at one text. (Note: Teachers do NOT need to purchase any of these texts.)
	The Country Diary of an Edwardian Lady, Edith Holden
	Drawn to Nature: Through the Journals of Clare Walker Leslie, Clare Walker Leslie
	The Field Guide to Rainforest Animals: Explore the Amazon Jungle, Nancy Honovich
	The Field Guide to Safari Animals: Explore Exotic Africa, Paul Beck
	Field Notes on Science and Nature, Michael R. Canfield
	Keeping a Nature Journal: Discover a Whole New Way of Seeing the World around You, Clare Walker Leslie
	Linnea's Almanac, Christina Bjork, and Lena Anderson (illustrator)
	A Nature Diary, Richard Adams
	Nature in the Neighborhood, Gordon Morrison
	The Robin Makes a Laughing Sound: A Birder's Journal, Sallie Wolf
	A Trail Through Leaves: The Journal as a Path to Place, Hannah Hinchman (bookmark pages 6, 18, 47, 57, 66, 76, 82, 99, 102, 118, 128–129, 133, 139, 146, 151, 158, 163, 181, 185, and 191)
	The Tree of Life: Charles Darwin, Peter Sis

Additional Texts for Specific Lessons	
Lesson 1 Field Journals	**OPTION B:** If it is not logistically feasible to gather actual field journal books, use these sites:
	Field Notes on Science & Nature www.hup.harvard.edu/features/canfie/ Field journal page (second in the sequence)
	The Project Gutenberg EBook of Birds in Town and Village www.gutenberg.org/files/7353/7353-h/7353-h.htm#II
	Digital Collections: John Muir Journals http://digitalcollections.pacific.edu/cdm/search/collection/muirjournals (This is a link to the journals of naturalist John Muir. Click on the cover of any journal to see inside and then select a page with drawings and text.)
	Selections from the Field Journal of William Duncan Strong (Honduras, 1933) www.nmnh.si.edu/naa/features/strong.htm

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Additional Texts for Specific Lessons	
Lesson 2	**A Trail Through Leaves: The Journal as a Path to Place by Hannah Hinchman** books.google.com/books?id=iU75CG0lZ6sC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=true)
Lesson 4	**Pictures: Fire Ant Swarms Form Living Life Rafts** http://news.nationalgeographic.com/news/2011/04/pictures/110425-fire-ants-life-rafts-swarms-science-proceedings/
Lesson 5	**Ants** http://animals.nationalgeographic.com/animals/bugs/ant/
Lesson 6	**Learn about Butterflies: The Complete Guide to the World of Butterflies and Moths** www.learnaboutbutterflies.com/
Lesson 7	**Enchanted Learning: Ants, Life Cycle graphic** http://www.enchantedlearning.com/subjects/insects/ant/
	Rainforest Butterflies Video: Butterfly Eggs and Caterpillar Survival—Life in the Undergrowth (6:30) http://thinkjungle.com/rainforest-life/rainforest-butterflies/
	Monarch Butterfly http://animals.nationalgeographic.com/animals/bugs/monarch-butterfly/?source=A-to-Z
Lesson 8	**Howler Monkeys** http://images.nationalgeographic.com/wpf/sites/kids/NGS/wpf/printcreature/howler-monkey.html
	Howler Monkey http://thinkjungle.com/rainforest-animals/mammals/howler-monkey/

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Additional Texts for Specific Lessons	
Lesson 11	**USA.gov: Government Made Easy: Greetings from NY** http://search.usa.gov/search/images?utf8=%E2%9C%93&sc=0&query=Greetings+from+NY+color+postcards&m=false&embedded=&affiliate=usagov&filter=moderate&commit=Search
	Old York Library: Remember Me to Herald Square: Thirty-fourth Street from River to River http://library.gc.cuny.edu/34th_st/items/browse/7?search=postcard&submit_search=Search
Lesson 13	**Smithsonian Libraries** http://www.sil.si.edu/digitalcollections/bca/explore.cfm
	USA.gov: Government Made Easy: Ant Close Up http://search.usa.gov/search/images?utf8=%E2%9C%93&sc=0&query=ant+close-up&m=false&embedded=&affiliate=usagov&filter=moderate&commit=Search
	USA.gov: Government Made Easy: Butterfly Close Up http://search.usa.gov/search/images?utf8=&sc=0&query=butterfly+close-up&m=false&embedded=&affiliate=usagov&filter=moderate&commit=Search
	Rainforest Insects http://kids.mongabay.com/elementary/206.html
	Alex Wild Photography http://www.alexanderwild.com

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3:
Recommended Texts

Unit 3 builds students' knowledge about how scientists communicate their findings, with a particular focus on field journals and field guides. Students also conduct research on arthropods of the rainforest. The list below includes texts with a range of Lexile® text measures on these topics. This provides appropriate independent reading for each student to help build content knowledge and become interested in scientific writing. Note that districts and schools should consider their own community standards when reviewing this list. Some texts in particular units or modules address emotionally difficult content.

It is imperative that students read a high volume of texts at their reading level to continue to build the academic vocabulary and fluency that the CCLS demand.

Where possible, texts in languages other than English are also provided. Texts are categorized into three Lexile measures that correspond to Common Core Bands: below-grade band, within band, and above-grade band. Note however that Lexile measures are just one indicator of text complexity, and teachers must use their professional judgment and consider qualitative factors as well. For more information, see Appendix 1 of the Common Core State Standards.

Common Core Band Level Text Difficulty Ranges:
(As provided in the NYSED Passage Selection Guidelines for Assessing CCSS ELA)

- Grade 2–3: 420–820L
- Grade 4–5: 740–1010L
- Grade 6–8: 925–1185L

Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures below band level (under 740L)			
Insects	Shelley Underwood (author)	Informational	460
Ant Cities	Arthur Dorros (author/illustrator)	Informational	600
Centipedes	Rebecca Rissman (author)	Informational	630
Goliath Bird-Eating Tarantula: The World's Biggest Spider	Meish Goldish (author)	Informational	710

Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures within band level (740–1010L)			
Bugs! Ants	Kristin Petrie (author)	Informational	760*
Bugs! Centipedes	Kristin Petrie (author)	Informational	780*
Secret of the Plant-Killing Ants and More!	Ana María Rodríguez (author)	Informational	800*
It's a Butterfly's Life	Irene Kelly (author)	Informational	800
Insects in Danger (World of Insects)	Kathryn Smithyman (author)	Informational	810
Goliath Bird-Eating Spiders and Other Extreme Bugs	Deirdre A. Prischmann (author)	Informational	830
Deadly Praying Mantis	Meish Goldish (author)	Informational	830
Bizarre Bugs	Doug Wechsler (author)	Informational	830*
Dirty Rotten Bugs? Arthropods Unite to Tell Their Side of the Story	Gilles Bonotaux (author/illustrator)	Informational	840*
Fabulous Fluttering Tropical Butterflies	Dorothy Hinshaw Patent (author)	Informational	860*
The Field Guide to Rain Forest Animals: Explore the Amazon Jungle	Nancy Honovich (author)	Informational	870*

*Lexile based on a conversion from Accelerated Reading level

Title	Author And Illustrator	Text Type	Lexile Measure
One Day in the Tropical Rainforest	Jean Craighead George (author)	Literature	880
Rain Forest	Elinor Greenwood (author) DK Eye Wonder	Informational	880*
Butterfly and Moths	Nic Bishop (author)	Informational	890
Life in the Rain Forests	Lucy Baker (author)	Informational	910*
Tree of Life: The Incredible Biodiversity of Life on Earth	Rochelle Strauss (author)	Informational	910
Butterflies	Seymour Simon	Informational	920*
What is an Arthropod?[1]	Bobbie Kalman (author)	Informational	930
The Life and Times of the Ant	Charles Micucci (author)	Informational	950

*Lexile based on a conversion from Accelerated Reading level

Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures within Grade 6–8 band level (925–1185L)			
A Butterfly Is Patient	Dianna Hutts Aston (author)	Informational	1040
Life in a Rain Forest	Anne Welsbacher (author)	Informational	1040*
DK Insect	Laurence A. Mound (author)	Informational	1050*
Paleo Bugs: Survival of the Creepiest	Timothy Bradley (author/illustrator)	Informational	1160
The Bug Scientists	Donna M. Jackson (author)	Informational	1200
The Case of the Monkeys That Fell From the Trees	Susan Quinlan (author)	Informational	1210
Rainforests	Andrew Langley (author)	Informational	No Lexile
World of Animals: Insects and Other Invertebrates	Grolier (publisher) (10 volume set)	Informational	No Lexile

*Lexile based on a conversion from Accelerated Reading level

[1]This title is also available in French (as Les Arthropodes). See http://www.crabtreebooks.com/Store/item_detail.aspx?ItemCode=F0266

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 1
How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can compare and contrast the organizational structure of different informational texts. (RI.5.5) I can compare and contrast multiple accounts of the same event or topic. (RI.5.6) I can analyze how visual elements add to the meaning, tone, or beauty of literary text. (RL.5.7) I can effectively engage in discussions with diverse partners about fifth-grade topics and texts. (SL.5.1)	
Supporting Learning Targets	**Ongoing Assessment**
• I can describe the features of a field journal. • I can compare and contrast an informational text and a field journal. • I can describe how authors of field journals use a combination of drawings and text to communicate about their research. • I can describe how field journals include a blend of informational and narrative writing. • I can follow our classroom norms for collaboration when I examine field journals with a partner.	• Field Journal Note-catchers • Venn diagram • Exit tickets

How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

Agenda	Teaching Notes
1. **Opening** A. Mystery Text: I Notice/I Wonder (5 minutes) B. Introduce Learning Targets (5 minutes) 2. **Work Time** A. Examining Examples of Field Journals (20 minutes) B. Features of Informational Texts: Adding to the Anchor Chart (10 minutes) C. Comparing The Most Beautiful Roof in the World to a Field Journal (15 minutes) 3. **Closing and Assessment** A. Debrief: Why Do Scientists Keep Field Journals? (5 minutes) 4. **Homework**	• The focus of this unit is on building students' ability to write from sources and use the vocabulary they have learned during Units 1 and 2. Although the content of the unit is intended to align with NYS Science Standards for fifth grade, the students will still require separate science lessons. • Each unit in this module is accompanied by an extensive list of **Recommended Texts** at a variety of reading levels. Students should obtain books at their independent reading levels about the topics under study from their classroom, school, or local library. • These books can be used in a variety of ways—as independent and partner reading in the classroom whenever time allows, as read-alouds by the teacher to entice students into new books, and as an ongoing homework expectation. During this unit, let students know that you expect them to read at home from a related book at their independent reading level. In addition, students may be assigned additional work, such as rereading complex text or completing a writing task. Either during this lesson or at some other point during the school day, introduce students to the Recommended Texts list for Unit 3. • This lesson launches students' work on their final performance task. See separate document: Module 2A Performance Task. • The performance task is a field journal entry. Typical field journals include three components: direct observations of the natural world, the scientist's narrative comments and opinions, and the scientist's research notes. In this module, students do not do direct observation of the rainforest, but rather work with images from *The Most Beautiful Roof in the World*. This is for obvious logistical reasons as well as to ensure that students' writing is grounded in evidence from text, a demand of the CCSS Instructional Shifts. Students do, however, get to practice observing the natural environment closely and writing from direct experience as a part of their regular homework in this unit. Consider adding an extension to this unit in which students create a fully developed field journal page about their own environment, in addition to their field journal about the rainforest. • This lesson involves students looking at a variety of field journals. Gather these in advance. If this is not feasible, then consider the Option B notes throughout this lesson.

How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

	Teaching Notes (continued)
	• The opening of this lesson is meant to be a mystery to provoke student interest, so do NOT tell students in advance what type of text they will be looking at. • For the opening of this lesson, prepare to display la field journal page from the following link: http://www.hup.harvard.edu/features/canfie/ (second image) • This lesson requires collaboration. Be sure to pair students strategically and remind them of norms for collaborative work. • Review: Fist To Five strategy (Appendix).

Lesson Vocabulary	Materials
field journal, informational text, features, blend, describe, compare, contrast, text	• Field journal page (second in the sequence) from www.hup.harvard.edu/features/canfie/(Include both pictures and written notes) • Chart paper (optional) • *The Most Beautiful Roof in the World* (book; one per student) • Teaching Resource: Model Field Journal Books and Internet Links (a variety of field journals or [as Option B] pages from field journals printed from the Internet) (see supporting materials) • Field Journal Note-catcher (one per student) • Features of Informational Text anchor chart (from Unit 1) • 3”x5” index cards or larger sticky notes (one per student) • Text Features Venn Diagram (one per student)

How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

Opening	Meeting Students' Needs

A. Mystery Text: I Notice/I Wonder (5 minutes)
• Do NOT tell students what type of text they will be looking at.
• Display page from a **field journal page**. Ask:
  * "What do you notice about this page?"
  * "What do you wonder about it?"
• On the board or a piece of **chart paper**, record their responses in a two-column format (I NOTICE on the left, and I WONDER on the right).
	• Provide nonlinguistic symbols for these words (a pair of eyes for *notice*; a question mark for *wonder*). These symbols can be used throughout the year.

How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

Opening (continued)	Meeting Students' Needs
B. Introduce Learning Targets (5 minutes) • Share the first learning target: "I can describe the features of a field journal." Circle the word *features*, and clarify its meaning by eliciting or providing synonyms. Circle the words *field journal*. Ask the students where they have seen or heard of a field journal before, and see if they recall reading that Meg Lowman keeps a field journal. • Tell students that they just looked at a page from a field journal, and that during today's lesson they will learn about field journals. Preview for students that scientists such as Meg Lowman keep journals like these when they are exploring the natural world. Generate excitement in the class by telling them that during the next lesson they will be receiving their own field journals and learning to take notes on the world around them just as scientists do. • Share the next three learning targets: "I can compare and contrast an informational text and a field journal," "I can describe how authors of field journals use a combination of drawings and text to communicate about their research," and "I can describe how field journals include a blend of informational and narrative writing." Be sure that students understand the meaning of the word text in this context: the words on the page. • Ask students: * "What is the distinction between *informational* and *narrative* texts?" • Elicit from the class that informational texts are those, such as ***The Most Beautiful Roof in the World***, that provide readers with information about the real world, while narrative texts tell a story. • Ask students to turn and share with a partner what they think the word *blend* means. Invite a few pairs to share out, listening for comments such as: "to mix things; two things put together; like when you cook and make something." Make sure students understand that field journals will have features of both narrative and informational text, and that they could be on the same page.	• All students developing academic language will benefit from direct instruction of academic vocabulary in learning targets. • Some students may be unfamiliar with Tier 2 vocabulary words (e.g., *explain*, *compare*, *contrast*, *drawings*, *authors*, *describe*, *blend*). Clarify vocabulary with students as needed.

How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

Work Time	Meeting Students' Needs
A. Examining Examples of Field Journals (20 minutes) *Note: Refer to the Teaching Resource: Model Field Journal Books and Internet Links. Have many field journals available for students to browse. If this is not feasible, follow the alternative steps listed in parentheses as Option B.* • Explain to the students that they are going to look at many different field journals in order to learn about their features. (Option B: Narrow it down to pages from just a few field journals.) • Focus the class again on the displayed field journal example. Tell students that they will be taking notes about the various field journals they look at. • Draw a large version of the **Field Journal Note-catcher** on the board or on chart paper. Ask the students what they notice about the displayed field journal example. Listen for somebody to offer an observation such as: "The drawings and the words (text) are mixed together on the page." Model how to complete the Note-catcher: Write this observation in the top left-hand box of the large version of the Note-catcher. • Remind students about classroom norms for collaborative work by directing students to the learning target about this expectation. • Ask students to work in pairs. Give each pair one book (Option B: one page from a website) from the collection of field journal books and a Field Journal Note-catcher. • Give students 10 minutes to examine the books and complete the left-hand column of the Note-catchers with their partners. • Then ask students to switch books (Option B: pages from websites) with another pair. Ask them to complete the right-hand column of the Note-catcher. • Collect the books (Option B: pages). Ask students to remain with their partner but to focus on the whole group for the next instruction.	• Consider partnering an ELL with a student who speaks the same L1 when discussion of complex content is required. This can let students have more meaningful discussions and clarify points in their L1. • Students needing additional support may benefit from a partially filled-in Field Journal Note-catcher.

Work Time (continued)	Meeting Students' Needs

B. Features of Informational Texts: Adding to the Anchor Chart (10 minutes)
• Refer students to the **Features of Informational Text anchor chart** (the three-column chart they created during Lesson 2 of Unit 1). Ask students to refer back to their **journals** and locate their notes with the same title. Briefly review the existing list with students. Give students 5 minutes to record FEATURES OF FIELD JOURNALS (Column 2) and HOW DO THOSE FEATURES HELP THE READER? (Column 3) in their charts.
• Ask the class: "What are the features of a field journal?" Record their answers on the Features of Informational Text anchor chart. Be sure that responses include points similar to the following:
  * Author's observations
  * Factual scientific information
  * Precise descriptions
  * Sensory details
  * Personal information
  * Pictures
  * Text
  * Pictures and text are woven together
  * Is written in the first person ("I" statements)
  * Date and location are specified
• Refer students again to the third column of their Note-catcher. Ask students to share their responses to: "How do these features help the reader?"
• Record on the anchor chart responses such as: "The labels help me understand the drawings better; the pictures help me get the meaning of scientific terms; I get drawn in by the personal details," etc.
• Collect students' Field Journal Note-catchers.
	• Consider allowing students to draw their observations, ideas, or notes about informational texts when appropriate. This allows all students to participate in a meaningful way.
	• For students who struggle with language, draw a visual for each feature noted on the anchor chart.

Work Time (continued)	Meeting Students' Needs
C. Comparing *The Most Beautiful Roof in the World* to a Field Journal (15 minutes) • Ask the students to trade the field journal books/pages with other pairs one more time, so each pair has a book (page) that is new to them. Distribute *The Most Beautiful Roof in the World* to each pair. • Distribute **Text Features Venn Diagram**. • Ask the class to use the Venn Diagram to compare and contrast the text features of the two texts. Remind students to record features that the two texts have in common in the middle and unique features in the separate parts of the two circles. • Circulate to listen in and support as needed.	• Consider providing some students with a Venn diagram graphic organizer rather than asking them to draw it themselves. • Some students may need the teacher to model filling out the Venn diagram on either a document camera or a piece of chart paper.

How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

Closing and Assessment	Meeting Students' Needs
A. Debrief: Why Do Scientists Keep Field Journals? (5 minutes) • Distribute an **index card** or **sticky note** to each student for use as an exit ticket. Ask for a response to the question: * "Why do scientists keep field journals?" • Have students share with a partner what they wrote. Then cold call a few students to share with the whole class. Listen for ideas such as: "So they can record the specific details of what they see; it helps them to remember; they can use their observations to think about how the natural world works," etc. Point out to students that, typically, field journals involve direct observation of the natural world, the scientist's comments and opinions, and the scientist's research notes. • Use the Fist to Five strategy to assess students' progress toward meeting the learning targets. • Tell students: "It is important for you to learn all about field journals because later in this unit you will get to be research scientists and make your own field journal pages to share with others all the things you observe and learn from the natural world." Point out that they will be doing regular homework observing their own natural world to practice writing direct observations. They will also be writing a field journal page about the rainforest, based more on research. • Collect exit tickets.	• Consider allowing students who struggle with written language to dictate their exit ticket to a partner or teacher.

How to Write Like a Scientist in the Field:
Introduction to the Elements of Field Journals

Homework	Meeting Students' Needs
• Continue your independent reading book for this unit at home. • *Note: For Lesson 2, create a blank field journal for each student. Either purchased or teacher-created, these simple notebooks contain at least 20 sheets of unlined paper. Students will turn in their field journals once a week for you to review as an ongoing assessment. Write a question or comment to the students, praising their work ("Your details make this description come to life!"), asking them a thought-provoking question ("What kind of tree was it? How could you find out?"), or perhaps making a suggestion ("Maybe you could label the parts of the tree.").* *Lesson 2 involves taking the class outside to observe the natural environment, unless school conditions make this unfeasible. In advance, scout out a piece of the natural world that is right outside your school building. This can be very modest; a tree, a shrub, or a small plot of grass would be fine. Or, if going outside is not an option, find some objects from nature, such as leaves, branches, berries, pine cones, etc., to bring into the classroom. Or if the class has a terrarium or fish tank, students could observe those closely as well.* *In Lesson 6, students begin research on ants and butterflies of the rainforest. Central texts for these lessons are provided. But students may need additional resources on these arthropods. Begin collecting books for a classroom library for the research lessons (see Recommended Texts).* *Review students' Field Journal Note-catchers and exit tickets to check for understanding. Note who was unable to complete the exit ticket correctly; these students need additional support toward an understanding of the purpose of field journals.*	• Students who cannot yet read independently at any level will benefit from hearing books read to them, either by a caregiver or through audio recordings. Hearing books/texts can be an ongoing assignment for these students. • In addition, www.novelnewyork.org has a free, searchable database of content-related texts that can be played as audio files on a home or library computer. Texts on this site can also be translated into many languages. Use the database to provide at-home reading of related texts to ELLs and their families in their native languages.

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 1
Supporting Materials

Teaching Resource:
Model Field Journal Books and Internet Links

Teacher Directions: Gather enough copies of the books listed below, or other examples of illustrated field journals, so that each pair of students can have one book to examine:

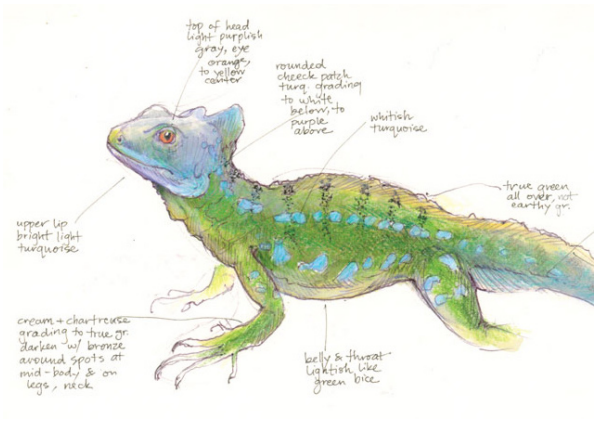
- *The Country Diary of an Edwardian Lady*, Edith Holden
- *Drawn to Nature: Through the Journals of Clare Walker Leslie*, Clare Walker Leslie
- *The Field Guide to Rainforest Animals: Explore the Amazon Jungle*, Nancy Honovich
- *The Field Guide to Safari Animals: Explore Exotic Africa*, Paul Beck
- *Field Notes on Science & Nature*, Michael R. Canfield
- *Keeping a Nature Journal: Discover a Whole New Way of Seeing the World around You*, Clare Walker Leslie
- *Linnea's Almanac*, Christina Bjork, and Lena Anderson (illustrator)
- *A Nature Diary*, Richard Adams
- *Nature in the Neighborhood*, Gordon Morrison
- *The Robin Makes a Laughing Sound: A Birder's Journal*, Sallie Wolf
- *A Trail Through Leaves: The Journal as a Path to Place*, Hannah Hinchman (bookmark pages 6, 18, 47, 57, 66, 76, 82, 99, 102, 118, 128–129, 133, 139, 146, 151, 158, 163, 181, 185, and 191)
- *The Tree of Life: Charles Darwin*, Peter Sis

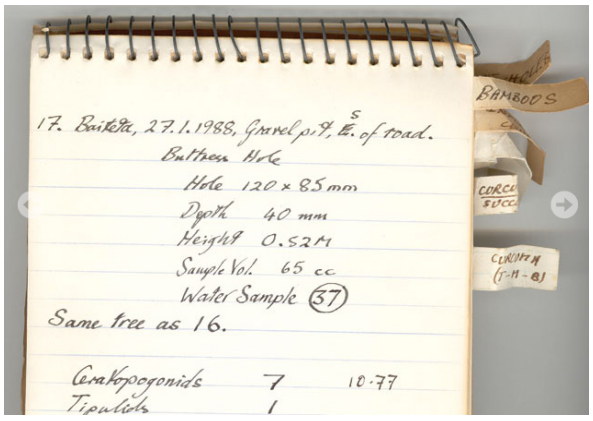
Option B: Display or print out various pages that include both text and illustrations from the following sites. You will need enough copies so that a third of the class can examine pages from the same website at the same time.

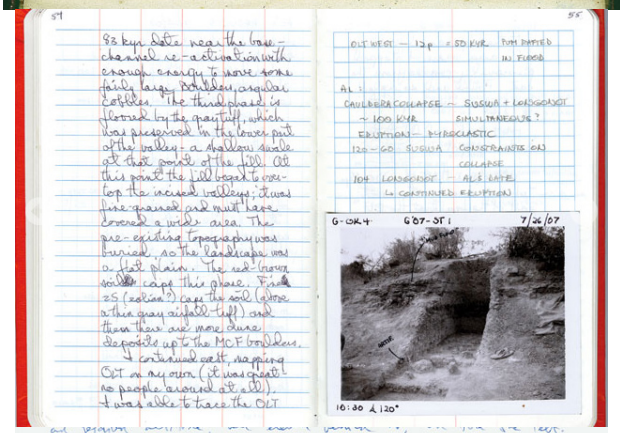
www.hup.harvard.edu/features/canfie/(Include both pictures and written notes; see second image in slideshow)
http://www.gutenberg.org/files/7353/7353-h/7353-h.htm#II
http://digitalcollections.pacific.edu/cdm/search/collection/muirjournals (This is a link to the journals of naturalist John Muir. Click on the cover of any journal to see inside and then select a page with drawings and text.)
www.nmnh.si.edu/naa/features/strong.htm

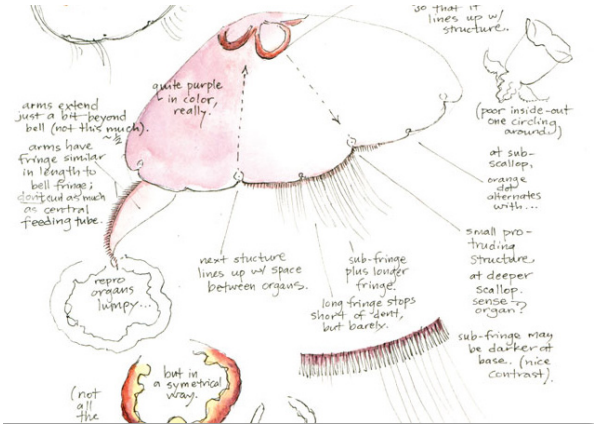
Teaching Resource:
Model Field Journal Books and Internet Links

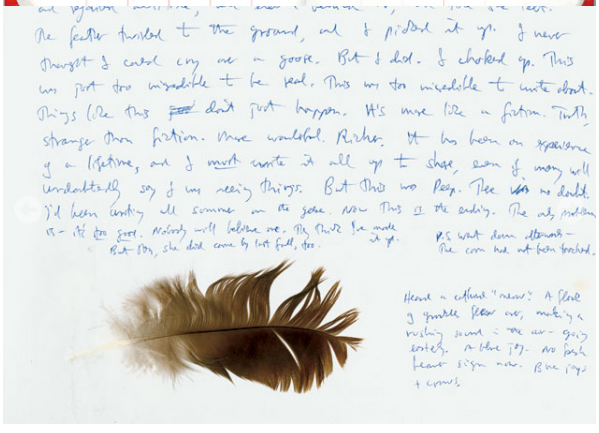
Image Samples from www.hup.harvard.edu/features/canfie/











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Field Journal Note-Catcher

Introduction to the Elements of Field Journals

Name:

Date:

Name of First Book:	**Name of Second Book:**
What are three things you notice about the drawings?	
What are three things you notice about the text?	
What are three things you notice about how the pictures and text are connected to each other?	

Text Features Venn Diagram

Informational Texts | Features of BOTH | Field Journal

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 2
Learning to Observe Closely and Record Accurately: How to Create a Field Journal

Learning to Observe Closely and Record Accurately:
How to Create a Field Journal

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) I can write narrative texts about real or imagined experiences or events. (W.5.3) I can write routinely for a variety of reasons. (W.5.10)	
Supporting Learning Targets	**Ongoing Assessment**
• I can use specific language and vocabulary to describe events precisely in my field journal. • I can use sensory details to enhance my descriptions of experiences and events in my field journal. • I can use formatting and pictures to add to the meaning of the text in my field journal entries.	• Students' field journals

Learning to Observe Closely and Record Accurately:
How to Create a Field Journal

Agenda	Teaching Notes
1. **Opening** A. Engaging the Writer (5 minutes) B. Introducing Learning Targets (5 minutes) 2. **Work Time** A. Observing and Sketching the Natural World (15 minutes) B. Recording Observations about the Natural World (30 minutes) 3. **Closing and Assessment** A. Debrief: Journaling Experience (5 minutes) 4. **Homework**	• In advance: Create a blank field journal for each student, either purchased or teacher-created. These simple notebooks contain at least 20 sheets of unlined paper. Students will turn in their field journals every week so you can review them as an ongoing assessment. • These field journals give students an opportunity to practice observing closely and writing from direct experience about the natural world, since this is not feasible for their performance task (a field journal entry based on their research about the rainforest). • This lesson involves showing students various quotes and examples of field journals from Internet sites. Preview the web links referred to throughout the material box below. Prepare technology to have all the links open for quick access during instruction. • Review: Back-to-Back/Face-to-Face and Write-Pair-Share protocols (Appendix 1). • Create a field journal alongside your students. Modeling the practice of journaling will help build students' enthusiasm. Do not worry about the artistic merit of your drawing; the goal is to model how to sketch what you see to create a record. • This lesson includes an activity in which students go outside. If this is not feasible, then gather and bring in natural objects for students to observe in the classroom (for example: a seasonally appropriate collection of leaves, nuts, and berries, or a classroom pet). • Consider also setting up a "natural environment," such as a terrarium, in the classroom for the students to observe throughout this unit. • Not all lessons in this unit afford time for in-depth vocabulary instruction and practice. Build in opportunities during other times of the day to work with academic and content-specific vocabulary.

Learning to Observe Closely and Record Accurately:
How to Create a Field Journal

Lesson Vocabulary	Materials
legged, observe, specific, language, sensory, describe, precisely, formatting, cirrus, cumulus, floccus, perspective	• Field Journal Note-Catcher (completed in Lesson 1) • Informational Text Features anchor chart (from Unit 1) • Document camera • Chart paper • Blank field journals (one per student) • Timer

Learning to Observe Closely and Record Accurately:
How to Create a Field Journal

Opening	Meeting Students' Needs
A. Engaging the Writer (5 minutes) • Remind students of the field journals they looked at yesterday. Generate excitement in your students by telling them that today they get to start making their own field journals, just like Meg and other scientists do when they are out exploring the natural world. • Ask students to review their Field Journal Note-Catcher completed in the previous lesson. Ask students to Think-Pair-Share: * "What do scientists record in their field journals? Why?" • Cold call volunteers to share their discussion responses with the whole class.	• When possible, provide field journals found in students' L1. This can help students understand materials presented in English.
B. Introducing Learning Targets (5 minutes) • Share all three of the learning targets with the class. Invite them to notice what they have in common by circling the phrase at the end of each one, *my field journal*. Highlight the important aspects of keeping field journals that they will be practicing by underlining each one as you mention them—*specific language* and *vocabulary*, *sensory details*, *precise descriptions*, *formatting*, and *pictures*. • Ensure that students understand all of the academic vocabulary embedded within these targets (*specific*, *language*, *vocabulary*, *sensory*, *describe*, *precisely*, *formatting*) by providing synonyms as necessary. You may want to call out specifically the word *sensory*, highlighting that it contains the same root word as *sense* and explaining that they will be using their senses to learn about things in the natural world, and writing descriptions that show how they used their senses to take it in.	• Provide nonlinguistic symbols (e.g., light bulb for *idea*; eyes for *observe*) to assist struggling readers in making connections with vocabulary. These symbols can be used throughout the year. Specifically, they can be used in directions and learning targets.

Learning to Observe Closely and Record Accurately:
How to Create a Field Journal

Work Time	Meeting Students' Needs
A. Observing and Sketching the Natural World (15 minutes) • Tell students that they are going to take a look at nature to practice observing and recording. If there is a window in the classroom, look out of it, and describe what you see in the sky to the students. (Note: If looking out a window is not possible, project an image or show an illustration from a book of a cloudy sky or one of the vibrant photographs from *The Most Beautiful Roof in the World*). • If possible, hang a piece of **chart paper** next to the window; otherwise hang the chart on a wall where all students can see it and where it can be drawn on. Draw a quick sketch of the view. As you draw, ask the students to comment on what you are doing; try to elicit these hints about sketching from your students: * Keep your focus on the object you're drawing, not on your page. * Without lifting the pencil from the page, draw the outline first. * Don't erase! • Ask the class why scientists such as Meg Lowman must sometimes work silently when out in the natural world. Listen for students' understanding that being silent helps the observer to focus, allows you to hear the natural sounds, and may invite wildlife to appear. • Remind students of all of the work they have done on active listening, and say: "This is such an important application of that skill. Scientists really need to use active listening skills to do their work." • Invite the students to spend a few minutes closely observing in the classroom in preparation for observing in the natural world: the furniture and their shapes, the quality of the light and shadows, and the things on the wall and ceilings. • Ask students to share examples of their precise, detailed observations. Encourage sensory language, such as: "The desks look brown and hard, as if they came from a tree," or "The light is bright and sharp," and "The air conditioning is making the paper rustle on the wall." • Add the students' comments to your chart paper sketch if applicable, blending the text with your drawing by labeling the drawings. (Use the pages from the text you projected as a model for how to do this.)	• Provide anchor charts for processes, such as "How to observe and sketch." This would include question words with nonlinguistic representations (e.g., eyes for *observe*, pencil for *sketch*). • Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.

Work Time (continued)	Meeting Students' Needs

B. Recording Observations about the Natural World (30 minutes)
Note: This activity involves students going outside to observe nature. If this is not feasible, bring in natural objects for students to observe. See the more detailed teaching note, above.
• Explain to students that scientists often use a field journal to take notes as they observe closely, collect data, and record information about their surroundings. Tell students that they will be keeping their own field journal throughout this unit. They will use it during the school day and for homework.
• Distribute blank **field journals**.
• Share with students that now they will be going outside to study nature. Remind students of the class norms for behavior outside of the classroom. Be sure each class member has his or her journal and a pencil.
• Take the class outside to the spot you have already identified (see Teaching Note, end of Lesson 1). Arrange the students around the natural space so that all can see and hear you.
• Tell the students that you want them to make a list in their heads:
  * "What colors do you see?"
  * "What sounds do you hear?"
• Remind them of the importance of silence for the process of scientific observation of nature. Ask them to silently watch and listen for a few minutes.
• Then have students share with a partner some of the colors and sounds they noticed. Ask them if they can find any clues to what season it is. Call on a few students to share their answers (e.g., chewed acorns, dying flowers, ice).
• Tell students that they now will get to journal on their own. Give some basic directions:
  * Start writing on the first blank page.
  * Put today's date at the top of the page, as scientists do.
  * Include drawings as well as text (make the drawings quick and simple).
  * Include thoughts or opinions, as well as observations. (It is all right to include personal information and ideas such as "I am cold," "I think this tree might be dying," "The leaves look beautiful against the sky.")
	• Consider writing and breaking down multistep directions into numbered elements for observing the natural world. Students can return to these guidelines to make sure they are on track.
	• Consider providing sensory words and pictures or visuals to accompany those words to choose from when writing in their journals for students who struggle with language.

Learning to Observe Closely and Record Accurately:
How to Create a Field Journal

Work Time (continued)	Meeting Students' Needs
• Set a **timer** to give the students 5 minutes to silently record notes in their journals. As students work, write silently in your own journal. • After 5 minutes, ask the class to stop writing and focus whole group. Cold call or ask for volunteers to share their writing and drawing. Press students to be as specific and descriptive as possible, by asking questions, such as: "What exact color is it?" "Does it remind you of anything?" "What are the details?" Recognize efforts that include descriptive details and precise language. • Invite students to move to a new spot within the designated area, so that their perspective shifts. Tell the class: "When you move to a different spot, your *perspective*, or point of view, changes. Things that you couldn't see are now visible, and other things are hidden. When you really want to do a careful observation of a setting, it is important to view it from more than one perspective." • Give students 2 minutes to again observe silently. Ask them what new things they notice now that they have changed their position. (Although students don't need to record their observations during this second round, feel free to ask them to if time permits.)	•

Learning to Observe Closely and Record Accurately:
How to Create a Field Journal

Closing and Assessment	Meeting Students' Needs

A. Debrief: Journaling Experience (5 minutes)
• Return to the classroom. Ask students:
  * "What did you like about observing closely?"
  * "What was difficult about it?"
• Acknowledge the challenges and help students to offer ideas that might address their classmates' challenges.
• Remind students that they are going to be research scientists and are preparing to do the careful work that it will require to observe in nature in order to create a field journal page.
• Revisit the learning targets by asking students to show by raising one hand if they used specific language and vocabulary to describe events precisely in their field journals, two hands if they used sensory details, and to wave both hands if they used formatting and pictures to add to the meaning of their field journal entries. Ask students to share examples of having met these learning targets.
	• For students needing additional support producing language, consider offering a sentence frame or starter, or a cloze sentence to assist with language production, and provide the structure required (e.g., "I liked _____ about observing closely. I thought _____ was difficult when observing closely.").

Homework	**Meeting Students' Needs**
• Decorate the cover of your journal with words, drawings, and nature photographs to make it special and personalized to reflect what you like about and in nature. • Continue your independent reading book for this unit. *Note: For the remainder of this unit, most of the work students will do in their field journals will be assigned as homework.*	•

EXPEDITIONARY LEARNING

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

Writing Narratives from First Person Point of View: Imagining Meg Lowman's Rainforest Journal

Writing Narratives from First Person Point of View:
Imagining Meg Lowman's Rainforest Journal

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) I can write narrative texts about real or imagined experiences or events. (W.5.3) I can explain what a text says using quotes from the texts (RI.5.1)	
Supporting Learning Targets	**Ongoing Assessment**
• I can write a field journal entry from Meg Lowman's point of view. • I can use specific language and vocabulary to describe a photograph of the rainforest. • I can use sensory details to enhance the descriptions in my rainforest field journal. • I can find information in *The Most Beautiful Roof in the World* to incorporate into a rainforest field journal entry.	• Students' field journals • Journals (rainforest field journal entry)

Writing Narratives from First Person Point of View:
Imagining Meg Lowman's Rainforest Journal

Agenda	Teaching Notes
1. **Opening** A. Homework Review (10 minutes) B. Introducing Learning Targets (5 minutes) 2. **Work Time** A. Creating a Class Rainforest Field Journal Entry (10 minutes) B. Adding Text-Based Information to the Rainforest Field Journal Entry (10 minutes) C. Independent Practice: Creating a Rainforest Field Journal Entry (20 minutes) 3. **Closing and Assessment** A. Reflecting on the Learning Targets (5 minutes) 4. **Homework**	• Review: Thumb-O-Meter strategy (Appendix). • The important transition in this lesson is from writing that is informed only by students' personal experience and observation to writing in which students combine observation with information gathered from a text. Remind students that field journals typically include three components: direct observation, the scientist's comments and opinions, and research notes. In this lesson, students reread several pages of *The Most Beautiful Roof in the World* in order to continue to build content knowledge and to develop their writing about the rainforest. • Some scientific terms listed as vocabulary were introduced in Unit 2. They are included to ensure continuous review, exposure, and experiences with new vocabulary that are essential to generalization. Not all lessons in this unit afford time for explicit in-depth review. Consider giving students opportunities at other times during the day for additional practice using these words. When possible, include visual representations (drawings or pictures) of vocabulary, since these aid in retention. For examples of how to do this, refer back to Module 1, Unit 1, in which students were introduced to the practice of drawing a sketch to go along with their definition of key terms and concepts. • During Part A of the Work Time, consider playing a rainforest soundtrack in the background, such as www.youtube.com/watch?v=Av86rwKxKJ4&feature=related. Invite the students to think about what they are hearing as well as what they are seeing. • 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. • Throughout this unit, students use pencils, rather than pens, for sketching. • Note that in several lessons, students watch the teacher model sketching. Do not worry about doing perfect drawings. The purpose is to show students how to observe nature closely.

Writing Narratives from First Person Point of View:
Imagining Meg Lowman's Rainforest Journal

Agenda	Teaching Notes (continued)
	• Students will turn in their field journals regularly so you can review them as an ongoing assessment. Try to give all students feedback each week. Write a question or comment to the students praising their work ("Your details make this description come to life!"), asking them a thought-provoking question ("What kind of tree was it? How could you find out?"), or perhaps making a suggestion ("Maybe you could label the parts of the tree.").

Lesson Vocabulary	Materials
specific, sensory, point of view, perspective, descriptions, enhance, first person (adj), quotes; jumars, epiphytes, epiphytic, lianas, excretes, succaries, glucose, proteins, metabolic, solar, atmospheric, nutrients	• *The Most Beautiful Roof in the World* (book; one per student) • Highlighters (two colors per pair: one yellow and one green)

Writing Narratives from First Person Point of View:
Imagining Meg Lowman's Rainforest Journal

Opening	Meeting Students' Needs
A. Homework Review (10 minutes) • Ask student to gather with their field journals. Invite a few students to share the covers of their journals and explain why they chose the pictures they used to decorate them. • Ask students to pair up. Have all students turn to the page in their journals that they completed during Work Time in Lesson 2, and trade journals with their partner. Ask them to read their partner's journal, paying attention to how their partner used precise language and sensory details. Call on a few students to share their entries with the class. Listen for examples that incorporate descriptive details about color, size, shape, sounds, etc.	• Consider partnering an ELL with a student who speaks the same L1, when discussing recordings and observations in their field journals. This can let students have more meaningful discussions and clarify points in their L1.
B. Introducing Learning Targets (5 minutes) • Read the first learning target aloud: "I can write a field journal entry from Meg Lowman's point of view." Explain that today they will be pretending that they are Meg Lowman and will be describing the things that she might see in the rainforest. • Remind the students of the work they did on *point of view* when they studied *Esperanza Rising* (Unit 2, Lesson 7). Review the concept that different people see things differently depending on their points of view or perspective. • Tell students that they will also do work to meet the other three learning targets during the lesson as they meet the first target. They will study a picture from *The Most Beautiful Roof in the World*, revisit the text that goes with that picture, and use sensory details and specific language and vocabulary from the text to write a field journal entry. Be sure that students understand the meaning of the academic vocabulary contained in the learning targets, such as *descriptions* and *enhance*.	• All students developing academic language will benefit from direct instruction of academic vocabulary, particularly when discussing learning targets.

Writing Narratives from First Person Point of View:
Imagining Meg Lowman's Rainforest Journal

Work Time	Meeting Students' Needs

A. Creating a Class Rainforest Field Journal Entry (10 minutes)
• Invite students to open their ***The Most Beautiful Roof in the World*** to page 23.
• Remind students that in this section of the book, Meg has climbed up to the third platform in the canopy. Help students understand that this text was written about Meg, not by Meg. Say: "Remember, *The Most Beautiful Roof in the World* was not written by Meg Lowman; it was written by an author named Kathryn Lasky. She wrote the book about Meg, not about herself, and so her writing refers to Meg by name, or as 'she'; there is no 'I' sentence in this book. But in a journal, the author writes about his or her own adventures. This means the subject of the sentences is 'I,' not someone else. This is called writing in the *first person*. Today we are going to rewrite parts of this book as if it were a field journal. To do this, I want you to pretend that you are Meg Lowman exploring the rainforest and this is what you are seeing."
• Ask students to focus on the photograph:
  * "What exactly do you see?"
  * "What do you think you'd be hearing?"
  * "How do you think you'd be feeling?"
• Listen for and record students' responses in their own words. Hopefully students will make comments like these: "I see a branch covered with different plants. Some look brown and droopy, and others are bright green. There are beautiful bright orange flowers. I hear birds calling, insects buzzing, and the sound of water flowing. It's so exciting to be up here, but it's also a little scary!"
• Begin the model field journal entry by drawing a quick sketch of the picture to accompany the notes. Write labels for the picture.
	• Visuals can help students comprehend questions and discussions. Chart main points in answers and post all questions asked to students about their observations in *The Most Beautiful Roof in the World*.

Work Time (continued)	Meeting Students' Needs
B. Adding Text-Based Information to the Rainforest Field Journal Entry (10 minutes) • Tell the class: "We can use the background information that we gather by reading the text to add to our field journal entry." • Direct students to the text on page 23. Read the first sentence aloud. Pause and ask if there is information in that sentence that could be added to the field journal entry. Give students a moment to turn and talk with a partner, and then invite someone to share out. Listen for something like: "We used our jumars to climb an extending cable so that we could get even closer to the ant gardens." • Remind students of all the vocabulary work they have done throughout this module. They know a lot of specific science terms that Meg might put in her field journal. Tell the students that as you read the rest of the page aloud, they should listen for details and scientific vocabulary that could be added to the journal entry. • Pause again after the third sentence. Give students a moment to turn and talk with a partner about new details from the text that they might add to the class's field journal entry. (For example, "plants" could be replaced with "six different kinds of plants, including orchids and cacti.") • Continue reading aloud until the end of the page. Then ask students for their new ideas based on having read the text, and add their contributions to a model journal entry on the board.	• When possible, provide page 23 from *The Most Beautiful Roof in the World* in students' L1. This can help students understand materials presented in English.

Work Time (continued)	Meeting Students' Needs

C. Independent Practice: Creating a Rainforest Field Journal Entry (20 minutes)
• Tell students that now they get to create their own rain forest journal excerpt.
• Ask students to take out their journals and a pencil. Project the image and direct students to open their books to page 24. Direct their attention to the photographs at the bottom of the page of the ants on the plants. Tell the students to carefully observe the picture and write a journal entry as if they are there seeing what is in the photograph. Remind them:
  * Observe silently.
  * Use first person "I." Write as if you are Meg Lowman.
  * Draw a quick sketch.
  * Label the sketch.
  * Include a clear and precise description of what you see.
• Give students 10 minutes to observe and write silently.
• Then ask students:
  * "What text on page 24 does this image relate to?" (They should be familiar with this page from the work they did in Unit 2.)
• Listen for them to say it is related to the second paragraph. Instruct them to read the text and find specific details to add to their writing, just as the whole class did with the previous page.
• Circulate and observe as the students work. Look for the inclusion of information such as the following: leafcutter ants, that the leaf disks are no bigger than a dime, and that a small ant rides on top to protect the carrier ant from attacks by micro wasps.
	• Provide anchor charts for processes, such as "How to create a rainforest journal entry." This would include steps with nonlinguistic representations (e.g., eyes for *observe*, pencil for *draw*, words for *label*).
	• Consider allowing students who struggle with language to dictate the words to a partner or teacher to add to their sketch.

Closing and Assessment	Meeting Students' Needs
A. Reflecting on the Learning Targets (5 minutes) • Distribute **highlighters**, so that all students have access to two colors. Ask students to find in their rainforest field journal entry a place where they included clear and descriptive language and highlight it in yellow. Then have students find a place where they enhanced their journal entry with information from the text, and highlight that in green. Ask students to share one of their highlighted examples with a partner. • Read through each of the learning targets, pausing after each one to ask students to use the Thumb-O-Meter strategy to demonstrate to what degree each student believes he/she has mastered the learning target. Look for students who indicate that they have not mastered the learning targets, and find a time to meet with these students to review or reteach the lesson.	• Consider partnering ELLs with native speakers of English when reflecting on learning targets. ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.
Homework	**Meeting Students' Needs**
• Complete a page in your nature journal. You may do this by going outside or by looking out the window at home. If this is not possible, use one of the photographs in *The Most Beautiful Roof in the World* and pretend you are Meg Lowman looking at what is in the photograph. Be sure to include the date at the top, to use text and pictures, and to be as detailed and specific as possible. *Note: If your students go outside for recess during the day, they may also complete this assignment at that time.*	• Consider allowing some students to draw only their observations, ideas, or notes for their journal entry. This allows all students to participate in a meaningful way.

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 4

Taking Notes and Citing Quotes from Text:

Gathering Information on our Rainforest Insects

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can use quotes to explain the meaning of informational texts. (RI.5.1) I can determine the main idea(s) of an informational text based on key details. (RI.5.2) I can use a variety of sources to develop an understanding of a topic. (RI.5.9) I can document what I learn about a topic by taking notes. (W.5.8)	
Supporting Learning Targets	**Ongoing Assessment**
• I can record quotes from a text about entomology in my notes. • I can paraphrase a text about entomology. • I can take notes on a text using a Category/Facts/Questions/Response (C/F/Q/R) Note-catcher.	• Field journals • C/F/Q/R Note-catcher

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Agenda	Teaching Notes
1. **Opening** A. Introducing the Performance Task (5 minutes) 2. **Work Time** A. Vocabulary and Paraphrasing Practice (20 minutes) B. Guided Practice: Paraphrasing and Note-Taking (15 minutes) C. Group Work: Paraphrasing and Note-Taking (15 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• This lesson launches students' research about insects in the rainforest (specifically ants and butterflies). Build up the excitement! • Note that throughout this unit, students work in expert groups. Each group only receives the text(s) that their group reads. Prepare texts in advance to distribute to groups. • Review the Category/Facts/Questions/Response Note-catcher. Notice that the CATEGORY part of this Note-catcher is left blank until Lesson 5. • Students are given a question to focus their research: "What is the contribution of [the insect that I am researching] to the rainforest ecosystem?" This question is revealed during Part C of Work Time. Post it in a prominent place in the classroom so students can see it throughout the unit. • This lesson sequence includes several important transitions. Review carefully in advance to visualize when materials are used in the sequence of activities. • In advance: Cut the text to be paraphrased into strips (see supporting materials). Have the right number of strips. Two pairs of students need to receive strips with the same section of text. You will need additional copies of strips 1–4 for Work Time, Part C (since students who worked with strips 5–8 earlier in the lesson will need new strips for this activity). See lesson for details. * Prepare new anchor charts: Quotations and Paraphrases, Ant Research.

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Lesson Vocabulary	Materials
quote, paraphrase, synonyms, entomologist, contribution, ecosystem Strip 1: dominate, seldom Strip 2: domination, strikingly Strip 3: societies, colonies, evolved, efficiently Strip 4: effectively, specialized, physical Strip 5: species, microhabitat, parasites, herbivores, decomposers Strip 6: arthropods, exoskeleton, molting Strip 7: thorax, abdomen, fused, immature Strip 8: antennae, immatures, thorax	• Paraphrasing and Quotation anchor chart (new; teacher-created; see supporting materials) • Information strips for paraphrasing practice (cut into strips) • Ant Research anchor chart (new; teacher-created; see Work Time B) • Category/Facts/Questions/Response (C/F/Q/R) Note-catcher (one to display) • "Fire Ants" text (one per student)

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Opening	Meeting Students' Needs
A. Introducing the Performance Task (5 minutes) • Explain that although they will not have time to share their homework entries, you will read them once a week to make sure they have completed the assignment, and will write a comment on each student's journal. • Tell students that today the class will be starting to research insects of the rainforest. They will get lots of practice writing interesting and informative rainforest scientist field journals about the insects they are studying. This will be for their own field journal page that they will be creating. • Remind them of the work they did yesterday. The journal entry they wrote together from Meg Lowman's point of view was enriched when they added information from the text. When they write their own field journals, they will be able to use information they learned from *The Most Beautiful Roof in the World*, as well as from the more specialized research they are about to begin.	• 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., "Last night I _____. You _____ last night.")

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Work Time	Meeting Students' Needs

A. Vocabulary and Paraphrasing Practice (20 minutes)
• Read the learning targets aloud. Explain that as they take notes today, they will focus on the difference between *quoting* directly from the text and *paraphrasing* an author's words.
• In order to pre-assess to see if students know the difference between quotations and paraphrasing, ask a volunteer to tell the class, in a few sentences, what they did last night. As the student speaks, use a document projector or chart paper to record what she or he says, putting quotation marks around the student's words. Explain that this is a direct quote and point out the quotation marks. Ask another student to repeat what the first student said in his/her own words. Write the second student's paraphrase underneath the quote. Explain that this is a paraphrase: putting something in your own short, clear words.
• Have the students practice this activity with a partner:
  * One student describes their evening in a few sentences.
  * Partner paraphrases: puts it in his/her own words.
  * Then they switch roles and do it again.
• Bring the group back together. Summarize the learning by creating a two-column **Paraphrasing and Quotation anchor chart** with the right-hand column titled QUOTATIONS and the left-hand column PARAPHRASES. Ask students to copy the chart into the next page in their journal. Elicit the following takeaways, recording these ideas in two columns:
  * Quotations record exactly what the original speaker or writer said.
  * Quotations are surrounded by quotation marks.
  * Paraphrased statements are someone else's ideas (spoken or written) in your own words.
  * Paraphrased statements include synonyms for the original words.
  * Paraphrased statements are usually shorter than the original statements (they summarize the original statement).
	• Partner ELLs with native speakers of English to practice paraphrasing. ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.
	• Consider providing smaller quotes (sometimes just a few words) for some students. Teachers should check in on students' thinking as they write or speak about their text.

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Work Time (continued)	Meeting Students' Needs
• Tell students they will get to keep practicing using quotations and paraphrasing as they learn more about insects. Explain to the students that they are going to become *entomologists*. Ask if anyone can infer the meaning of the word. Elicit or provide the definition that an entomologist is someone who studies insects. Share that the suffix *-ologist* means "someone who studies" and *ento-* is a prefix signifying "insects" (not to be confused with etymologist—someone who studies words—which is also what they are becoming!). Have students record the word and definition of *entomologist* in their Scientific Word Glossary (which they started in Unit 1) in the back of their journal. • Pair students up. Give each pair one **information strip for paraphrasing practice**. (Be sure to give the same strip to two pairs). Give students approximately 5 minutes to read the quotes, and to work together to write a paraphrase of the quote on the back of the strip. Circulate to ensure that they are coming up with accurate paraphrases. If necessary, model after students have given it a try on their own. • Next, ask students to talk with their partners about the meaning of the key words in the original statement, and how those words helped them understand and paraphrase the quote. Instruct them to add these words and their definitions to their glossaries. • Give students about 5 minutes to work with their partners. Continue to circulate among the class to ensure that they are collaborating well and identifying accurate definitions. • Ask the pairs to find another pair that had the same quote. Invite the students to compare the two paraphrases, looking for similarities and differences between their versions. • Ask students to talk with their group of four: * "What are you learning about paraphrasing?" • Ask one or two volunteers to share their thinking.	• While circulating, consider modeling for ELLs or students who need more support. In general, the suggestion is to model after students try on their own, but some students may need more scaffolding or support to engage with the paraphrasing task.

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Work Time (continued)	Meeting Students' Needs
B. Guided Practice: Paraphrasing and Note-Taking (15 minutes) *Note: This segment of the lesson involves use of two different anchor charts. Be clear in advance on the progression, and have both charts on hand.* • Tell students that researchers often have big questions that help them focus their learning. Have students turn and talk to a partner about some of the big questions Meg Lowman has about the rainforest. Listen for: "What happens to the plants in the rainforest when insects don't eat the leaves?" or "How are the insects and plants in the rainforest dependent on each other?" • Launch students' research with excitement. Tell them that the focusing question for their research will be: "What is the contribution of [the insect that I am researching] to the rainforest ecosystem?" Write this question in a prominent place that students will be able to see daily. • Say: "Half the class will become experts on ants, and the other half on butterflies and moths. Then, when we share what we have learned, we will all know more about important aspects of the rainforest ecosystem. Today we will all be practicing together, gathering information about ants." • Post and draw students' attention to the **Ant Research anchor chart**. Under the heading, add the question: "What is the contribution of ants to the rainforest ecosystem?" • Review key vocabulary words in this question. First, ask students what they know about the general academic word *contribution*. Listen for students to notice *contribute*, which they likely already know. Look for a definition that includes the concept of being one part of a whole system with many pieces that work together to create a common good. Point out that the word is from the same root as *tributaries*, which are little streams that come together with a bunch of other streams to form a bigger river. The prefix con means *together* or *with*. You may also introduce the word *role* as a simpler synonym for contribution. • Review the meaning of the scientific word *ecosystem*. Ensure that students understand that an ecosystem is a community of living things that interact with each other. Ask: "Why do you think that the word is made up of the stem *eco* (a prefix meaning environment), and the word *system*?" Then ask how the idea of an ecosystem connects to the idea of biodiversity. Refer to the anchor chart on biodiversity created in Unit 2. Listen for answers from students that name the way living things that exist in a biodiverse environment interact to create an ecosystem.	• Use vocabulary learning strategies, such as word parts studies, to support all learners: prefixes, root words, suffixes, cognates, and context. • Students needing additional support may benefit from partially filled-in C/F/Q/R Note-catchers. • When possible, provide text or materials for research found in students' L1. This can help students understand materials presented in English.

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Work Time (continued)	Meeting Students' Needs
• Display the four-column **Category/Facts/Questions/Responses (C/F/Q/R) Note-catcher**. Explain to students that they will be watching and helping fill out the class Note-catcher first and that they will be completing their own later. Explain that they will begin with the FACTS column and return to the CATEGORY column in Lesson 5. • Display and distribute the **"Fire Ants" text** and ask students to focus on the text and follow along as it is read. Read this section aloud. • Ask students what facts they have learned from this passage. Listen for and guide students to answers such as: "Fire ants make themselves into rafts to escape from floods," or "are able to survive underwater." Record the answers in the FACTS Column of the C/F/Q/R Note-catcher you have drawn on the board. (For example, paraphrased statements could be: "Fire ants make themselves into rafts to escape from floods," and "Fire ants can trap air on the hairs on their body so that they can breathe underwater.") Remind students that sometimes we paraphrase the information to shorten it and to put it in our own words, and sometimes we record direct quotes with quotation marks. • Tell the class that conducting research always sparks more questions for the researcher. Ask students to share their questions with a partner. (Listen for and guide students to ask questions such as: "Why are they called fire ants?" and "How do they know what to do when there is a flood?" and "What do they do with the eggs?") Record the questions in the QUESTIONS column of the Note-catcher. • Finally, explain that the RESPONSES column is for recording ideas and reactions to what they have read. Have students share with another partner any ideas the passage has sparked for them. Listen to conversations and record an answer such as: "This makes me think about what people need to do to prepare for floods." Tell the class that this column is useful to record ideas that they will come back to when they write their rainforest field journals.	•

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Work Time (continued)	Meeting Students' Needs
C. Group Work: Paraphrasing and Note-Taking (15 minutes) • Ask the students to write the question: "What is the contribution of ants to the rainforest ecosystem?" and to draw a four-column C/F/Q/R Note-catcher on a new page in their journals under the question, copying the model you have projected. Explain that even though some students will be focusing their research on butterflies and moths starting in Lesson 6, today the whole class is learning about ants. • Tell the students that an important part of doing research is deciding whether what you have read is important to your topic. Say: "After you have read and understood a text, you have to decide if the information it contains is connected to the question you are trying to answer or not." • Ask students to get into their groups of four, and then have them review the paraphrased statements they created earlier in the lesson. • * "Does your sentence strip have any information that might connect to our question: 'How do ants contribute to the rainforest ecosystem?'" (Students should notice that the first four statement strips that were paraphrased do, and the second four do not.) • For groups who had strips 5–8, give them a new statement strip (any strip 1–4). Ask students to record a paraphrased fact from their statement strip in the FACTS column of their Note-catchers. Encourage them to record their QUESTIONS and RESPONSES.	• Consider writing and breaking down multistep directions on how to take notes and paraphrase into numbered elements. Students can return to these guidelines to make sure they are on track. • Consider partnering an ELL with a student who speaks the same L1, for discussion of paraphrases. This can let students have more meaningful discussions and clarify points in their L1.

Taking Notes and Citing Quotes from Text:
Gathering Information on our Rainforest Insects

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Gather the class together as a group. Reread the learning targets aloud. Do a go-around in which each student shares a fact from her or his Note-catcher with the class and states whether it is a direct quote or a paraphrase. • Collect the journals and review the students' Note-catchers as an ongoing assessment.	• Check in with students who struggle with language before asking them to share aloud in front of the class. Ensure they have a fact selected and know whether it is a quote or paraphrase. This allows all students to participate in a meaningful way.
Homework	**Meeting Students' Needs**
• Use your field journal to record notes from nature, either by going outside, looking out your window, or looking at a photograph in *The Most Beautiful Roof in the World*. You may want to return to the spot where you recorded your first homework notes, or choose a new focus for your observations. Be sure to put the date and time on your entry. *Note: In Lesson 6, students begin research on ants and butterflies of the rainforest. They may need additional resources on these arthropods. Begin collecting books for a classroom library for the research lessons. (See Recommended Texts)*	• Consider allowing students to just draw their observations, ideas, or notes in their journal entries when appropriate.

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 4
Supporting Materials

Paraphrasing and Quotations Anchor Chart
(Completed, for Teacher Reference)

Quotations	Paraphrases
Record exactly what the original speaker or writer said. Don't add or take away anything from what the speaker or writer said. Are surrounded by quotation marks.	Restate someone else's ideas (spoken or written) in your own words. Include synonyms for the original words. Are usually shorter than the original statements (they summarize the original statement).

Information Strips for Paraphrasing Practice

1. "Ants **dominate** the small-scale world. We may **seldom** notice them, but ants affect their ecosystems as much as humans do." http://www.mnh.si.edu/ants/index.html
2. "Much like us, ants achieve **domination** by being social creatures. They must cooperate with each other to meet their basic needs for food, shelter, and defense. How they do this can look both **strikingly** familiar and bizarre." http://www.mnh.si.edu/ants/index.html
3. "Group hunting, producing crops, and raising other animals for meals are some of the solutions that both human societies and large ant **colonies** have **evolved** to obtain a large amount of food **efficiently**." http://www.mnh.si.edu/ants/photogallery/index.htm
4. "Members of larger societies have to work together to accomplish major tasks that no one person, or ant, could do alone. To contribute **effectively** in these groups, the individual members have limited, but **specialized**, skills. Among ants, the worker's **physical** size and shape often determines her role in the colony." http://www.mnh.si.edu/ants/photogallery/index.htm
5. "The insects are the most diverse and important group of animals on land. There are more **species** of insects than all other land animals put together. Insects live in all habitats and occupy any **microhabitat** you can imagine. They can be predators, prey, **parasites**, hosts, **herbivores**, or **decomposers**." www.biokids.umich.edu/critters/Insecta/
6. "Insects are members of a larger group called **arthropods** (which also includes arachnids, myriapods, and crustaceans). All arthropods have a rigid exoskeleton, and legs that are jointed (arthropod means "jointed foot"). In order to grow, arthropods have to shed their whole **exoskeleton** all at once; this is called **'molting.'**" www.biokids.umich.edu/critters/Insecta/

Information Strips for Paraphrasing Practice

7. "All insects have bodies which are divided into three sections: the **head, thorax**, and **abdomen**. In some insects these sections are **fused** together so they may be hard to tell apart, and some baby insects (called immature) do not have all three sections until they become adults." www.biokids.umich.edu/critters/Insecta/

8. "Nearly all insects have a pair of **antennae** on their heads. They use their antennae to touch and smell the world around them. Adult insects (and most **immatures**) have six legs that are attached to the middle section of the body, the **thorax**. Insects are the only arthropods that have wings, and the wings are always attached to the thorax, like the legs." www.biokids.umich.edu/critters/Insecta/

Source: **http://www.mnh.si.edu/ants/index.html** and **www.biokids.umich.edu/critters/Insecta/**

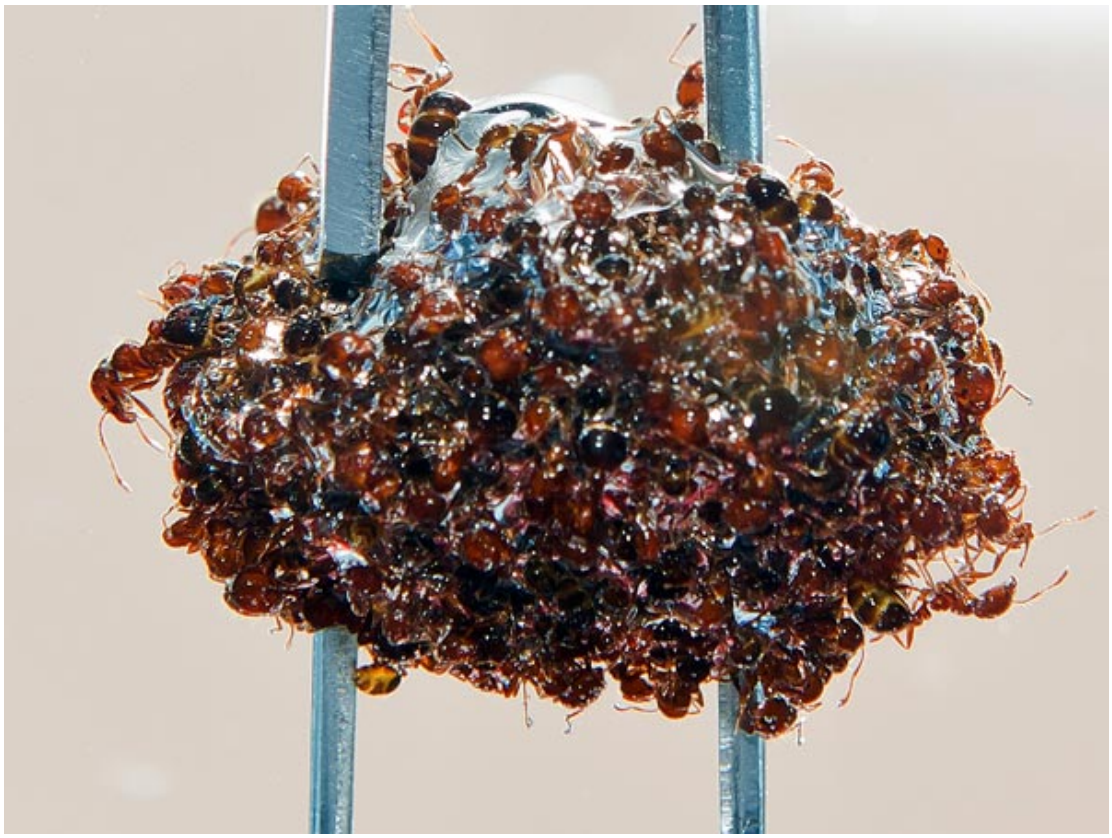
Category-Facts-Questions-Response (C/F/Q/R) Note-Catcher

Category	Facts	Questions	Responses

Fire Ants

By Rachel Kaufman/National Geographic Stock

When a city floods, humans stack sandbags and raise levees. When a fire ant colony floods, the ants link up to form a literal life raft. Now, new research shows exactly how the ants manage this feat. Engineering professor David Hu and graduate student Nathan J. Mlot at Georgia Institute of Technology had heard reports of ant rafts in the wild that last for weeks. "They'll gather up all the eggs in the colony and will make their way up through the underground network of tunnels, and when the flood waters rise above the ground, they'll link up together in these massive rafts," Mlot said. The scientists collected fire ants and dunked clumps of them in water to see what would happen. In less than two minutes the ants had linked 'hands' to form a floating structure that kept all the insects safe. Even the ants down below can survive this way, thanks to tiny hairs on the ants' bodies that trap a thin layer of air. "Even when they're on the bottom of the raft, they never technically become submerged," Mlot said.



EXPEDITIONARY LEARNING

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

Structuring The Search: Categorizing Our Research

Structuring The Search:
Categorizing Our Research

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 document what I learn about a topic by taking notes. (W.5.8) I can summarize or paraphrase information in my notes and in finished work. (W.5.8)	
Supporting Learning Targets	**Ongoing Assessment**
• I can sort information about rainforest insects into categories. • I can take notes by recording direct quotes from a text about rainforest insects. • I can take notes by paraphrasing information from a text about rainforest insects.	• Students' field journals • Exit ticket

Structuring The Search:
Categorizing Our Research

Agenda	Teaching Notes
1. Opening A. Homework Review (5 minutes) 2. Work Time A. Creating Categories for Information: A Researcher's Version of 20 Questions (10 minutes) B. Sorting Information into Categories (10 minutes) C. Vocabulary and Research Time (25 minutes) 3. Closing and Assessment A. Review Learning Targets (5 minutes) B. Introducing Research Expert Groups (5 minutes) 4. Homework	• This lesson introduces the research component of this module. Note that in this lesson, all students research ants together. In future lessons, students will get to choose whether to continue studying ants or to build expertise about butterflies. • In this lesson, students begin to create categories for their own research by first playing a version of 20 Questions. This helps them realize the types of questions researchers ask in order to help them gather information about what they are researching. They are guided to generate the categories that will drive their research about rainforest insects. • During Part A of Work Time, a new anchor chart is created during the 20 Question game (i.e., a different chart from the Ant Research C/F/Q/R Note-catcher created during Lesson 4). The purpose of the new chart is to help students see the connection between the questions they ask and the categories for research. Students then return to the Lesson 4 Ant Research C/F/Q/R Note-catcher during Part B of Work Time, in order to complete the CATEGORY column. • During Part B of Work Time, students are introduced to the term arthropods. Students should know that spiders are not insects because they have two, not three, main body parts. Both are part of the family of animals called arthropods, but spiders are in the class called arachnids. • In advance: * If students don't have access to the Internet, print out articles on designated websites. * Review: Fist to Five strategy (Appendix). * Cut up Facts about Arthropods (in supporting materials). * Create a new anchor chart titled Categories for Research on Rainforest Insects (see model in supporting materials). * Make signs for each text code category to hang around the room for the fact sorting activity. * Consider writing the list of vocabulary words used in Part C of Work Time in advance on the board or on chart paper.

Structuring The Search:
Categorizing Our Research

Lesson Vocabulary	Materials
categories, categorize; unique, capabilities, prevalent, termites, arthropods, abdomen, thorax, enthusiastically, typically, defy, ensure, function, typically, communicate, cooperate, promising, extensively, fiber, seize	• Categories for Research on Rainforest Insects anchor chart (new; teacher-created; see supporting materials) • Ant Research C/F/Q/R Note-catcher (from Lesson 4; in students' journals) • Facts about Arthropods (cut into strips) • Facts about Arthropods Sorted into Categories (one per student) • "Ants" text (one per student)

Opening	Meeting Students' Needs
A. Homework Review (5 minutes) • Ask students to take out their field journals and exchange them with a partner. Give the students a minute to look at the last entry of their partner's journal. Ask them to focus on how well the writer used precise descriptive language or sensory details. • Remind students that giving feedback helps everyone learn. Ask students to take a minute each to give feedback that is kind, specific, and useful. Remind students to give one each: – Compliment – Question – Suggestion • After students have given and received feedback, collect all field journals to review as an ongoing assessment.	• For students needing additional support producing language, consider offering a sentence frame or starter, or a cloze sentence to assist with language production and provide the structure required.

Structuring The Search:
Categorizing Our Research

Work Time	Meeting Students' Needs
A. Creating Categories for Information: A Researcher's Version of 20 Questions (10 minutes) • Read aloud the learning target: "I can sort information about rainforest insects into categories." Display the new anchor chart: **Categories for Research on Rainforest Insects** (see supporting materials for model). • Tell the class that they will gathering a lot of information in the next few days to help them answer the focusing question: "How do [ants or butterflies] contribute to the rainforest ecosystem?" As they do their research, the information they find will need to be organized. One way to do this is to group facts into *categories* that capture the essential characteristics of their insects. Remind them that they left the CATEGORIES column of their four-column chart from the last lesson (Lesson 4) blank. They will go back and fill that column in later today. But first they are going to think a little bit more about what it means to *categorize* information. • Tell the class: "In order to think of these categories we're going to play a game that's like 20 Questions. In that game you ask yes/no questions to try to guess what someone is thinking of. But in our version, you won't just ask yes/no questions. You get to ask big questions that need more than a yes/no answer. You can ask any question that will give you important information so that you can quickly guess the animal I'm thinking of in as few questions as possible." Tell them they will practice together. • Play the game using a squirrel as your answer. Give the students a first question as an example: "Where does this animal live?" Record the question in the left-hand column of the Categories for Research on Rainforest Insects anchor chart. Tell students that the scientific word for where an animal lives is *habitat*, and write the word in the right-hand column next to the question. • Continue playing the game. In the left-hand column of the anchor chart, record students QUESTIONS. In the right-hand column, record the SCIENTIFIC TERM for the type of question students ask. Listen for the following types of questions; add any that the students do not generate: * "What do these animals look like?" (scientific synonym = physical characteristics) * "What do they eat?" (food source) * "Who/What are their enemies?" (predators) * "How do they have babies?" (life cycle) * "How do they defend themselves against enemies?" (defenses)	• Provide an anchor chart for "How to Play 20 Questions" that includes steps and sample question stems for students.

Work Time (continued)	Meeting Students' Needs
* "What do they do that is interesting or unusual?" (behavior) * "Where do they live?" (habitat)	
B. Sorting Information into Categories (10 minutes) • Explain that now they are going to practice sorting information about rainforest insects and spiders into categories, which will help them to be able to fill in the Categories column on the **Ant Research C/F/Q/R Note-catcher** from Lesson 4. (Explain that spiders aren't insects because they have two, not three, main body parts. Like insects, they are arthropods, but spiders are in the class called arachnids.) • Randomly distribute one **Facts about Arthropods** strip to each student. Tell students that they are going to do a mix and mingle activity (they have done this before). Give directions: 1. Read your strip. 2. Stand up and mingle. Find a partner to talk with. 3. As a pair, discuss: "Which category on the Categories anchor chart does this strip belong with? How do you know?" • Ask students to begin. As they mingle, circulate and listen to students' conversations and redirect when necessary. • After 5 minutes of mingling, ask students to return to their seats and take out their journals. • Distribute the **Facts about Arthropods Sorted into Categories**. Ask them to check their sentence strips against the Facts sheet.	• When possible, provide text or materials found in students' L1. This can help students understand materials presented in English. • Provide ELLs bilingual word-for-word translation dictionaries or online translation sources such as Google Translate to assist with comprehension. ELLs should be familiar with how to use glossaries or dictionaries. • Consider partnering an ELL with a student who speaks the same L1, when discussion of complex content is required. This can let students have more meaningful discussions and clarify points in their L1.

Work Time (continued)	Meeting Students' Needs

C. Vocabulary and Research Time (25 minutes)
• Tell students that they are now ready to return to the Note-catcher they began in Lesson 4. Project and turn the class's attention to the Ant Research C/F/Q/R Note-catcher from Lesson 4. Ask the students to turn to the Ant Research C/F/Q/R Note-catcher in their journals.
• Divide the class into seven small groups. Distribute the **"Ants" text** to students. Assign one paragraph to each group.
• Write the following words on the white board or on chart paper:
  * 1st paragraph: unique, capabilities, prevalent,
  * Paragraph 2: termites, abdomen, thorax,
  * Paragraph 3: enthusiastically, typically, defy
  * Paragraph 4: ensure, function, typically,
  * Paragraphs 5 and 6: communicate, cooperate, promising
  * Paragraph 7: extensively, fiber, seize
• Ask students to read their paragraph silently for the gist and discuss it with their group members.
• Invite students to circle identified words in that paragraph.
• Reread the page aloud and give students 5 minutes to figure out the definition of the identified words from the context.
• Ask students to share at their tables about what they think the words mean. Circulate to correct any misinformation. Direct students to write the words and definitions in their glossaries (just for the words in their paragraph).
• Ask students to talk together in their groups about one new piece of information that they have learned from their assigned paragraph, and record this as a note in their C/F/Q/R Note-catchers. Tell them that today they are now ready to fill in the CATEGORY column, and can use the seven scientific terms they learned earlier in this lesson.
• Ask students to work in groups to reread the FACTS they have listed on their Note-catcher and determine the CATEGORY it would correspond with (of the seven identified) then write that in the CATEGORY column next to the fact. Remind students to add new information from the "Ants" text to their Note-catchers, remembering to assign facts to one of the seven categories.
	• Consider providing smaller chunks of text for research (sometimes just a sentence) for some students. Teachers should check in on students' thinking as they write or speak about their text.
	• Students needing additional support may benefit from a partially filled-in C/F/Q/R Note-catcher.
	• Consider partnering struggling readers with more proficient readers when tackling the difficult text for research.

Work Time (continued)	Meeting Students' Needs
• Review the distinction between direct quotes and paraphrasing, and let students know that is okay to include direct quotes, but that when they do so, they need to put the words in quotation marks. • As students work, circulate and support as needed.	

Closing and Assessment	Meeting Students' Needs
A. Review Learning Targets (5 minutes) • Reread the learning targets aloud: "I can sort information about rainforest insects into categories," "I can take notes by recording direct quotes from a text about rainforest insects," and "I can take notes by paraphrasing information from a text about rainforest insects." • Using the Fist to Five strategy, ask students to self-assess their progress toward meeting these learning targets. Tell students: "If five fingers means I really understand and can do this, and a fist means I need a lot more help, put up the number of fingers that shows where you are in your progress toward meeting this learning target."	
B. Introducing Research Expert Groups (5 minutes) • Tell students: "You will begin research in expert groups in the next lesson. Groups will be researching either ants or butterflies in order to gather information to create a field journal page. At the bottom of the page that has your C/F/Q/R Note-catcher, write which expert group you would prefer to be in and why. I will do my best to make sure everyone gets to research their preferred arthropod." Give students a few minutes to decide and write their choice in their journal. • Collect students' journals and the exit tickets and review them to see which students may need additional support in learning how to take notes independently.	• Consider allowing students who may have difficulty making a decision about which insect to research the opportunity to discuss one-on-one with the teacher to allow them to process the choice orally.

Structuring The Search:
Categorizing Our Research

Homework	Meeting Students' Needs
• Continue reading in your independent reading book for this unit at home. *Note: Review students' field journals as an ongoing assessment and write a specific comment about using sensory details or close observation sketches in each one.* *Starting in Lesson 6, students will continue their research in expert groups (three to four students per group). Half of the groups will focus their research on ants and the others on butterflies. Assign students to groups strategically and heterogeneously so that they will be able to work well together independently while you are assisting the other groups. You may want to group students with the same L1 together.*	

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 5
Supporting Materials

Categories for Research on Rainforest Insects Anchor Chart

Question	Scientific Term

Categories for Research on Rainforest Insects Anchor Chart
(For Teacher Reference)

Question	Scientific Term
What do these animals look like?	physical characteristics
What do they eat?	food source
Who/What are their enemies?	predators
How do they have babies?	life cycle
How do they defend themselves against enemies?	defenses
What do they do that is interesting or unusual?	behavior
Where do they live?	habitat

Facts about Arthropods

Teacher Directions: Cut these into strips before the lesson.

Cockroaches live just about everywhere. Some species can become pests in the home where their flattened bodies enable them to hide in narrow crevices, making them difficult to get rid of.
There are at least 400,000 different kinds of beetles, living everywhere from snowy mountaintops to scorching deserts and muddy ponds.
Flies are found all over the world, from the icy polar regions to the equatorial rainforest.
Beetles play an important role in nature by eating dead plants and animals and returning them to the soil as valuable nutrients.
The South American grasshopper feeds mostly on the leaves, stems, flowers, and fruits of the vegetation in the rainforest. Like other grasshoppers, it chews its food with its powerful mandibles, or jaws.
The large jaws of the tarantula inject poison into its prey, and as with all spiders, the food is sucked into the body as a liquid.

Facts about Arthropods

Under a spider's abdomen, near the rear, are tiny stubs called spinnerets. The spider uses its legs to pull liquid silk made in its abdomen from the spinnerets.
The biggest and most complex of insect societies are built by termites. The nests of some species may house up to five million, and are extraordinarily complex buildings, with full air-conditioning.
The nests built by the common wasp are always begun by a single queen working on her own. She builds a series of papery envelopes from chewed-up wood fibers and lays her eggs inside.
Female Mexican bean beetles lay their eggs in groups of about 50 on the underside of leaves, where they are well protected. Each egg stands on end and takes about a week to hatch.
Some spiders protect their eggs in silken egg sacs. The wolf spider carries her egg sac attached to her spinnerets.
Mosquitoes hatch out of eggs in wet places like ponds or puddles. Baby mosquitoes, or larvae, look like segmented worms about the size of a grain of rice.
Stick insects may be green or brown and are usually long and thin with slender legs and antennae.
Flies have large compound eyes, and claws and pads on the feet so they can walk on any surface.

Facts about Arthropods

Praying mantises are often slender, like stick insects. Many species are camouflaged in bright greens or dull browns.
Spiders, scorpions, ticks, and mites are all arachnids. They have eight legs and only one or two main body sections. They don't have antennae.
A tarantula's bite can be painful, but it isn't any more dangerous than a bee sting.
Threatened by a variety of larger insects, birds, and reptiles of the rainforest, the South American grasshopper uses its shape as camouflage. Sometimes it even sways in the breeze to appear even more like a twig or stick.
Leafcutter ants visit the canopy but live underground in great fungus factories.
Most ant species live and work together in big colonies, often building complex nests in which to rear their young.
Some ants in tropical areas from Africa to Australia build nests in trees by "sewing" together groups of large leaves.
When some ant species bite, they are able to squirt formic acid from the end of their abdomen into the wound—making it doubly painful.

Facts about Arthropods

Some groups of butterflies feed on rather poisonous plants. As a result, the adult butterflies often taste unpleasant and are avoided by insect-eating birds.
Adult butterflies and moths feed on liquids, which they suck up through a long, coiled "proboscis."
The most advanced insects, such as butterflies and moths, have a complex life cycle involving complete metamorphosis. The eggs hatch to produce larvae that are quite unlike adult insects in both form and appearance.
The wings and body of adult butterflies and moths are covered in tiny scales, which are really flattened and ridged hairs.

Written by Expeditionary Learning for instructional purposes

Sources:
Insect: DK Eyewitness Books, Laurence Mound (Dorling Kindersley Children, 2007)
Discover the Amazon: The World's Largest Rainforest, Lauri Berkenkamp (Nomad Press, 2008)
animaldiversity.ummz.umich.edu/site/accounts/information/Insecta.html
rainforests.mongabay.com/0509.htm

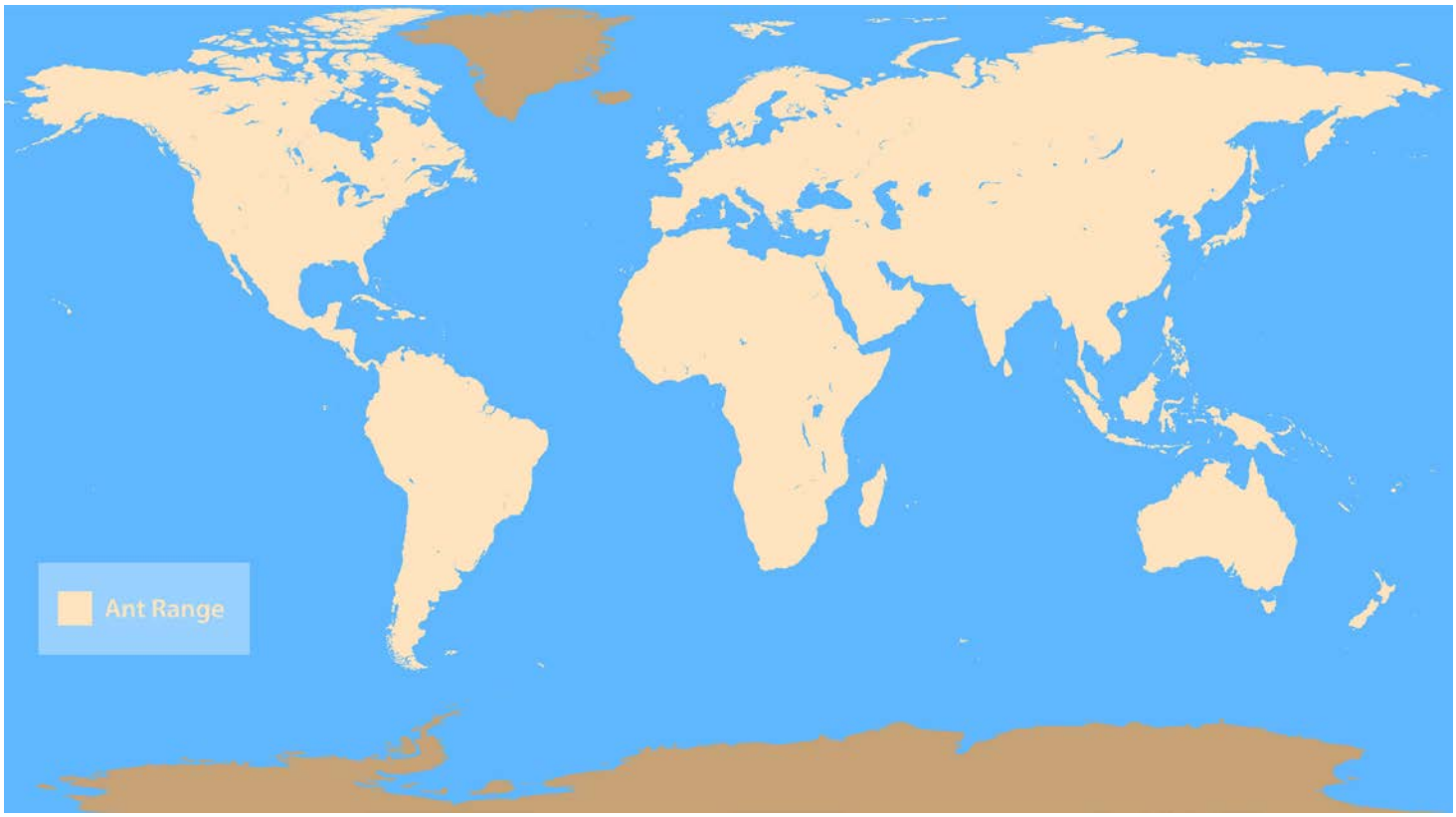
Facts about Arthropods Sorted into Categories

Habitat
• Cockroaches live just about everywhere. Some species can become pests in the home where their flattened bodies enable them to hide in narrow crevices, making them difficult to get rid of. • There are at least 400,000 different kinds of beetle, living everywhere from snowy mountaintops to scorching deserts and muddy ponds. • Leafcutter ants visit the canopy but live underground in great fungus factories. • Flies are found all over the world, from the icy polar regions to the equatorial rainforest.
Food
• Adult butterflies and moths feed on liquids, which they suck up through a long, coiled "proboscis." • Beetles play an important role in nature by eating dead plants and animals and returning them to the soil as valuable nutrients. • The South American grasshopper feeds mostly on the leaves, stems, flowers, and fruits of the vegetation in the rainforest. Like other grasshoppers, it chews its food with its powerful mandibles, or jaws. • The large jaws of the tarantula inject poison into its prey, and as with all spiders, the food is sucked into the body as a liquid.
Behavior
• Under a spider's abdomen, near the rear, are tiny stubs called spinnerets. The spider uses its legs to pull liquid silk made in its abdomen from the spinnerets. • The biggest and most complex of insect societies are built by termites. The nests of some species may house up to five million, and are extraordinarily complex buildings, with full air-conditioning. • The nests built by the common wasp are always begun by a single queen working on her own. She builds a series of papery envelopes from chewed-up wood fibers and lays her eggs inside. • Most ant species live and work together in big colonies, often building complex nests in which to rear their young. • Some ants in tropical areas from Africa to Australia build nests in trees by "sewing" together groups of large leaves.

Facts about Arthropods Sorted into Categories

Life Cycle
• Female Mexican bean beetles lay their eggs in groups of about 50 on the underside of leaves, where they are well protected. Each egg stands on end and takes about a week to hatch. • The most advanced insects, such as butterflies and moths, have a complex life cycle involving complete metamorphosis. The eggs hatch to produce larvae that are quite unlike adult insects in both form and appearance. • Some spiders protect their eggs in silken egg sacs. The wolf spider carries her egg sac attached to her spinnerets. • Mosquitoes hatch out of eggs in wet places like ponds or puddles. Baby mosquitoes, or larvae, look like segmented worms about the size of a grain of rice.
Physical Attributes
• Stick insects may be green or brown and are usually long and thin with slender legs and antennae. • Flies have large compound eyes, and claws and pads on the feet so they can walk on any surface. • Praying mantises are often slender, like stick insects. Many species are camouflaged in bright greens or dull browns. • The wings and body of adult butterflies and moths are covered in tiny scales, which are really flattened and ridged hairs. • Spiders, scorpions, ticks, and mites are all arachnids. They have eight legs and only one or two main body sections. They don't have antennae.
Predators and Defense
• When some ant species bite, they are able to squirt formic acid from the end of their abdomen into the wound—making it doubly painful. • Some groups of butterflies feed on rather poisonous plants. As a result, the adult butterflies often taste unpleasant and are avoided by insect-eating birds. • A tarantula's bite can be painful, but it isn't any more dangerous than a bee sting. • Threatened by a variety of larger insects, birds, and reptiles of the rainforest, the South American grasshopper uses its shape as camouflage. Sometimes it even sways in the breeze to appear even more like a twig or stick.

Ant Range Map



Ants

By NG Staff/National Geographic Stock

Ants are common insects, but they have some unique capabilities. More than 10,000 known ant species occur around the world. They are especially prevalent in tropical forests, where they may be up to half of all the insects living in some locations.

Ants look much like termites, and the two are often confused—especially by nervous homeowners. However, ants have a narrow "waist" between the abdomen and thorax, which termites do not. Ants also have large heads, elbowed antennae, and powerful jaws. These insects belong to the order Hymenoptera, which includes wasps and bees.

Enthusiastically social insects, ants typically live in structured nest communities that may be located underground, in ground-level mounds, or in trees. Carpenter ants nest in wood and can be destructive to buildings. Some species, such as army ants, defy the norm and do not have permanent homes, instead seeking out food for their enormous colonies during periods of migration.

Ant communities are headed by a queen or queens, whose function in life is to lay thousands of eggs that will ensure the survival of the colony. Workers (the ants typically seen by humans) are wingless females that never reproduce, but instead forage for food, care for the queen's offspring, work on the nest, protect the community, and perform many other duties.

Male ants often have only one role—mating with the queen. After they have performed this function, they may die.
Ants communicate and cooperate by using chemicals that can alert others to danger or lead them to a promising food source. They typically eat nectar, seeds, fungus, or insects. However, some species have diets that are more unusual. Army ants may prey on reptiles, birds, or even small mammals.

One Amazon species (*Allomerus decemarticulatus*) cooperatively builds extensive traps from plant fiber. These traps have many holes and, when an insect steps on one, hundreds of ants inside use the openings to seize it with their jaws.

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 6

Conducting Research: Asking and Answering our Questions about Rainforest Arthropods

Conducting Research:
Asking and Answering our Questions about Rainforest Arthropods

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
I can explain what a text says using quotes from the text. (RI.5.1) I can determine the main idea(s) of an informational text based on key details. (RI.5.2) I can summarize an informational text. (RI.5.2) I can build knowledge about multiple aspects of a topic by conducting research. (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) I can effectively engage in discussions with diverse partners about fifth-grade topics and texts. (SL.5.1)

Supporting Learning Targets	Ongoing Assessment
• I can take notes by recording direct quotes from a text about rainforest insects. • I can take notes by paraphrasing information from a text about rainforest insects. • I can use evidence from the text to answer questions. • I can take notes from different sources about insects in the rainforest. • I can work cooperatively with my classmates in an expert research group.	• Students' field journals • Journals (C/F/Q/R Note-catchers) • Ant question charts (ant groups) • Butterfly Life Cycle graphic (butterfly group)

Conducting Research:
Asking and Answering our Questions about Rainforest Arthropods

Agenda	Teaching Notes
1. Opening A. Homework Review (10 minutes) B. Introducing Learning Targets (5 minutes) 2. Work Time A. Establishing Expert Groups (10 minutes) B. Researching in Expert Groups (30 minutes) 3. Closing and Assessment A. Review (5 minutes) Homework	• In this lesson, students formally launch their research in their "expert groups." The purpose of providing choice is to increase engagement. Students work in small groups on tasks for which the scaffolding is built in to the lesson. However, students still need teacher support to build their literacy skills. For the majority of Work Time, circulate to instruct one group at a time as the other groups work more independently. Review Work Time Part B carefully in advance, to envision the flow of activities. • Please note that 4M2B also includes research on butterflies. The study of butterflies in this module is intentional and spirals in complexity from the research in Grade 4 to build across grade levels. • In advance: Gather a classroom library of books on rainforest insects as additional resources for students. For suggestions, see Unit 3 Recommended Texts list (on EngageNY.org). Add other available titles that seem appropriate. These books are not necessary to do the research, but they may be helpful and of great interest to students. It is imperative that students read a high volume of texts at their independent reading level, in order to continue building content knowledge and vocabulary. See Teaching Note in Unit 3, Lesson 1 for more on this. • In advance: Be sure to assign students to their expert groups: About half of the class should be assigned to a group studying either ants or butterflies. These groups should be about 3-4 students each, however student in the ant expert groups will begin this lesson in a group of approximately 5 for the Jigsaw protocol. These groups of 5 will all reading the same text, "Bullet Ants", "Army Ants", or "Leaf Cutter Ants". After reading the text about their assigned ant, students will then be regrouped into groups of about three with each group having at least one student who has read about each of the different types of ants. Students will then share what they have learned with their new ant group. This group will remain their permanent ant expert group from this lesson on. Students in butterfly expert groups will remain in their assigned group of 3 through out the lesson and in subsequent lessons as well. • Launch expert groups in a way that ensures a positive, collaborative tone in every group. Take the time needed to build and enforce behavior norms. Be sure that students realize that they will need to be able to work independently, since you will be circulating between various groups to assist them. • Create folders for each group with the appropriate number of texts for each group member inside (see supporting materials).

Conducting Research:
Asking and Answering our Questions about Rainforest Arthropods

Agenda (continued)	Teaching Notes
	• Seat all the ant groups on one side of the room, and all the students studying butterflies on the other. In Work Time B you will see the group name in CAPS and the following bullet point instructions under it indented until the next group is written in CAPS. This means that all of the indented bullet point instructions are to be applied ONLY to the group name that is in CAPS above them. • Students in the Butterfly group read the transcript of an article called "Rainforest: The Most Precious Environment on Earth." The full transcript of this article is provided for students. However they also receive a "Stop and Talk" version, in which the article is intentionally chunked with prompts for discussion. Based on the needs of your class, determine whether to have them read the full article first, or whether to simply orient them to the "Stop and Talk" version that is used explicitly in the lesson. • Review: Think-Pair-Share and Jigsaw protocols (Appendix 1).

Lesson Vocabulary	Materials
expert, evidence; Butterfly group: howler (monkeys), venture, flit, camouflage, transparent, startle, scuttles, posterior, imbibing, vital, resounds, expanse, pristine, basking, ousts, massive, distended	• *The Most Beautiful Roof in the World* (book; one to display) • Expert Groups chart (a chart that tells students which groups they are in; new; teacher-created) • Expert Group Folders (one per expert group) containing a task card and the appropriate text for that task card as follows: – Butterfly Expert Group Folders: Butterfly Expert Group Task Cards, Butterfly Life Cycle (graphic) and "Rainforest: The Most Precious Environment on Earth" (transcript) (approx. 15, one per Butterfly group member) – Ant Expert Group Folders: Three separate folders with either "Bullet Ants", "Army Ants", or "Leafcutter Ants" texts and all folders having the same Ant Expert Group Task Card (approximately 5 copies of a text and the task card per folder) • Chart paper (one sheet per ant expert group) • Features of Informational Text anchor chart (from Unit 1)

Conducting Research:
Asking and Answering our Questions about Rainforest Arthropods

Opening	Meeting Students' Needs

A. Homework Review (10 minutes)
• Return field journals to students and ask them to gather as a class. Ask them to locate their last homework entry. Ask:
  * "Who chose to observe the same spot you wrote about before?"
  * "Who chose a different spot?"
  * "Why did you make that decision?"
  * "What impact did it have on your journal entry?"
• Ask students to think, then talk with a partner about the questions. Cold call a few students to share out. Look for answers that indicate students understand the pros and cons of keeping a running record of an area and how it changes over time.
• Ask students to think about whether Meg Lowman returns to the same place in the rainforest, and why she might do that. Read aloud the passage from ***The Most Beautiful Roof in the World*** that begins with the last paragraph on page 15 ("Meg begins taking 'snapshots' of leaf-eating activity") and continues through the first paragraph on page 17. Ask:
  * "What did Meg notice when she returned to this same region for many years?" (Answer: *A pattern of leaf eating*)
  * "Why did she keep coming back to investigate the same spot?" (Answer: *To see if her theory that insects like the newest leaves the best was right*)
	• For students needing additional support producing language, consider offering a sentence frame or starter, or a cloze sentence to assist with language production and provide the structure required. (e.g., "I chose to observe _____. I chose to observe there because _____. It made my journal entry _____ because _____.")
	• Consider partnering an ELL with a student who speaks the same L1, when discussing journal entries. This can let students have more meaningful discussions and clarify points in their L1.

B. Introducing Learning Targets (5 minutes) • Remind students of the learning targets covered in the previous lessons—quoting from and paraphrasing text in order to do research, taking notes on information about rainforest insects, and sorting that information into categories. Ask students to think back on what they did, and cold call students to define *quotes*, *paraphrasing*, and *categories*. • Read aloud the first two learning targets for this lesson. Explain that they will be building on these skills today to meet these learning targets, using evidence from the text to answer questions, and taking notes from different sources. • Read the third learning target. Ask a student to define the word *cooperatively*. Remind them that today they will begin working on their research in small groups and it will be very important to think about how to work cooperatively.	• Provide nonlinguistic symbols (e.g., magnifying glass for *details*, a light bulb for *main idea*) to assist struggling readers in making connections with vocabulary. These symbols can be used throughout the year. Specifically, they can be used in directions and learning targets.

Conducting Research:
Asking and Answering our Questions about Rainforest Arthropods

Work Time	Meeting Students' Needs
A. Establishing Expert Groups (10 minutes) • Tell students that one smart thing researchers do is make sure that they can talk with and learn from other experts who are studying the same or similar topics. Remind students of how Meg Lowman sends research findings and reports to other scientists. Tell students that although they will be doing individual research during this project, they will rely on their expert group through the process. • Give students time to Think-Pair-Share with a partner about ways an expert group could support their research process. Share out. Listen for students to say that others in their expert group can help them understand text, organize their thinking, and add ideas. • Explain that half of the expert groups will continue to focus on ants, and the other half will research butterflies. Announce entomologist expert groups and post an **Expert Groups chart** of who is in each group. Designate meeting spots for expert groups to gather and store their materials. Explain to students in who will be studying ants, that they will work in two different groups today with their first group reading about the same ant, then with a smaller group where they will share their learning. Explain that this smaller group will be their permanent group (see teaching notes at the beginning of this lesson for guidance on grouping for students studying ants). • Ask students to move to their group spot. Ask them to talk at their tables about how following the Active Listening criteria will help them be successful as a group. Have students assign someone in their group to be their note-taker for the day.	• Consider partnering an ELL with a student who speaks the same L1, when discussing Expert Groups. This can let students have more meaningful discussions and clarify points in their L1.

Conducting Research:
Asking and Answering our Questions about Rainforest Arthropods

Work Time (continued)	Meeting Students' Needs
B. Researching in Expert Groups (30 minutes) • Tell students that they will be working with you for half the period and in groups on their own for the other half. • Instruct all students to create a four-column C/F/Q/R Note-catcher, like the one they have been using in the past few lessons, on the next clean sheet of their journals. • While they are creating their Note-catchers, distribute **Expert Group folders**. • Get ant and butterfly groups each started by reviewing their cards: • BUTTERFLY: Ask students to read through each step on the **Butterfly Expert Group task card** and think of any questions they may have about their task. Tell students you will answer their questions after you have gotten the ant groups set with their task cards. • ANTS: Explain to the ants groups that each of the groups will be studying a different kind of ant: bullet ants, army ants or leafcutter ants. Ask students to read through each step on their **Ant Expert Group task card** in their expert group folder. Review the Jigsaw protocol with students. Clarify any directions as necessary. Give each group studying bullet ants, army ants, or leafcutter ants, a separate sheet of **chart paper** for recording and sharing with the Jigsaw protocol. Briefly review this protocol if necessary. Tell them that if they finish their task card before you are finished with the butterfly groups, they may read other books from the classroom library of ant resources, looking for additional information about the contribution of rainforest insects to record in their C/F/Q/R Note-catchers. • BUTTERFLY: Answer any clarifying questions from students about the task card then invite students to refer to the "Rainforest: The Most Precious Environment on Earth" text in their expert group folders. • Explain that because this text is very difficult, you will first read it aloud to students. Ask them to follow along. Begin with the title, "Rainforest: The Most Precious Environment on Earth. A rainforest experience, narrated by Adrian Hoskins." After the first three sentences, pause and ask: * "What kind of informational text do you think this is?"	• Consider including texts for expert groups that reflect a range of text complexity so that all students can independently access the print materials. • Provide ELLs bilingual word-for-word translation dictionaries or online translation sources such as Google Translate to assist with comprehension. ELLs should be familiar with how to use glossaries or dictionaries. • When possible, provide text or materials for research found in students' L1. This can help students understand materials presented in English.

Conducting Research:
Asking and Answering our Questions about Rainforest Arthropods

Work Time (continued)	Meeting Students' Needs

• Confirm that this is a field journal, and ask students to refer to the Features of Informational Text anchor chart to remind themselves of what this text might include (direct observations by the author, factual scientific information, precise descriptions, personal information, pictures and text, in the first person).
• Continue reading through the end of the first paragraph. Explain: "The strange sounding words in green are the scientific Latin names of certain butterflies, and we do not need to know exactly how to pronounce them in order to understand the passage."
• Ensure that students understand the key vocabulary in the paragraph—*howler* (monkeys), *venture*, *flit*, *camouflage*, *transparent*, *startle*—by asking students to supply the meaning through the context one at a time.
• Continue reading aloud the remainder of the article, pausing at the end of each paragraph to discuss vocabulary.
  * Paragraph 2: scuttles, posterior
  * Paragraph 3: imbibing, vital
  * Paragraphs 4 and 5: resounds
  * Paragraph 6: expanse, pristine
  * Paragraph 7: basking, ousts
  * Paragraph 8: massive, distended
• When you have finished this first read aloud, tell the students that they are now going to work together as expert groups to reread the article. Invite students to read the task card: "Rainforest: The Most Precious Environment on Earth," in their expert group folder. Clarify instructions as necessary.
• ANTS: After approximately 8–10 minutes, return to the ant groups. If they are not yet done with their reading and gist statements, circulate to monitor and support their work. When they finish, have them display their posters on their tables.
• Regroup the students into new groups, ensuring that at least one student from each ant expert group (bullet, army, leafcutter) is represented in the new groups. Place one group at each poster, and ask the person who is from the expert group that created the poster to explain the gist to the other students, as well as the details that they have captured in their C/F/Q/R Note-catcher. Every 3 minutes, ask students to circulate so that every group goes to every table.
	• Consider providing smaller chunks of text for research (sometimes just a few sentences) for some students. Teachers can check in on students' thinking as they write or speak about their text.
	• Consider writing and breaking down multistep directions for research into numbered elements for each group's tasks. Students can return to these guidelines to make sure they are on track.

Conducting Research:
Asking and Answering our Questions about Rainforest Arthropods

Closing and Assessment	Meeting Students' Needs
A. Review (5 minutes) • Gather the whole class together. Remind students of the learning targets. • Pair students so an ant expert is matched with a butterfly expert. Ask students to share the following with their partner: 1. One interesting fact you learned about your rainforest insect today. 2. How well your expert group did in meeting the learning target of working cooperatively together. • If time permits, have a few students share out their interesting facts with the whole class.	• 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., "One interesting fact I learned today was _____. My group met _____ learning target because _____.")
Homework	**Meeting Students' Needs**
• Choose one of the texts you read in class today and reread it to someone (or yourself) at home. Share one new thing you learned about either ants or butterflies of the rainforest. • Use your field journal to record notes from nature, either by going outside, looking out your window or from *The Most Beautiful Roof in the World*. You may want to return to the spot where you recorded your first homework notes, or choose a new focus for your observations	•

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 6
Supporting Materials

Ant Expert Group:
Task Card

PART I:

Prepare to participate with other groups in a Jigsaw discussion (using the **Jigsaw protocol**) about the information you learn about your ant.

Read the article about your ant, independently. Use the following process as you read:

A. Stop at the end of each paragraph.
B. Think about the main idea of each paragraph.
C. Circle words that helped you understand the main idea (scientific and academic).
D. Try to figure out the meaning of key words from context or by breaking them apart into known words.

PART II:

After you have finished reading independently, talk with your group members about:

A. The main idea of the article, and
B. The meaning of *key words*.

Work with your expert group members to:

A. Choose five key words from the reading that help convey the gist of the article.
B. Assign one member of your group to record the five key words at the top of your chart paper.
C. Discuss the five key words, and then write a draft of your gist statement on lined paper.
D. Refine and finalize the *gist statement*, and then have one member of your group write the statement on your chart paper.

PART III:

Record new information you learned about your ant into your C/F/Q/R Note-catcher.
Add one *academic word* and one *scientific word* to your glossary.

Ant Expert Group:
"Bullet Ants"

The sting of a bullet ant feels like being shot by a bullet. The sting is extremely painful. They are also called "24-hour ants" because that is how long the pain from their sting can last. According to the book Discover the Amazon, by Lauri Berkenkamp, "Some native Amazonian tribes use the bullet ant as part of a ceremony welcoming young men into adulthood. For example, members of the Satere-Mawe tribe of Brazil put dozens of bullet ants into a woven glove. The boys put on the glove and see how long they can stand to have their hands in it. The longer they keep the glove on, the more they prove their manhood." (page 23)

Even though bullet ants can cause a lot of pain, they aren't really aggressive. They only use their stingers to help them gather food, or when their nests are attacked. Just before they sting, they make a noise, "Eep, eep, eep," and they give off a musky smell. That's your cue to run!

Bullet ants can grow to be as much as one inch long. They are the largest ants in the Amazon, and one of the most common. They resemble large, wingless wasps.

Bullet ants usually build their nests in and around the big roots of trees, and sometimes in holes in trees.

Written by Expeditionary Learning for Instructional Purposes © 2012. Sources: *Discover the Amazon*, by Lauri Berkenkamp, and https://www.msu.edu/user/urquhart/rainforest/Content/Army-Ants.html#LC)

Ant Expert Group:
"Army Ants"

Here come the army ants. If you are an insect, look out! Thousands of ants may be in the column of raiders that is advancing through the rainforest, pinning down and cutting up every small creature that cannot get away. The swarm changes shape as it advances, but it may fan out as it moves until it is as wide as 100 feet at the front. In the 1930s work done at the Smithsonian Tropical Research Institute pioneered the study of army ant ecology and behavior.

Army ants don't spend all their time on raids like this. They move through the forest on about a 35-day cycle. They will stay in one place for almost three weeks, sweeping out the area around the always-temporary nest. Eggs are laid during this time. After these eggs hatch, producing larvae, the raids begin—to feed the hungry young.

These raids may last a couple of weeks. When the ants are on a raid, the column advances by during the day. At night, the ants again create their temporary nest called a bivouac. To build the nest the ants hook their claws together so their bodies form a living shield. Inside, the larvae and queen are kept safe. The army ants spend each night that way and then in the morning they move on. Once the larvae change into nonfeeding pupae, the cycle begins again.

This is how army ants make sure that they can successfully raise their young. However, as is typical in rainforests, the lives of other species are connected with those of the ants.

For example, certain kinds of beetles, wasps, and millipedes imitate the smell of the army ants. Ants don't see well. They communicate with each other mostly by smell. So when these other insects imitate the army ant smell, the ants think these strangers are part of the swarm and do not attack them. That way these other insects can safely do the eating without being army ant prey.

The best known camp followers are the antbirds. Sometimes as many as ten different kinds will follow a column of army ants, flying along the front of it. These birds do not eat the ants, but feed on insects the ants have caught and on insects that are trying to escape from the ants. Some are professional ant followers, highly dependent on swarms and seldom found away from them.

The chain of connection goes even further. There are butterflies that flutter around army ant columns. What they are interested in is the antbirds' droppings.

Even rainforest people have found ways to use the army ants, some of which have huge pincher-like jaws. These jaws are so big and strong that Indians in South American rainforests sometimes use them to clamp wounds shut, the way our doctors use stitches. (The ant is killed after it has bitten the wound closed.)

Source: Smithsonian Tropical Rainforest Institute. Non-commercial, educational use permitted. See original article at: http://www.stri.si.edu/sites/rainforest/Army_ants.html

Ant Expert Group:
"Leafcutter Ants"

These little ants do a lot of big work in the rainforest. You will usually see worker ants following each other single file into and out of their underground nests. Worker ants carry pieces of leaves along well built trails into the nest. A smaller pilot "hitchhiker" ant usually protects the leaf and the worker ant from pesky parasites (wasps, phorid fly). Without the protection from this tiny ant the entire colony could be destroyed due to infestation from parasite eggs. The worker ant carries the leaves to smaller workers, which chew the leaf into smaller pieces, making it all sticky. The sticky leaf mass is then added to the fungus garden that the ant colony eats. The ant needs to defecate (poop) on the leaves in order for the fungus to grow. All of the ants work to take care of the fungus garden, growing fungus just like we grow food. They have help from a bacterium that grows right on their bodies. The bacterium protects the garden from disease. These ants are very sensitive about the needs of their gardens and "talk" to them with chemical signals. They are very important to the rainforest ecosystem.

Source: https://www.msu.edu/user/urquhart/rainforest/Content/Army-Ants.html#LC. The Virtual Rainforest by Gerald Urquhart Copyright Gerald R. Urquhart, Michigan State University. Students and teachers have permission to quote text and use images from this website in class assignments. Images may be used in classroom and academic presentations with notification of author. All other use should request permission.

Butterfly Expert Group:
Task Card

Complete the following task AFTER the teacher reads aloud "Rainforest: The Most Precious Environment on Earth" to your group.

Work with your expert group members to:

- Reread the article one section at a time, stopping at the points in the text indicated below.
- Talk about the main idea of each section of text.
- Write a note in your C/F/Q/R Note-catcher, for each section of text.

1. Reread the first paragraph of the article, which begins with "It is 6:00 a.m..." and ends with "...a chance to escape."

   STOP AND TALK:
   What is the main idea of this paragraph?
   What have you learned about the way some butterflies defend themselves against enemies?
   On your C/F/Q/R Note-catcher, record your note in the "FACTS" column. Then in the "CATEGORY" column, write which category this fact belongs in.

2. Reread the second paragraph of the article, which begins with "Every butterfly species..." and ends with "...beneath another nearby leaf."

   STOP, TALK, and WRITE:
   What is the main idea of this paragraph?
   What new information have you learned about the way some butterflies defend themselves against enemies? Record your note in your C/F/Q/R Note-catcher, and text code it for the category it belongs in.

Butterfly Expert Group:
Task Card (continued)

3. Reread the third paragraph of the article, which begins with "We come to a small glade..." and ends with "...shimmering blue spots."

   STOP, TALK, AND WRITE:
   What is the main idea of this paragraph?
   What new information have you learned about what some butterflies eat?
   On your C/F/Q/R Note-catcher, record your note in the "FACTS" column. Then in the "CATEGORY" column, write which category this fact belongs in.

4. Reference the fourth and fifth paragraphs of the article, which begins with "11:00 a.a...." and ends with "...and praying mantises."

   STOP AND TALK:
   How do you think the author is feeling? What words in the text support your opinion?

5. Reference the sixth paragraph of the article, which begins with "A little later..." and ends with "...barely find time to eat."

   STOP, TALK, AND WRITE:
   Describe where the author goes in this paragraph.
   What new information have you learned about where some butterflies live?
   On your C/F/Q/R Note-catcher, record your note in the "FACTS" column. Then in the "CATEGORY" column, write which category this fact belongs in.

Butterfly Expert Group:
Task Card

6. Reference the seventh paragraph of the article, which begins with "In the afternoon we..." and ends with "...ousts every other species."

   STOP, TALK, AND WRITE:
   What animals other than butterflies does the author write about in this paragraph?
   What new information have you learned about what some butterflies do?
   On your C/F/Q/R Note-catcher, record your note in the "FACTS" column. Then in the "CATEGORY" column, write which category this fact belongs in.

7. Reference the eighth and ninth paragraphs of the article, which begins with "We stop at various places..." and ends with "...wonderful place on Earth."

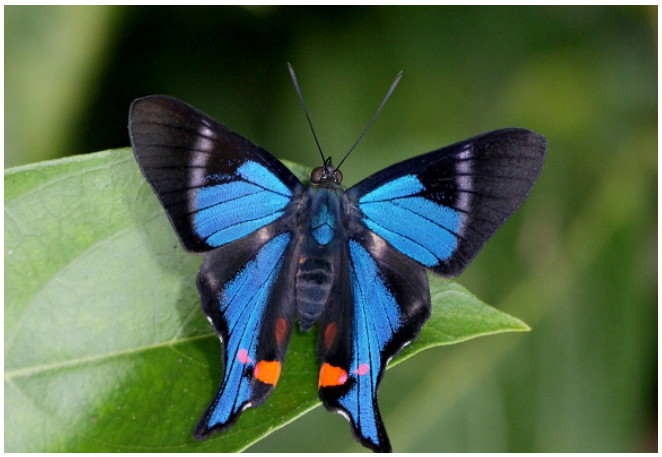
   STOP AND TALK:
   What kind of animal is an anaconda? How do you know from the text what kind of animal it is?

Butterfly Expert Group:
"Rainforest: The Most Precious Environment on Earth"

Amazon rainforest, Brazil

It is 6.00am, and we are awoken by the raucous echoing call of a troop of howler monkeys. They are perhaps 2 km away, but the sound fills the forest around us. Dawn is breaking as we venture along a trail through the primary rainforest. Mysterious butterflies flit around us. I spot where they have settled, but their amazing camouflage makes them almost impossible to locate. Some, like Taygetis angulosa look exactly like dead leaves. Others like Haetera piera, Cithaerias pireta and Ithomia agnosia are almost entirely transparent. Enormous Caligo Owl butterflies flit from one tree trunk to another. Their wings have a feathery appearance and are marked with false 'owl eyes', enough to startle any predatory bird and give the butterfly a chance to escape.

Every butterfly species here has its own distinct personality. The zebra-striped Colobura dirce sits motionless on tree trunks as it feeds at sap runs, but if disturbed, instead of taking flight it scuttles around to hide on the opposite side of the tree. The striped hairstreak Arawacus separata sits facing sideways on a leaf, but as soon as you get within a metre, it rotates to show you its posterior! Like many other butterflies it seems to take delight in taunting human observers, but its odd behaviour is simply a survival strategy - by rotating it narrows its profile and is much harder for a predator to spot. Butterflies use many strategies to hide themselves from predators, some use camouflage or disguise, others such as the Eurybia Riodinids, and the Nascus skippers, hide under leaves, darting out periodically to investigate intruders before disappearing again beneath another nearby leaf.



Rhetus periander, Peru © Adrian Hoskins

We come to a small glade, the site of a peccary mud wallow. Hundreds of butterflies are swarming around us - gorgeous black and yellow swallowtails, brilliant red and black Callicores, bright orange Julias, and Morphos - dazzling metallic blue butterflies the size of saucers. The muddy ground in the glade is carpeted with butterflies, which settle at our feet to imbibe at the mineral-rich mud. Male butterflies obtain vital chemicals this way, and pass them to females during copulation. There are myriads of butterflies here, and it's impossible to walk without treading on them.

Butterfly Expert Group:
"Rainforest: The Most Precious Environment on Earth"

Amongst them are glittering green Caria Metalmarks, red Marpesia Daggerwings and the stunning Blue Doctor Rhetus periander. At the edge of the glade we watch a Starry Night Hamadryas velutina basking head-downwards on a tree trunk. It is possibly the most beautiful butterfly we have seen today, with large velvety black wings adorned with hundreds of shimmering blue spots.

11.00am - It is hot now, and the forest resounds with the call of giant cicadas. The sound begins as a slow hesitant clicking, gradually accelerates to a rattle, then a hum, and escalates into a haunting siren wail which fills the air for a few moments before fading again into silence.

We have been here for 6 days, and seen almost 300 butterfly species, several of them previously unknown to science. Every step along the trails reveals exciting new finds - huge helicopter flies, strange hemipteran bugs, weird beetles, stick insects, and praying mantises.

A little later we climb the canopy tower. As we ascend we notice that every layer in the forest has its own characteristic butterfly fauna - Pierella Lady Slippers and Taygetis Dead-leafs at ground level, Tiger-mimics at about 3 metres, Heliconius at 10-20 metres. Many species, particularly the hairstreaks and metalmarks spend their lives almost entirely in the tree tops, and rarely descend to ground level. After a tiring climb we finally arrive at the top of the tower. We spend a relaxing half hour watching red and green macaws, great egrets, snail kites and oropendolas flying past. It is difficult to drag ourselves away, as the view across the vast expanse of pristine rainforest is awe-inspiring, but it is time for lunch, so we descend to ground level and slowly wander back along the trails to our base. We are so distracted by the myriads of butterflies seen along the route that we arrive late, and are so busy talking about the marvels we have seen that we barely find time to eat.

In the afternoon we travel upriver by dugout canoe. Amazon kingfishers swoop past, a harpy eagle hovers high in the sky above us. On a nearby rocky island we see a caiman basking, and along the riverbanks we see sun bitterns and the beautiful capped heron. Strings of bright yellow Eurema and Phoebis butterflies fly in follow-the-leader fashion along the river's edge. Hundreds gather to imbibe moisture on the sandbanks, erupting into flight as our boat passes.

Phoebis argante and Rhabdodryas trite swarming on an Amazonian tributary © Adrian Hoskins

Butterfly Expert Group:
"Rainforest: The Most Precious Environment on Earth"

We notice how most butterflies congregate with others of their own species - there are clusters of Marpesia Daggerwings, groups of Heraclides Swallowtails, tightly packed clusters of Protesilaus Swordtails, and gatherings of bright orange Julias. Many different species arrive and depart throughout the day until late afternoon when a swirling swarm of migrating Eunica Purplewings ousts every other species.

We stop at various places along the river to explore the trails. Imaginary snakes wait to strike from behind every tree. But they are not all imaginary. Clambering up a riverbank we suddenly find ourselves confronted by an enormous anaconda with a massive head and a body 8 metres in length! Luckily for us it has already eaten - its belly greatly distended by the capybara which became its breakfast!

As the day cools down, we journey back along the river. Beautiful birds fly across our path - green ibis, ringed kingfisher, striated heron, kiskadee, paradise jacamar. A giant river otter inquisitively pops its head out of the water next to the boat. A capybara, looking like an enormous guinea pig, looks across at us from the riverbank. During the next half hour we see a dozen tapirs, amongst the most enchanting and gentle of all animals, emerging from the forest at different spots along the riverbank. Back at our base the light is fading fast, and the howler monkeys roar again. We sit down for our evening meal, comparing notes about the wonders we have seen, and agree that this is probably the most wonderful place on Earth.

The next morning we travel downstream for an hour, disembark from our dugout, and get into a jeep. We leave behind the beautiful pristine rainforest, travelling through secondary forest and then for several miles through cattle pastures, until we come to the town where we catch a plane to our next destination. For 4 hours we fly across what was formerly rainforest, but all we see is a huge expanse of semi-desert. The forest has all been burnt down and turned into cattle pasture, but the pasture only lasts for a few years, and all that remains now is a barren dusty landscape dotted with termite mounds. Looking down from our plane we see a dead parched world, devoid of life.

Rio Madre de Dios, Peru © Adrian Hoskins

Butterfly Expert Group:
"Rainforest: The Most Precious Environment on Earth"

We have been told that our next destination is an oasis - an 'island' of pristine rainforest that has miraculously survived amidst a desert of failed cattle ranches in the state of Rondonia. Our plane lands and we board a bus. For the next 5 hours we are driven across 200 miles of devastated land. The forest has gone, the cattle ranches have failed, and the air is hot, dry and dusty. By the time we arrive at our base we have a feeling of the most intense grief. Many of us, all grown men, are in a state of stunned silence. We have left the most wonderful and precious environment

Fires raging uncontrolled in Rondonia, Brazil

imaginable, and now realise the full horror of what is happening in Brazil. The foul air around us is thick with smoke, our eyes are watering, and we are struggling to breathe.

The spot where we are now standing was once the richest butterfly site known on Earth. Just 30 years ago it supported over 1500 butterfly species, but now they are very scarce. Within 5 years they will almost certainly be lost forever. For 4 days we search the tiny fragment of forest that still remains here, looking in vain for butterflies, muttering in disbelief at what has happened here. The incredibly rich forest, teeming with life, has been devastated, the life is gone.

Aerial view of fires burning in the southern Amazon

Please help to save rainforests, by signing on-line petitions and lobbying politicians.

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EXPEDITIONARY LEARNING

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

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

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

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	Ongoing Assessment
• 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.	• Students' field journals • Students' research notes • Admit and exit tickets

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

Agenda	Teaching Notes
1. Opening A. Homework Review and Introduce Learning Targets (10 minutes) 2. Work Time 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 A. Reviewing Learning Targets (5 minutes) 4. Homework	• 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.

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

Lesson Vocabulary	Materials
key (on a map), text box, documentary; migration, massive, subsequently, dependent, exclusively, protective, distinctive, chrysalides, generations, ancestors, population, occurring, survival	• 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
A. Homework Review and Introduce Learning Targets (10 minutes) • Distribute **half sheets of paper** and ask students to write: * 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).	• 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.

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

Work Time	Meeting Students' Needs
A. Taking Notes: Using Text Features and Pictures to Find Important Information Quickly (10 minutes) • 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: 1. Two FACTS you observe about the photo 2. Any QUESTIONS you have looking at the photo • Ask students to share in their expert groups: * "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 *key* indicates where you can find ants in the world. Ask: * "What have you learned about ants from studying this map?"	• 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.

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

Work Time (continued)	Meeting Students' Needs
• 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 *text box*, and it is a text feature that they will be including when they write their rainforest field journals. Ask: * "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.	
B. Expert Groups Instruction: Additional Practice and Independent Expert Group Work (15 minutes) • 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.	• 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.

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

Work Time (continued)	Meeting Students' Needs

C. Taking Notes from Videos (20 minutes)
• Gather students whole group. Tell them they will continue to do research by watching a *documentary* video. Remind students that they learned (in Unit 1, Lesson 7) that *documentaries* are films or television programs that present information in a factual manner. Point out the root word, *document*—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:
  * At :23 pause and tell students that the *gentian* is the name of the plant that the caterpillar is eating.
  * At 1:15, pause and define *pheromone* (a chemical released by an animal that causes other animals of the same species to behave in a certain way).
	• 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.

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

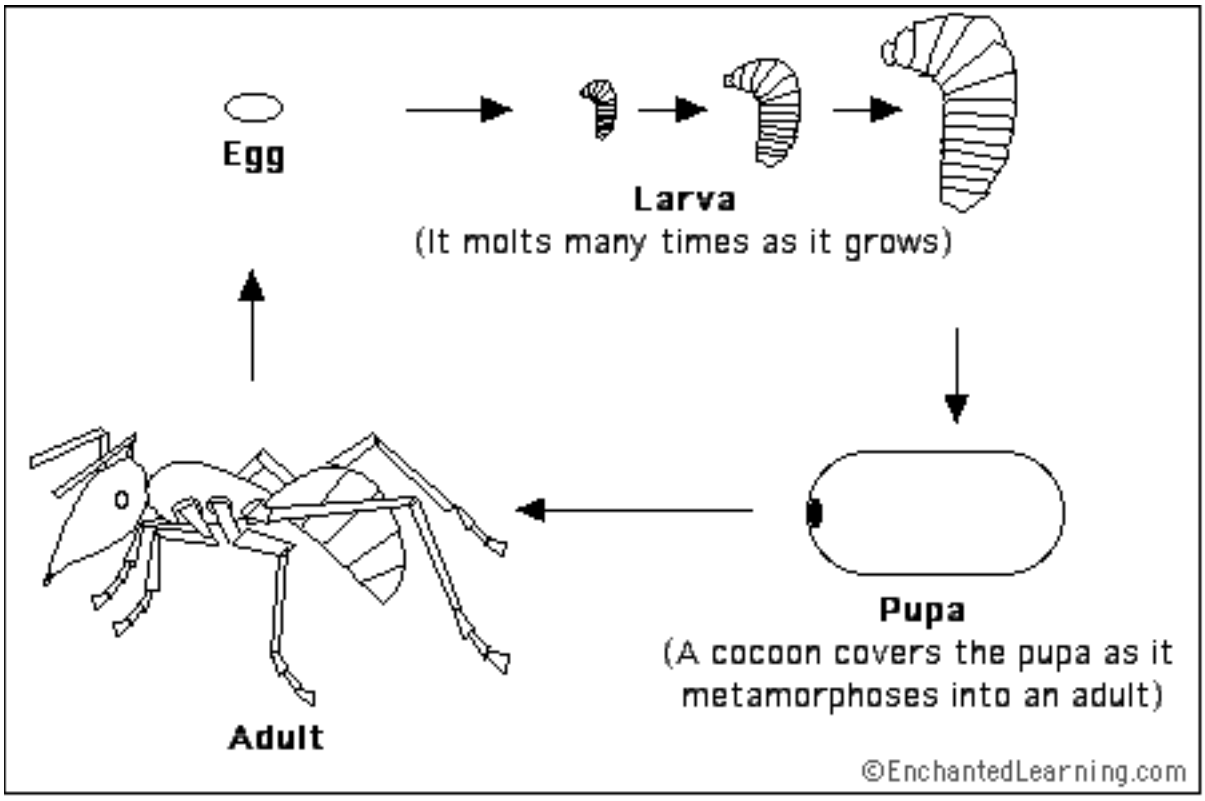
Closing and Assessment	Meeting Students' Needs
A. Reviewing Learning Targets. • Bring the class together. Review the learning targets. Cold call students to name one example of how they used text features and the video to help them build their knowledge of rainforest insects. • Collect students' journal and exit tickets as an ongoing assessment.	• 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**
• 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 *The Most Beautiful Roof in the World*. Look for arthropods on which to focus your sketches and notes. • *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.*	•

EXPEDITIONARY LEARNING

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

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"

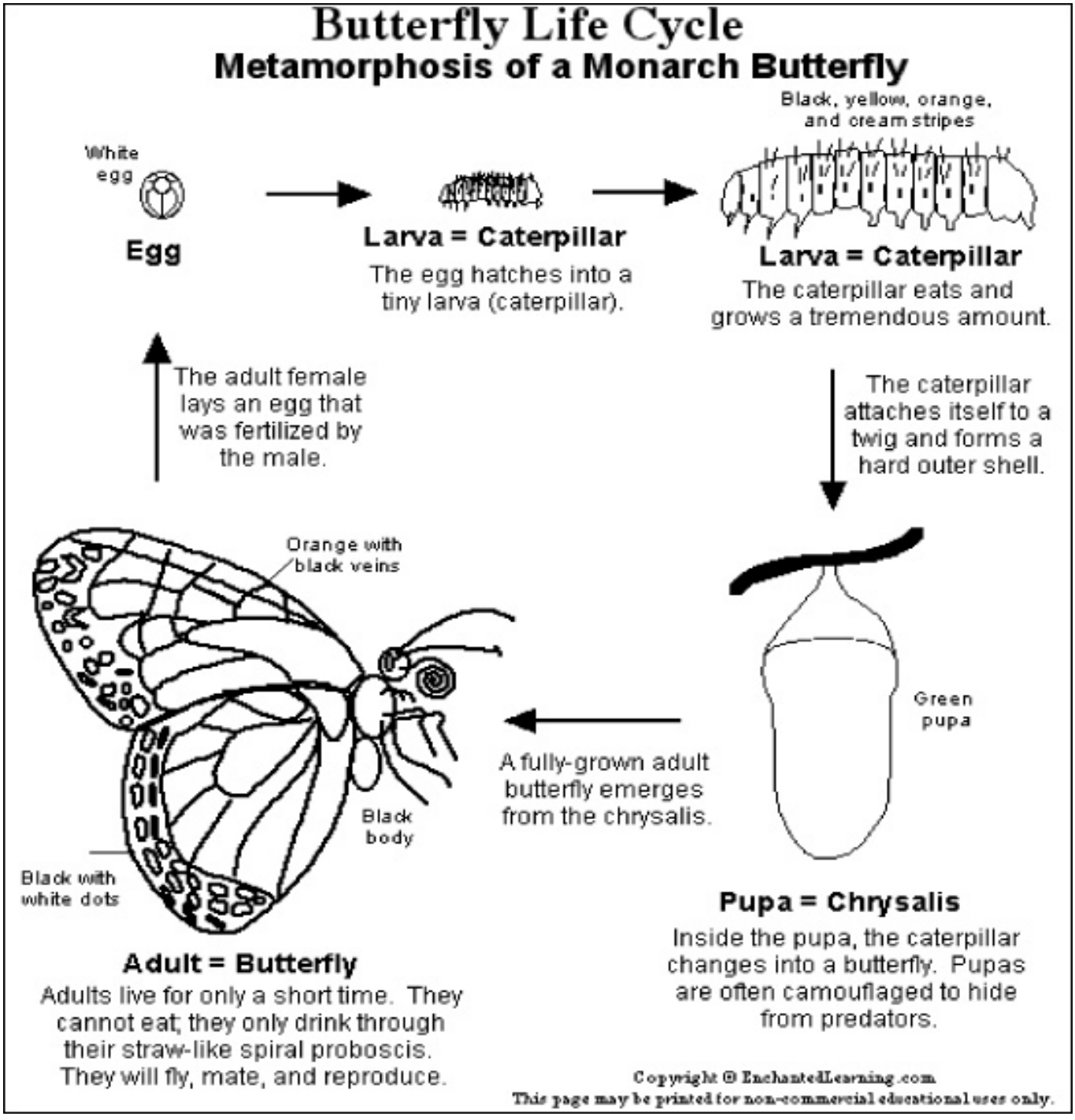
AFTER writing your gist statement about the graphic:

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.

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 8

Mid-Unit 3 Assessment: On-Demand Note-Taking about Howler Monkeys

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can explain what a text says using quotes from the text. (RI.5.1) I can determine the main idea(s) of an informational text based on key details. (RI.5.2) I can locate an answer or solve a problem efficiently, drawing from multiple informational sources. (RI.5.7) I can document what I learn about a topic by taking notes. (W.5.8) I can summarize or paraphrase information in my notes and in finished work. (W.5.8)	
Supporting Learning Targets	**Ongoing Assessment**
• I can use three different sources to find information about howler monkeys. • I can record my information about howler monkeys in an accurate and organized way. • I can reflect on my learning.	• Mid-Unit 3 Assessment • Tracking My Progress, Mid-Unit 3 recording form

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys

Agenda	Teaching Notes
1. **Opening** A. Review Learning Targets (5 minutes) 2. **Work Time** A. Mid-Unit Assessment (40 minutes) B. Learning Target Reflection (10 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• The mid-unit assessment is paced. The assessment has three parts. During Part 1 (20 minutes), students read and take notes on an unfamiliar text passage. During Part 2 (10 minutes), they watch a video and take notes (show the video to the students twice). During Part 3 (10 minutes), students study a projected webpage displaying a photograph and text features, and they take notes one last time. • 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. • In this lesson, students again use the C/F/Q/R Note-catcher. The Note-catcher is not provided for students because by now students have had ample practice with the Note-catcher, and W.5.8 says students should be able to do this independently. • This lesson involves a video that runs about a minute and a half; prepare appropriate technology.

Lesson Vocabulary	Materials
sources, accurate, organized	• Mid-Unit 3 Assessment: On-Demand Note-Taking about Howler Monkeys (one per student) • Mid-Unit 3 Assessment Texts and Media: – Text 1: Facts about Howler Monkeys (one per student) – Howler Monkey (video) and technology to play the video to the class – Howler Monkey (webpage) • Lined paper • Tracking My Progress, Mid-Unit 3 recording form (one per student) • Mid-Unit 3 Assessment: On-Demand Note-Taking about Howler Monkeys (Answers, for Teacher Reference)

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys

Opening	Meeting Students' Needs
A. Review Learning Targets (5 minutes) • Tell students that today they will be working independently to demonstrate what they have learned about reading and taking notes on informational texts by organizing quotes and paraphrased information into useful categories. • Refer the class to the first two supporting targets. Clarify academic vocabulary in the learning targets such as *sources*, *accurate*, and *organized*. Ask students to talk with a partner about the work they have done and the skills they have learned related to these targets. Invite several students to share with the whole group. Listen for responses such as: "Taking notes on informational text to become experts on rainforest insects; discovering how to paraphrase information; organizing information into categories," etc. • Tell them that they will be reading about an animal that lives in the rainforest, but is very different from ants or butterflies. They will be using text, video, and graphic information for their research. They will be taking organized notes on these texts, including direct quotes and paraphrased information.	• When discussing learning targets, consider partnering an ELL with a student who speaks the same L1. This can let students have more meaningful discussions and clarify points in their L1.

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys

Work Time	Meeting Students' Needs

A. Mid-Unit Assessment (40 minutes)
• Ensure that students have space to work privately and independently.
• Remind students how they have been using the C/F/Q/R chart to take notes. Explain that they will be turning in the notes at the end of the lesson, but they will get them back so that they can use them to write their rainforest field journals. Take clarifying questions to make sure they understand the task, and distribute the assessment.
• Tell students they will use their notes later: In a few days, they will begin to write their own rainforest field journal entries.
• Distribute **Mid-Unit 3 Assessment: On-Demand Note-Taking about Howler Monkeys** and invite students to read the instructions.
• Part 1 (20 minutes)
  * Distribute **Text 1: Facts about Howler Monkeys** and blank **lined paper**. Instruct students to write their name and the date at the top of the blank page. Tell students that they have 20 minutes to read the text and take notes.
  * At 20 minutes, ask students to stop taking notes and to draw a line across their page under their notes to show the end of Part 1.
• Part 2 (10 minutes)
  * Tell students that they will now watch a video.
  * They will watch it twice: once just to watch and listen, then a second time to take notes.
  * Play video ***"Howler Monkey."***
  * Give students a moment to think. Then play the video a second time, pausing approximately every 20 seconds so that students can write down notes.
  * Tell the students that when they hear new information, they should record it on their paper, below the line that they drew. If they see or hear something on the video that repeats information they took in their notes during Part 1, they can put a checkmark by that note to indicate that they heard it from the video as well as the text.
  * After the video portion of the assessment, again have students draw a line at the end of their notes to show where the notes on the video end.
	• Provide ELLs with bilingual word-for-word translation dictionaries or online translation sources such as Google Translate to assist with comprehension. ELLs should be familiar with how to use glossaries or dictionaries. These are an accommodation provided to ELLs on NY State assessments.
	• Consider providing extra time to complete this assessment for students who struggle with reading. ELLs receive extended time as an accommodation on NY State assessments.
	• If time allows, play the video through a third time to give students who struggle with listening to information the opportunity to better understand it.

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys

Work Time (continued)	Meeting Students' Needs

• Part 3 (10 minutes)
  * Distribute **Howler Monkey**. Project the webpage listed in the supporting materials. Explain that the printed-out text is the same as what is on the screen.
  * Ask the students to write down anything that they notice about howler monkeys from the photograph alone. Ask students to read the caption and add to their notes, then to study the map and fast facts to see what additional information they can glean from them.
  * Tell students that as they did during Part 2, they should record new information below the line. If they see or hear something that repeats information that is already in their notes, they can put a checkmark by that note to indicate that they learned it from this webpage as well.
  * If they finish taking notes on the photo and graphic features, they should read the text and continue to add to their notes.
  * Ask students to turn in their mid-unit assessments.
	• Consider providing smaller chunks of text for the assessment (sometimes just a few sentences) for some students. Teachers can check in on students' thinking as they write or speak about their text.

B. Learning Target Reflection (10 minutes) • Introduce the learning target: "I can reflect on my learning." Focus on the word *reflect*, and ask students for suggestions about what this means. Listen for students to share ideas such as: "look back at my work to think about what I did; how I did; what I am having trouble with; what I am doing well," etc. • Distribute **Tracking My Progress, Mid-Unit 3 recording form**. Remind them that they have done this before: Their task is to think about how they are progressing toward the learning targets. • Ask students to independently complete their Tracking My Progress form. Ask them to hold on to this sheet to refer to during the lesson debrief.	• Consider allowing students who struggle with language the opportunity to dictate their Tracking My Progress to a partner or teacher.

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Congratulate students on completing their independent note-taking assessment. • Pair students up. Ask them to share the reflections on their Tracking My Progress form. • Invite several students to share out whole group. • Collect students' Tracking My Progress forms to review.	• For students needing additional support producing language, consider offering a sentence frame or starter or a cloze sentence to assist with language production and provide the structure required. (e.g., "I feel I am _____ in understanding the learning targets because _____.")
Homework	**Meeting Students' Needs**
• Use your field journal to record notes from nature at home, either by going outside, looking out your window, or viewing photographs in *The Most Beautiful Roof in the World*. Look for insects or spiders on which to focus your notes. • Continue reading your independent reading book for this unit. *Note: Briefly review students' assessments before the next lesson, in order to identify models of proficient work to share with the class.*	•

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 8
Supporting Materials

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys

Directions:

PART I: Text, Facts about Howler Monkeys (20 minutes)

- Read the text independently, and take notes about the information you learn.
- Draw a line below your notes.

PART II: Video, "Howler Monkey" (10 minutes)

- Watch the video once, listening carefully for new information. DO NOT take notes during the first viewing.
- Watch the video a second time. The teacher will pause the video every 20 seconds to help you take notes about the new information you see and hear.
- Draw a line below your notes.

PART III: Webpage, Howler Monkey (10 minutes)

- Look at the PICTURE. Record anything you notice about howler monkeys from the picture.
- Read the CAPTION, and add new information that you learn to your notes.
- Study the MAP and FAST FACTS. Add new information that you learn to your notes.

Criteria:

- Notes contain information about howler monkeys from three different sources (text, video, and webpage).
- The information in notes is accurate.
- The notes are organized in a logical way.
- Notes include *quotes* and *paraphrased information* from each of the three sources.

Source 1: Facts about Howler Monkeys (text)

from http://images.nationalgeographic.com/wpf/sites/kids/NGS/wpf/printcreature/howler-monkey.html

(Note: text starts halfway down the webpage, under the heading "Facts about Howler Monkeys," and after the map.)

Howler monkeys are the loudest of all monkeys. They call to let others know where their territory is, alerting them to stay away. The calls sound like a loud whooping bark or roar. After one group of howlers call, another group answers.

Howler monkeys usually sound their calls in the morning and at the end of the day, so all the howlers in the vicinity know where each group's territory lies. One howler group doesn't generally want to come in direct contact with other groups.

These monkeys live in Central and South America. At home in the forest, they hardly ever leave the treetops. Howlers mainly eat leaves, as well as fruits, nuts, and flowers. They don't move very far each day, feeding leisurely at the very top of the forest canopy. They're hard to spot from the ground, but they can certainly be heard when they call.

Howler monkeys get almost all the water they need from the food they eat. One of the few times they can be spotted on the ground, however, is during very dry spells when they need to find extra water. Howler monkeys have prehensile tails, or tails that can grip. The monkeys use their tails as a fifth limb to grip branches.

The tops of the tails are furry; the undersides are not. The lack of fur underneath gives the monkeys' tails a better grip. A howler's tail is strong enough to hold its entire weight, but the animal rarely hangs from branches by its tail. Mostly it uses its tail to help grip branches as it eats and moves around high in the trees.

These monkeys live in family groups made up of males, females, and young. The number in the group varies, but a troop is generally made up of 15 to 20 howlers. As they move from tree to tree, they stick together as a family. The leader is usually an old male.
(FK: 5.8)

Source 2: Howler Monkey (video)

http://video.nationalgeographic.com/video/animals/mammals-animals/monkeys-and-lemurs/monkey_howler/

© National Geographic. Used by permission. Source: "Howler Monkey, Animals Online" by National Geographic staff.

Source 3: Howler Monkey (webpage)

Howlers are New World monkeys found in tropical Central and South America. They are aptly named for their cacophonous cries. When a number of howlers let loose their lungs in concert, often at dawn or dusk, the din can be heard up to three miles (five kilometers) away. Male monkeys have large throats and specialized, shell-like vocal chambers that help to turn up the volume on their distinctive call. The noise sends a clear message to other monkeys: This territory is already occupied by a troop.

These vocal primates are the biggest of all the New World monkeys. Unlike Old World monkeys, howlers and other New World species have wide, side-opening nostrils and no pads on their rumps. Howlers also boast a prehensile tail. They can use this tail as an extra arm to grip or even hang from branches—no Old World monkeys have such a tail. A gripping tail is particularly helpful to howler monkeys because they rarely descend to the ground. They prefer to stay aloft, munching on the leaves that make up most of their diet.

Howler monkeys have beards and long, thick hair which may be black, brown, or red. The red howler species is the most common, but it is often targeted by hunters eager for bushmeat. Other species of howler monkey may be critically endangered over sections of their ranges

(1080L)

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys
(Answers, for Teacher Reference)

Note: Student responses will vary widely; this is just an example of some of the notes a student might take.

Category	Facts	Questions	Responses
Source 1 (text)			
Behavior	√√ Loudest of all monkeys.	Why do they make such a loud noise? To scare predators?	
Behavior	They call to let other monkeys know where they are so they will stay away. They call in the morning and at the end of the day.	Why don't they want to see other groups?	I wonder if they are scared of each other.
Behavior	Calls sound like a loud whooping bark or roar.		I would like to hear that!
Behavior	When one group calls, another group answers.	Why do they answer each other?	

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys
(Answers, for Teacher Reference)

Category	Facts	Questions	Responses
Source 1 (text)			
Habitat	Live in Central and South America.	Were any in Belize, where Meg Lowman was?	
Habitat	Hardly ever leave the treetops.	Do they sleep up there in the trees?	
Food Source	Get water from their food.		
Food Source	Eat leaves, fruits, nuts, and flowers.		

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys
(Answers, for Teacher Reference)

Category	Facts	Questions	Responses
Source 1 (text)			
Physical characteristics	√ Have tails that grip called prehensile, like another arm. The tails can grip better because there's no fur underneath. Can swing from their tails to move around.		I saw how the monkeys in the zoo use their tails to swing from branch to branch so I can imagine how they do this.
Life cycle	√ Live in families called troops; 15–20 monkeys in a troop, led by an old male.	Do females ever lead the troops?	

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys
(Answers, for Teacher Reference)

Source 2 (video)			
Habitat	Live from southern Mexico to northern Argentina		
Physical characteristics	Small animals	Are the males bigger than the females?	
Behavior	Air raid siren and heavy metal guitar solo—loudest animals on earth		What a weird noise!
Physical characteristics	Hyoid bone in throats and saggy throat pouch	What's a hyoid bone?	
Behavior	Only males howl	Why do only the males howl?	Males lead the packs and only males howl—this seems unfair!
Defenses	Howl to let others know where they are. Means "keep away" more than "here I am."	Aren't they scared that other animals will attack them if they are so loud?	

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys
(Answers, for Teacher Reference)

Category	Facts	Questions	Responses
Source 1 (text)			
	√ Weigh up to 15 pounds		I thought small animals were usually quiet so their enemies couldn't find them.
	Sleep up to 15 hours a day		That's a lot of sleep. I wonder why they don't fall out of the trees while they sleep.
Source 3 (photo, caption, and text box only)			
Physical characteristics	Brown eyes, nose, mouth, ears—like a human face		Their faces look very human.
Behavior	Sitting in a tree	How did they get so close to take a picture?	I bet they are very calm and friendly. I wonder if they make good pets.
Physical characteristics	Largest of the New World monkeys	What is the New World?	It's another name for the Western Hemisphere.
Habitat	Looks like they live in the middle of South America	What countries is that map showing?	I thought the video said they lived in Mexico.
Physical characteristics	Mammal		
Food Source	Omnivores	Do they eat meat?	I thought the text and video said they eat leaves and berries, not meat.

Mid-Unit 3 Assessment:
On-Demand Note-Taking about Howler Monkeys
(Answers, for Teacher Reference)

Category	Facts	Questions	Responses
Life cycle	Live 15-20 years	How do they die? What are their enemies?	
Physical characteristics	A lot smaller than a person		

Tracking My Progress

Mid-Unit 3

Name:

Date:

Learning Target: I can use three different sources to find information about howler monkeys.

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 3

Name:

Date:

Learning Target: I can record my information about howler monkeys in an accurate and organized way.

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:

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 9

Making Inferences About Informational Text:

Science Talk on How My Insect Contributes to the Rainforest Ecosystem

Making Inferences About Informational Text:
Science Talk on How My Insect Contributes to the Rainforest Ecosystem

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
I can prepare myself to participate in discussions. (SL.5.1a) I can draw on information to explore ideas in the discussion. (SL.5.1b) I can follow our class norms when I participate in a conversation. (SL.5.1c) I can ask questions that are on the topic being discussed. (SL.5.1d) I can connect my questions and responses to what others say. (SL.5.1e) After a discussion, I can explain key ideas about the topic being discussed. (SL.5.1f)

Supporting Learning Targets	Ongoing Assessment
• I can share my ideas with my peers during a Science Talk about the contribution of insects to the rainforest ecosystem. • I can use the ideas of my peers in order to help inform my ideas about the contribution of insects to the rainforest ecosystem. • I can gather my notes on informational texts as evidence in order to prepare for a Science Talk about the contribution of insects to the rainforest ecosystem. • I can synthesize my ideas about the contribution of insects to the rainforest ecosystem after the Science Talk.	• Science Talk (Observations/Notes) • Journal: Synthesis Statement

Making Inferences About Informational Text:
Science Talk on How My Insect Contributes to the Rainforest Ecosystem

Agenda	Teaching Notes
1. **Opening** A. Engaging the Speaker and Introducing the Learning Targets (5 minutes) 2. **Work Time** A. Reviewing Norms for a Science Talk (5 minutes) B. Preparing for a Science Talk (5 minutes) C. Participating in a Science Talk (25 minutes) D. Synthesizing Information from a Science Talk (10 minutes) 3. **Closing and Assessment** A. Review Learning Targets and Debrief (10 minutes) 4. **Homework**	• In advance: Review the Science Talk and Think-Pair-Share protocols (see Appendix). • Familiarize yourself with the Science Talk protocol. Adjust the practice based on the experience of conducting a Science Talk in Unit 1, Lesson 10.

Lesson Vocabulary	Materials
participate, effectively, discussion, ecosystem	• Science Talk Norms anchor chart (from Unit 1, Lesson 10) • Science Talk Note-catcher (one per student)

Making Inferences About Informational Text:
Science Talk on How My Insect Contributes to the Rainforest Ecosystem

Opening	Meeting Students' Needs
A. Engaging the Speaker and Introducing the Learning Targets (5 minutes) • Congratulate students on all the learning they have done so far in order to become experts on rainforest insects. Remind them of the focusing question for their research, "What is the insect's contribution to the rainforest ecosystem?" • Remind them of the Science Talk they participated in at the end of Unit 1, and say: "Today you will be able to be part of another Science Talk. Remember how last time we did a Science Talk you learned that scientists discuss relevant, or "big," questions? This time the relevant question will be the focusing question of your research."	• You may want to provide an anchor chart for "How to ask questions?" This would include question words with nonlinguistic representations (e.g., map for where, clock for when).

Making Inferences About Informational Text:
Science Talk on How My Insect Contributes to the Rainforest Ecosystem

Work Time	Meeting Students' Needs
A. Reviewing Norms for a Science Talk (5 minutes) • Introduce the learning targets: "I can share my ideas with my peers during a Science Talk about the contribution of insects to the rainforest ecosystem," and "I can use the ideas of my peers in order to help inform my ideas about the contribution of insects to the rainforest ecosystem." • Display the **Science Talk Norms anchor chart** created in Unit 1, Lesson 10. Focus students' attention on the ideas listed on the anchor chart that explain what "*share my ideas*" looks and sounds like. Ask students to read aloud phrases from the anchor chart 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 a text to support my ideas," etc. Ask for any additional ideas that aren't yet included. • Then ask students to find phrases on the chart that describe what it looks/sounds like to *use the ideas of my peers to inform my ideas*. Listen for students to share thoughts such as, "Not thinking I have the one/right answer to the question; listening to what other people say; consider evidence others use when discussing questions—and if it matches mine/makes me think about the question differently," or similar suggestions. Add ideas to the anchor chart. • Ask students to read the norms and think back to their first Science Talk. Ask: * "Which norm do you think will be most useful during a Science Talk with your peers, and why?" • Ask students to turn to a partner and share their thinking, then invite several to share whole group.	• Provide nonlinguistic symbols (e.g., two people talking for *share*, a light bulb for *ideas*) to assist struggling readers in making connections with vocabulary. These symbols can be used throughout the year. Specifically, they can be used in directions and learning targets.
B. Preparing for a Science Talk (5 minutes) • Introduce the learning target: "I can gather my notes on informational texts as evidence in order to prepare for a Science Talk about the contribution of insects to the rainforest ecosystem." • Tell students that they should refer to their C/F/Q/R Note-catchers in their journals for ideas. Also make sure students have access to all the informational texts used within this unit, for reference.	

Making Inferences About Informational Text:
Science Talk on How My Insect Contributes to the Rainforest Ecosystem

Work Time	Meeting Students' Needs

C. Participating in a Science Talk (25 minutes)
• Tell students they are now going to participate in a Science Talk, like real scientists do. Refer students back to the Science Talk Norms anchor chart, and remind students to refer back to these norms as they participate in a Science Talk with their peers in order to ensure all ideas are heard.
• Have students gather in two concentric circles on the floor, with their journals. Be sure each student in the inner circle is facing a partner in the outer circle.
• Distribute the **Science Talk Note-catcher** to students. Point out the three columns they will need to take notes on during the Science Talk:
  * Question: Record the question they are discussing.
  * Notes: Record the quotes and paraphrases from articles and/or journal notes that they refer to during their discussion of the question (various quotes from articles).
  * Gist: Write a brief statement of what your partner said the main idea is.
• Pose the compelling question, and post it in an area visible to all students:
  * "What are the contributions of ants and butterflies to the rainforest ecosystem?"
• Ask students to write the question in their Science Talk Note-catchers.
• Remind students that as they discuss their ideas about the question, they will need to use notes that they took when they read the scientific informational texts, to support their thinking.
• Invite students to begin the Science Talk.
• As students talk in their pairs, circulate to note which students are speaking and what ideas they are sharing. Write down any particularly intriguing comments made by students and additional questions that may arise during student discussions. These will be used during Step C of Work Time.
• Approximately every 5 minutes, ask students in the inner circle to move two places to the left to face a new partner. Ask these new pairs to discuss the same question.
• Again, after 4 to 5 minutes, have students rotate, so they have the opportunity to talk with three peers.
	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language, such as during activities like the Science Talk.
	• For students needing additional support producing language, consider offering a sentence frame or starter, or a cloze sentence to assist with language production and provide the structure required. (e.g., "The text said _____. I think _____.")
	• Students needing additional support may benefit from a partially filled-in Science Talk Note-catcher.

Making Inferences About Informational Text:
Science Talk on How My Insect Contributes to the Rainforest Ecosystem

Work Time	Meeting Students' Needs

D. Synthesizing Information from a Science Talk (10 minutes)
• Place students in their expert groups.
• Introduce the learning target: "I can synthesize my ideas about the contribution of insects to the rainforest ecosystem after the Science Talk." Focus students' attention on the words *synthesize* and *details*. Invite students to share what they remember about the meaning of these words from previous lessons, and listen for students to share ideas such as:
  * *Synthesize*: put all the ideas together; summarize ideas/thoughts/information
  * *Details*: specific parts/ideas of quotes; facts; information
• Say to students: "You just had an opportunity to participate in a Science Talk around the focusing question for our rainforest insect research. Here are some of the ideas I heard from the class ..." (Read aloud the intriguing questions/comments recorded onto sticky notes while listening to student conversations during the Science Talk. For example, a student may have said, "Ants contribute to the rainforest by living in some trees, which makes the trees stronger.") As each comment/question is read aloud, ask students why it is a compelling comment/question.
• Ask students to take 5 minutes to discuss with their expert group:
  * "What answers to the question did you and your peers give during the Science Talk?"
  * "What notes from the informational texts did you and/or your peers use to support your thinking?"
• Invite expert groups to share out whole group.
• Ask students to start a new page in their journals. Tell them that they will write a *synthesis* statement responding to the big question they discussed during the Science Talk:
  * "What are the contributions of ants or butterflies (choose whichever one your expert group is studying) to the rainforest ecosystem? Use evidence and details from the Science Talk."
• Tell students they will get to keep synthesizing in future lessons. Ask students to turn in their journal.
	• Visuals can help students comprehend questions and discussions. Chart main points in answers and post all questions asked to students during the Science Talk.
	• Consider allowing students to draw their observations, ideas, or notes when completing the Science Talk Note-catcher. This allows all students to participate in a meaningful way.

Making Inferences About Informational Text:
Science Talk on How My Insect Contributes to the Rainforest Ecosystem

Closing and Assessment	Meeting Students' Needs
A. Review Learning Targets and Debrief (10 minutes) • Read aloud both learning targets one at a time. Ask students to show a thumbs-up if they met the target, thumbs-sideways if they understand partway, or a thumbs-down if they still need to work on the target. Call on several students to share why they gave themselves a thumbs-up or thumbs-down on either learning target, prompting them to refer to the norms they determined for the Science Talk Norms anchor chart as a way to support their self-assessment. • Ask students to Think-Pair-Share about their participation in this Science Talk compared to the first one. * "Were you more or less successful in this Science Talk? Why?" • Collect students' Science Talk notes.	• Consider partnering an ELL with a student who speaks the same L1, when discussing the Science Talk. This can let students have more meaningful discussions and clarify points in their L1.
Homework	**Meeting Students' Needs**
• Use your field journal to record notes from nature at home, either by going outside, looking out your window, or reviewing the photographs in . When you record notes about insects, see if you can include some of the information you have gathered while doing your research. • Continue reading your independent reading book for this unit.	•

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 9
Supporting Materials

Science Talk Note-Catcher

Question: _____

NOTES From Informational Texts	GIST What my partner said...

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 10

Blending Informative and Narrative Writing: Transforming Research Notes into Field Journal Entries

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) I can write narrative texts about real or imagined experiences or events. (W.5.3) I can choose evidence from fifth-grade informational texts to support analysis, reflection and research. (W.5.9)	
Supporting Learning Targets	**Ongoing Assessment**
• I can write a field journal entry from the point of view of a rainforest scientist. • I can choose evidence from my notes in order to write a field journal entry that includes specific details about the contributions of ants or butterflies to the rainforest.	• Rainforest Field Journal graphic organizer

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Agenda	Teaching Notes
1. **Opening** A. Introducing the Performance Task (15 minutes) 2. **Work Time** A. Creating the Rubric (10 minutes) B. Outlining My Rainforest Journal Entry: Mini Lesson (10 minutes) C. Outlining My Rainforest Journal Entry: Independent Work Time (10 minutes) D. Independent Work Time, Continued (10 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• In advance: Review the Module 2A Final Performance Task document (on EngageNY.org), to be very clear on the criteria of this task. It is not necessary to share it with students during this lesson. • In this lesson, students begin to formally plan their final performance task: a high quality field journal entry. In order for students to eventually create their own quality field journal entry, it is important that they understand what the final product should look like. Two instructional practices will support this; both are built into this lesson and lessons that follow. 1. Students spend time examining the model text together. 2. The teacher models (through think-alouds) how to come up with ideas for a field journal entry. • In this lesson, students also begin to build the Rainforest Field Journal rubric for the final performance task. It is important that students co-construct this rubric, to more fully understand the criteria for success. In this lesson, the class works together to fill in just the first section (Ideas). In subsequent lessons, the class will work on creating the indicators for the other three sections, Organization, Language, and Conventions. • For teacher reference ONLY, review the more generic PARCC rubric (see supporting materials). Note that this is not handed out to students, since the goal is for them to generate the criteria themselves. • Review the model text, Rainforest Research Journal by Paul Mason. The lessons are designed so just a single text is needed (for the teacher to project on the document camera during teacher modeling). Lesson 10 focuses on pages 4, 6, 8, 10, 12, 14, 16, 18, 22, 24, 26, and 28. Note: Page 20 contains an image of a man who lives in the rainforest whose clothes do not fully cover him. Based on community standards and sensitivity issues, consider skipping page 20. • For the purposes of these lessons, students focus just on the even-numbered (left hand) pages of this book. (The odd-numbered pages, which contain fictional email messages from the main character to her sponsoring foundation, are not relevant here.) • In advance: Post the Features of Informational Text anchor chart. • Review: Fist to Five strategy.

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Lesson Vocabulary	Materials
model, point of view, narrator, characteristics, setting, criteria, elements, entry	• Model Field Journal Page (created in Lesson 3) • Features of Informational Text anchor chart (from Unit 1) • *Rainforest Research Journal* by Paul Mason (one text for teacher to display during the lesson opening; focus on pages 4, 6, 8, 10, 12, 14, 16, 18, 22, 24, 26, and 28. Skip page 20.) • Rainforest Field Journal Entry blank rubric (one for Teacher Reference) • Rainforest Field Journal Entry completed rubric (one for Teacher Reference) • Rainforest Field Journal Entry graphic organizer (one per student and one to display) • Rainforest Field Journal Entry graphic organizer teacher sample (one for teacher to display) • PARCC Grades 4–5 Expanded Rubric for Analytical and Narrative Writing (for Teacher Reference ONLY)

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Opening	Meeting Students' Needs

A. Introducing the Performance Task (15 minutes)
• Introduce the learning targets: "I can write a field journal entry from the point of view of a rainforest scientist," and "I can choose evidence from my notes in order to write a field journal entry that includes specific details about the contributions of ants or butterflies to the rainforest." Generate excitement by announcing that today they will begin writing their own field journal entries as if they were entomologists exploring a rainforest. Ensure that all students understand what is meant by *entry* and *point of view*.
• Return journals to students and ask them to locate their work from Lesson 3 in which they wrote a field journal entry from Meg Lowman's perspective. Display the **model Field Journal page** created during that lesson.
• Refer to the **Features of Informational Text anchor chart**. Read over the features of field journals the class has listed (which should include many of the following):
  * Author's observations
  * Factual scientific information
  * Precise descriptions
  * Sensory details
  * Personal information
  * Pictures
  * Text
  * Pictures and text are woven together
  * Written in the first person ("I")
  * Date and location specified
• Give students 2 minutes. Ask the students to reread their Meg Lowman field journal entry. Ask:
  * "Where in your writing did you use one of these text features?"
• Then ask students to share their findings with a partner.
	• Some students may need more time to examine these models. Consider allowing them to review them independently during work time.

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Opening (continued)	Meeting Students' Needs

• Gather the students whole group. Introduce the book ***Rainforest Research Journal***. Show students the cover. Tell the class that this book is written in the style of a field journal. Remind students that looking at an example will help them get ready to create their own field journal page. Tell the students that as you read, they should listen for examples of the field journal text features.
• Focus on just the even-numbered (left-hand) pages, skipping the odd-numbered ones.
• Begin reading the book aloud, showing the illustrations and noting the text features.
• Read page 4 aloud as students look on. At the end of page 4, stop and ask students what they notice. Guide them to point out that each page is divided into a narrative journal entry, at the top of the page, and an informational text box, at the bottom.
• Read page 6 aloud as students look on.
• At the end of page 6, ask students to turn and talk:
  * "What text features of a field journal do you see?"
• They should be able to identify that the book is narrative writing and so contains personal information, but also includes factual informational, told in the first person; that there are both text and pictures, and that the date and location are noted.
• Continue reading aloud, starting on page 8.
• Tell students to raise their hands when they notice additional text features from the Features of Informational Text anchor chart and call on various students to share their examples. Some examples they identify might be:
  * Author's observations—"You can see the fish and other animals better here than in the Talera River!" (p. 8)
  * Factual scientific information—"This Amazon river dolphin has surfaced to breathe in air." (p. 8)
  * Precise descriptions—"The water is less cloudy." (p. 8)
  * Personal information—"I had been thinking about going for a swim—perhaps not!" (p. 12)
  * Sensory details—"There, sitting in a tree, was an amazing, bright-blue frog." (p. 14)
	•

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Opening (continued)	Meeting Students' Needs
• Reiterate to students that they looked at the journal entries in *Rainforest Research Journal* as a *model*, or example. Remind students that because the main character is writing about her experiences in the *first person*, she is the *narrator*. Ask students whose point of view the field journal is written from. Call on a few students to share. Listen for, "the main character." This should help them feel ready to start creating their own journal entry about the rainforest. Their entries will combine their personal story with factual information, just like in *Rainforest Research Journal*. And, just as in *Rainforest Research Journal*, their entries will also include an informational text box. • Tell the students that today they are going to start writing their own field journal narrative. When these are finished, they will work on adding illustrations and creating an informational text box, and then they will put all of these parts together to create their books.	•

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Work Time	Meeting Students' Needs
A. Creating the Rubric (10 minutes) • Tell students to pay attention to four things in order to create excellent journal entries: 1. Have strong ideas from their research (observations) 2. Organize ideas so that they make sense and are easy for the reader to follow 3. Choose the right words from all of the new academic and scientific vocabulary words that we have learned 4. Make sure that, in our final product, words are spelled correctly, we've capitalized the right words, and used correct punctuation • Say: "Today we are going to focus on just the first thing—coming up with great ideas that will make your journal entry interesting and will tell the reader what you have learned about rainforest insects. Let's think about what we need to include in our journal entries to make sure that the ideas are really great. We know that our journals will have to include strong ideas about what you are observing (based on your research). So think about what you already know about ants or butterflies and then talk with your neighbor about how you will incorporate those ideas into your field journal entry." • Display the **Rainforest Field Journal Entry blank rubric**. Ask students to volunteer their ideas and type their responses into the 3 ("I met the target!") column of the blank rubric. Modify or enhance the students' responses, so that you end up with a list of criteria similar to the following: * I have included careful observations of the rainforest environment. * I have included accurate scientific information about rainforest ants or butterflies. * I have included personal information about who I am and what I am doing.	• Students needing additional support may benefit from a partially filled-in Rainforest Field Journal rubric.

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Work Time (continued)	Meeting Students' Needs
B. Outlining My Rainforest Journal Entry: Mini-Lesson (10 minutes) • Distribute and project a copy of the **Rainforest Field Journal Entry graphic organizer**. Review the organizer with the students, ensuring that all students understand the words *characteristics* and *setting*. Ask students what they notice and wonder about these forms. Clarify as needed, to be sure all students know how to use this graphic organizer as a planning tool. • Think aloud about how you might plan your own field journal entry. As you speak, jot down your thoughts on the projected graphic organizer (see supporting materials for a completed model, for Teacher Reference only). For example, you may say: "I think I will pretend that I am a scientist who is exploring a part of the rainforest that I have never seen before. I am leading an expedition, and with me there are some college students and also a guide from a nearby village. I am going to write about a time when I saw a group of fire ants turn themselves into a raft and float down the river, because that was amazing! I might also write about how a fire ant stung one of my assistants and what we did to help relieve the sting."	• Consider allowing students who struggle with written language to dictate the information for their graphic organizer to a partner or the teacher.

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Work Time	Meeting Students' Needs
C. Outlining My Rainforest Journal Entry: Independent Work Time (10 minutes) • Ask students to sit in their expert groups. Ask them to take about 8 minutes to do the following: 1. Look through the information you gathered in the C/F/Q/R Note-catchers in your journals. 2. Talk about what your character will be like, and what events will happen in the field journal entry. 3. Pay particular attention to the responses you have recorded in the R column of your Note-catcher. This will give you ideas for what you might want to have happen in your narrative. • As the class works, circulate to assist as needed. Note which students are doing work that can be used as strong models. • After 8 minutes, stop the exercise to check in with groups to see how they are doing. Ask several students whom you have identified as having created strong models to share out their ideas. Invite students to think about those ideas, and then talk at their tables about what makes these strong. • Ask each table group to share out one idea they had about what makes these examples of high quality. Look for contributions that are linked to the rubric criteria, such as, the events include personal information about the character and also contain scientific information.	• Consider writing and breaking down multistep directions for outlining their research journal into numbered elements. Students can return to these guidelines to make sure they are on track.
D. Independent Work Time, Continued (10 minutes) • Release students to continue working on their graphic organizers. Circulate to check on progress. As students complete their work, have them check to see if they have met the criteria against the rubric the class created earlier in the lesson. • Circulate to offer individual or small group assistance to students who may need it.	• Consider allowing students to draw their observations, ideas, or notes in their C/F/Q/R Note-catchers. This allows all students to participate in a meaningful way.

Blending Informative and Narrative Writing:
Transforming Research Notes into Field Journal Entries

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Invite a few more students to share the work they have done. Revisit the learning targets by calling on students to read them aloud. Ask students to assess themselves using the Fist to Five strategy on how confident they are feeling about completing their field journal entries. Use this assessment data to help you decide how to support students during the next lesson.	• For students needing additional support producing language, consider offering a sentence frame or starter, or a cloze sentence to assist with language production and provide the structure required. (e.g., "I am a _____ on the learning target, _____ because _____.")
Homework	**Meeting Students' Needs**
• Complete your Rain Forest Field Journal Entry graphic organizer. *Note: Lesson 11 involves having the students write postcards from the point of view of the rainforest explorers they have created. Gather a collection of picture postcards in order to use as models to show the class. You may include any conventional postcards that have a photograph on one side and room to write a message on the other (either blank or written-on is fine); they need not be photographs of rainforests!*	•

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 10

Supporting Materials

Rainforest Field Journal Rubric

I can write a field journal entry from the point of view of a rainforest scientist.
I can use my notes to write a field journal entry that includes details about ants or butterflies.

	3 I met the target!	2 I'm on my way.	1 I'm getting started.
Ideas			
Organization			
Language			
Conventions			

Rainforest Field Journal Rubric

(Partial Sample, for Teacher Reference – to be co-created by teacher and students)

I can write a field journal entry from the point of view of a rainforest scientist.
I can use my notes to write a field journal entry that includes details about ants or butterflies.

	3 I met the target!	2 I'm on my way.	1 I'm getting started.
Ideas	• I have included careful observations of the rainforest environment. • I have included personal information about who I am and what I am thinking and doing. • I have included accurate scientific information about rainforest ants or butterflies.	• I have not included much detail in my observations of the rainforest environment. • I have included some personal information about who I am and what I am thinking and doing. • I have included some accurate scientific information about rainforest ants or butterflies.	• I have not included any observations of the rainforest environment. • I have not included any personal information about who I am and what I am thinking and doing. • I have not included any accurate scientific information about rainforest ants or butterflies.
Organization			
Language			
Conventions			

Rainforest Field Journal Entry Graphic Organizer

Name:

Date:

The name of my character will be: _____

Characteristics of my Character and Setting for my Journal Entry:

Event	Information from My Research That I Will Include

Rainforest Field Journal Entry Graphic Organizer
(Completed Sample, for Teacher Reference)

Name:

Date:

The name of my character will be: **Jane Smith**

Characteristics of my Character and Setting for my Journal Entry:
I am a college professor and entomologist. I have been doing field work in the Amazon for a long time, and I really know a lot about rainforests but this is my first time in this area. I am with a group of college students and a guide from the local village. We have been in the rainforest for about a week, and the students are getting a little tired and are forgetting to always be very careful when we are out in the jungle.

Event	Information from My Research That I Will Include
We see a group of fire ants turn themselves into a raft and float down the river.	**By linking legs, the worker ants produce a living raft to float to a new area of the Amazon.**
One of the students gets too close to the fire ants and gets stung.	**Fire ants sting viciously, producing a painful, itchy welt.**
Our guide applies a paste made from a local plant to the welt, which makes it feel better.	**There are many medicinal plants that grow in the rainforest. Many people who live there are familiar with their properties.**

PARCC Grade 4-5 Expanded Rubric for Analytical and Narrative Writing

(for Teacher Reference)

GRADES 4 AND 5
EXPANDED SCORING RUBRIC FORANALYTIC AND NARRATIVE WRITING

Construct Measured	Score Point 4	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Reading **Comprehension of Key Ideas and Details** *Notes: Type of textual evidence required is grade and prompt specific and included in the scoring guide		The student response provides an accurate analysis of what the text says explicitly and inferentially and references the text explicitly to support the analysis, showing full comprehension of complex ideas expressed in the text(s).	The student response provides a mostly accurate analysis of what the text says explicitly and inferentially and references the text to support the analysis, showing comprehension of ideas expressed in the text(s).	The student response provides a minimally accurate analysis of what the text says and may reference the text showing limited comprehension of ideas expressed in the text(s).	The student response provides an inaccurate analysis or no analysis of the text, showing little to no comprehension of ideas expressed in the text(s).
Writing **Written Expression** Development of Ideas		The student response addresses the prompt and provides effective and comprehensive development of the topic and/or narrative elements[1] by using clear reasoning, details, and/or description; the development is consistently appropriate to the task, purpose, and audience.	The student response addresses the prompt and provides effective development of the topic and/or narrative elements[1] by using reasoning, details, and/or description; the development is largely appropriate to the task, purpose, and audience.	The student response addresses the prompt and develops the topic and/or narrative elements[1] minimally by using limited reasoning, details, and/or description; the development is limited in its appropriateness to the task, purpose, and/or audience.	The student response is underdeveloped and therefore inappropriate to the task, purpose, and/or audience.
Writing **Written Expression** Organization		The student response demonstrates effective coherence, clarity, and cohesion and includes a strong introduction and conclusion.	The student response demonstrates coherence, clarity, and cohesion[2], and includes an introduction and conclusion.	The student response demonstrates limited coherence, clarity, and/or cohesion[2], and may or may not include a clear introduction and/or conclusion.	The student response demonstrates a lack of coherence, clarity and cohesion.[2]

PARCC Grade 4-5 Expanded Rubric for Analytical and Narrative Writing
(for Teacher Reference)

Draft

Writing **Written Expression** Clarity of Language	.	The student response uses language well to attend to the norms and conventions of the discipline. The response includes concrete words and phrases, sensory details, linking and transitional words, and/or domain-specific vocabulary effectively to clarify ideas.	The student response attends to the norms and conventions of the discipline. The response includes concrete words and phrases, sensory details, linking and transitional words, and/or domain-specific vocabulary to clarify ideas.	The student response shows limited awareness of the norms of the discipline. The response includes limited descriptions, sensory details, linking and transitional words, or domain-specific vocabulary to clarify ideas.	The student response shows little to no awareness of the norms of the discipline. The student response lacks the descriptions, sensory details, linking and transitional words, or domain-specific vocabulary needed to clarify ideas.
Writing **Knowledge of Language and Conventions**	The student response demonstrates command of the conventions of standard English consistent with effectively edited writing. Though there may be a few minor errors in grammar and usage, meaning is clear throughout the response.	The student response demonstrates command of the conventions of standard English consistent with edited writing. There may be a few distracting errors in grammar and usage, but meaning is clear.	The student response demonstrates inconsistent command of the conventions of standard English. There are a few patterns of errors in grammar and usage that may occasionally impede understanding.	The student response demonstrates limited command of the conventions of standard English. There are multiple errors in grammar and usage demonstrating minimal control over language. There are multiple distracting errors in grammar and usage that sometimes impede understanding.	The student response demonstrates little to no command of the conventions of standard English. There are frequent and varied errors in grammar and usage, demonstrating little or no control over language. There are frequent distracting errors in grammar and usage that often impede understanding.

Coded Responses: (All coded responses are scored with a 0 on the rubric)

A=No response

B=Response is unintelligible or undecipherable

C=Response is not written in English

D=Response is too limited to evaluate

Note—additional codes may be added after the tryout or piloting of tasks

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 11

Writing and Revising Our Texts: Using Peer Critique to Improve First Drafts

Writing and Revising Our Texts:
Using Peer Critique to Improve First Drafts

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) I can write narrative texts about real or imagined experiences or events. (W.5.3) I can choose evidence from fifth-grade informational texts to support analysis, reflection, and research. (W.5.9) I can write for a variety of reasons. (W.5.10)	
Supporting Learning Targets	**Ongoing Assessment**
• I can organize the events I describe in my rainforest journal entry in chronological order. • I can use linking words and phrases to connect my ideas. • I can include precise and scientific vocabulary in my rainforest journal entry.	• Rainforest Field Journal Entry graphic organizer • Postcards

Writing and Revising Our Texts:
Using Peer Critique to Improve First Drafts

Agenda	Teaching Notes
1. **Opening** A. Unpacking the Learning Targets (10 minutes) 2. **Work Time** A. Creating Our Rubric: Organization and Language (10 minutes) B. Writing Practice: Postcards from the Perspective of Our Rainforest Scientist(15 minutes) C. Independent Work Time (20 minutes) 3. **Closing and Assessment** A. Debrief and Exit Ticket (5 minutes) 4. **Homework**	• This lesson involves students writing postcards from the perspective of their rainforest explorer. This gives students a simple and fun way to practice sequencing their writing clearly and providing specific details. Note that in this era of email, Facebook, and Skype, you may have to show models to your students and explain to them what a postcard is. It will be helpful to have a collection of real picture postcards available to share with your students (photos of any subject are fine; need not be of the rainforest). • If you have none available, consider using Google Images to project images of postcards, or see suggestions in supporting materials. • If technology permits, consider having students create an e-postcard during another time of the day. • In advance: Complete the 2 and 1 columns of the Ideas row of the Rainforest Field Journal Rubric (see model in supporting materials). • Review Glass, Bugs, Mud strategy (see Appendix).

Lesson Vocabulary	Materials
organize, sequence, chronological, rubric, postcard, recipient	• Rainforest Field Journal Entry graphic organizer (from Lesson 10) • Rainforest Field Journal Entry rubric (one to display) • Sample Rainforest Field Journal rubric (for Teacher Reference) • *The Most Beautiful Roof in the World*, by Kathryn Lasky (one to display) • Collection of sample picture postcards (of any subject) • 4”x6” unlined index cards (one per student)

Writing and Revising Our Texts:
Using Peer Critique to Improve First Drafts

Opening	Meeting Students' Needs
A. Unpacking the Learning Targets (10 minutes) • Gather the students. Make sure they all have their Lesson 10 homework: **Rainforest Field Journal Entry graphic organizer**. Cold call one or two students who haven't yet shared to tell the class about the ideas in their graphic organizer. • Read the first two learning targets aloud: "I can organize the events I describe in my rainforest journal entry in chronological order," and "I can use linking words and phrases to connect my ideas." Tell students that today they will be working on organizing and sequencing their writing. • Write these three sentences on the board: * "I washed out the bowl and put it away." * "I ate a bowl of cereal." * "I poured some cereal into a bowl." • Ask students to do the following: 1. Rearrange the sentences in the correct order. 2. Find ways to link the sentences. • Listen for answers such as "next," "then," and "finally." Encourage phrases as well as single-word responses, such as "Shortly after waking up," and "When I finished eating." Explain that when events are recounted in the order they occurred they are in *chronological* order. Journal entries are generally in chronological order. Point out that the word *chronological* is made up of the root *chrono-*, which has to do with time (like synchronize), and the word *-logical*, which they will probably recognize and be able to define as making sense or orderly. Tell the students that today they will be working to make sure their journal entries are well organized, so that they meet these learning targets. • Read the third learning target aloud: "I can include precise and scientific vocabulary in my rainforest journal entry." Remind the students of all of the vocabulary that they have collected in the glossaries in their journals. Tell them that these words are going to be very useful to them in their writing because their rich vocabulary will enable them to write clearly and precisely, like a scientist.	• Consider giving ELLs an additional support mini-lesson on vocabulary related to linking words and phrases.

Writing and Revising Our Texts:
Using Peer Critique to Improve First Drafts

Work Time	Meeting Students' Needs

A. Creating Our Rubric: Organization and Language (10 minutes)
• Remind students that they have already done their research and made outlines. Project the **Rainforest Field Journal Entry rubric** (begun during Lesson 10). Direct the students' attention to the IDEAS section and point out the "2—I'm on my way" and "1—I'm getting started" columns that you have completed. Assign pairs of students to read just one row across (one criterion) and talk with each other:
  * "What are the differences between a 1, 2, and 3?"
• Cold call pairs to share what they discussed.
• Tell students that now that they have completed the IDEAS section of the rubric, they will focus on the Organization and Language sections. This will help them today as they turn their outlines into drafts.
• Scroll down to the ORGANIZATION section of the rubric. Ask the students: "What will you need to do to meet the target of writing a well-organized rainforest field journal entry?" Listen for and record two criteria that capture these concepts:
  * The events in my field journal entry are organized in chronological order, and
  * I have connected the events by using linking words and phrases.
• Next, scroll down to the LANGUAGE section. Say: "Remember when we were reading *The Most Beautiful Roof in the World* we talked about the kind of language that the author used to paint a vivid picture of the rainforest? For example, on page 10, the author writes that 'bats swoop,' 'vipers coil,' and 'a salamander slinks.' How would it change the effect on the reader if the author had written that, 'bats fly,' 'vipers live,' and 'a salamander crawls'?" Lead the students to an understanding that these verbs have a precision that creates a particularly clear and vivid image of the way the animals move.
• Remind the students of the work they did in their own field journals to try to capture the world around them using precise language and sensory details. Now ask students for suggestions of what criteria belong in the Language section of the rubric. Listen for and record three criteria that capture these concepts:
  * I have used scientific vocabulary (at least five words).
  * I have written precise descriptions (at least three descriptions).
  * I have written sensory details (at least three details).
	• Visuals can help ELLs and other students comprehend questions and discussions. Chart main points in answers and post all questions asked to students about the rubric.

Work Time (continued)	Meeting Students' Needs

B. Writing Practice: Postcards from the Perspective of Our Rainforest Scientist (15 minutes)
• Tell students that they are going to practice sequencing events clearly and using precise language by writing a *postcard* from the perspective of their rainforest scientist.
• Ask the students: "What is a postcard? Why do people send postcards?" If possible, display a **collection of sample picture postcards**. Talk with them about characteristics of postcards (demonstrate if you have models):
  * One side typically has a photograph of the place where they are sent from
  * The other side has a short message
  * The messages usually tell one small piece of information, and also usually let the recipient know how the sender is doing.
• Ask the students: "What do you think Meg Lowman would write on a postcard to James and Edward if they weren't with her?" Create a model postcard by drawing a large rectangle on the white board with a line down the middle to denote the address area, and a place for a stamp in the top right corner. Choose one student to contribute the first line of the postcard, which will be the date, and "Dear James and Edward." Write this on the model postcard or select a student to do the writing.
• In round-robin fashion, have several students contribute one sentence to the postcard. If necessary, prompt students to include a detail or two that Meg Lowman might include in the postcard, such as having seen a Gabon viper in her tent (page 35), or having discovered a new kind of spider (page 37). As in a typical postcard, they should also include a personal message, such as "I miss you," or "See you soon!" and a closing.
• Explain that they will be writing postcards from the rainforest explorer they have created. Distribute unlined **4"x6" index cards** to each student. Ask them to take out their Rainforest Field Journal graphic organizers and review their notes about the events that they are going to be writing about.
• Ask students to pretend that their character is writing the postcard near the beginning of their trip, so it should include something about the first event that they have listed. Ask students to decide:
  * "Who will be the *recipient* of your postcard?"
• Clarify this vocabulary as needed: The recipient is the person receiving the postcard (i.e., the explorer's friend, child, spouse, etc.). Ask students to address their postcard to that person.
• Tell students that this writing will not be formally graded: It is just a chance for them to practice organizing their ideas and writing with specific details from their research.
	• This is an opportunity to provide additional support to ELLs or other students who need extra time and attention to complete the task.
	• Students who struggle with language may benefit from a sentence stem or cloze sentence to use for suggestions of sentences for the postcard (e.g., "I am in the _____ rainforest and I see _____.").

Work Time (continued)	Meeting Students' Needs
• Give students 10 minutes of quiet work time to write their postcards. • As students work, fill in the Organization and Language rows of the rubric (see supporting materials for model). • Circulate to scan students' postcard writing. Look for a few strong examples to share as models during the lesson debrief.	
C. Independent Work Time (20 minutes) • Make sure that the rubric the class has created remains prominently displayed. • Instruct students to turn to a new page in their **journals**. • Tell the class that they will now start writing the first drafts of their field journal entries. Encourage the students to "put on their rainforest explorer hats" and pretend that they are really in the rainforest as they start to write their journal entries. Remind the students that all field journal entries start with a date, so they should decide when their rainforest exploration has taken place and note that at the top of the page. Then they should describe the first events listed in their graphic organizer. These will be the same events they wrote about on their postcard, but now they can add more details, descriptions, and precise and scientific vocabulary. • Give students 20 minutes of quiet work time to start their rough drafts. While most students are working quietly and independently, this is an opportunity to work with a small group of students who need more support. Consider working with students who weren't able to complete the graphic organizer independently or those who self-assessed themselves low during the previous lesson's Fist to Five debrief. • Options for additional support: * Give students sentence starters or a scaffolded writing template. * Do a think-aloud with the students in your small group, turning the notes that you created during the previous day's mini lesson into a field journal entry. For your think-aloud, use a blank piece of paper or chart paper, write a date, then skip a line and begin thinking aloud, saying something like: "Today we set out for a section of the river that we had not yet explored. The students seem a little tired. I know they are sick of eating beans and rice every day, and miss the food back home." Continue for a bit in this vein, incorporating all of the information on your graphic organizer. * Show students how to use a highlighter to mark the information as you use it to keep track of what you've incorporated.	• Consider allowing students who struggle with writing to dictate the sentences for the postcards to a partner or the teacher.

Closing and Assessment	Meeting Students' Needs
A. Debrief and Exit Ticket (5 minutes) • Have students mingle and share postcards with classmates. After a few minutes, pull the class together and ask students to name a classmate whose postcard they think should be shared with the class because it has a really cool specific detail. Have a few nominated students read their postcards aloud. • Collect the postcards at the end of the lesson to use as a formative assessment to see whether the students are able to create a character and summarize a plot point from their graphic organizer. • Review the three learning targets for the lesson: "I can organize the events I describe in my rainforest journal entry in chronological order," "I can use linking words and phrases to connect my ideas," and "I can include precise and scientific vocabulary in my rainforest journal entry." Use the Glass, Bugs, Mud strategy to assess where students are in terms of their mastery of the targets.	
Homework	**Meeting Students' Needs**
• Read the section of your field journal that you have completed to someone at home. Ask that person to tell you what else they would like to know about your explorer's adventure in the rainforest. Write down their questions.	

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 11
Supporting Materials

Rainforest Field Journal Rubric

I can write a field journal entry from the point of view of a rainforest scientist.
I can use my notes to write a field journal entry that includes details about ants or butterflies.

	3 I met the target!	2 I'm on my way.	1 I'm getting started.
Ideas			
Organization			
Language			
Conventions			

Rainforest Field Journal Rubric

(For Teacher Reference – to be co-created by teacher and students)

)

I can write a field journal entry from the point of view of a rainforest scientist.
I can use my notes to write a field journal entry that includes details about ants or butterflies.

	3 I met the target!	2 I'm on my way.	1 I'm getting started.
Ideas	• I have included careful observations of the rainforest environment. • I have included personal information about who I am and what I am thinking and doing. • I have included accurate scientific information about rainforest ants or butterflies.	• I have not included much detail in my observations of the rainforest environment. • I have included some personal information about who I am and what I am thinking and doing. • I have included some accurate scientific information about rainforest ants or butterflies.	• I have not included any observations of the rainforest environment. • I have not included any personal information about who I am and what I am thinking and doing. • I have not included any accurate scientific information about rainforest ants or butterflies.
Organization	• The events in my field journal entry are organized in chronological order. • I have connected the events by using linking words and phrases.	• The events in my field journal entry are not totally organized in chronological order. • I have connected some of the events by using linking words and phrases.	• The events in my field journal entry aren't organized in chronological order. • I haven't connected the events by using linking words and phrases.

Rainforest Field Journal Rubric

(For Teacher Reference – to be co-created by teacher and students)

I can write a field journal entry from the point of view of a rainforest scientist.
I can use my notes to write a field journal entry that includes details about ants or butterflies.

	3 I met the target!	2 I'm on my way.	1 I'm getting started.
Language	• I have used scientific vocabulary (at least five words). • I have written precise descriptions (at least three descriptions). • I have written sensory details (at least three details).	• I have used scientific vocabulary (at least three words). • I have written precise descriptions (at least two descriptions). • I have written sensory details (at least two details).	• I have used one or no scientific vocabulary words. • I have written one or no precise descriptions. • I have written one or no sensory details.
Conventions	• I can use periods, question marks, exclamation points, quotation marks, and commas correctly. • I can capitalize proper nouns and the first letter of sentences. • I can spell all of the words in my field journal correctly, including the scientific words from my glossary.	• I can use periods, question marks, exclamation points, quotation marks, and commas correctly most of the time. • I can capitalize proper nouns and the first letter of sentences most of the time. • I can spell most of the words in my field journal correctly, including the scientific words from my glossary.	• I did not use periods, question marks, exclamation points, quotation marks, and commas correctly. • I did not capitalize proper nouns and the first letter of sentences. • I did not spell all of the words in my field journal correctly.

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 12
Using Peer Feedback and Summarizing Our Research In Informational Text Boxes

Using Peer Feedback and Summarizing Our Research In Informational Text Boxes

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
I can write narrative texts about real or imagined experiences or events. (W.5.3) I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) I can choose evidence from fifth-grade informational texts to support analysis, reflection, and research. (W.5.9)

Supporting Learning Targets	Ongoing Assessment
I can give feedback to my peers respectfully.	Homework questions
I can improve my writing based on feedback from my peers.	Peer feedback sheets
I can summarize the most important information about an ant or a butterfly in a text box.	Exit tickets

Using Peer Feedback and Summarizing Our Research In Informational Text Boxes

Agenda	Teaching Notes
1. **Opening** A. Sharing and Adding to Homework Questions (10 minutes) B. Unpacking Learning Targets (5 minutes) 2. **Work Time** A. Drafting and Peer Critique (25 minutes) B. Creating Informational Text Boxes (15 minutes) 3. **Closing and Assessment** A. Exit Tickets (5 minutes) 4. **Homework**	This lesson includes two distinct parts. In Part A of Work Time, students work on improving their rough drafts by incorporating questions and feedback from home readers and peers. In Part B, they will distill the essential facts they have gathered through their research and record it in informational text boxes. Review: Praise-Question-Suggest protocol (see Appendix 1). Preview pages 8, 10, 12, 14, 18, 22, 24, and 28 in *Rainforest Research Journal* by Paul Mason. Note: Page 20 contains an image of a man who lives in the rainforest whose clothes do not fully cover him. Based on community standards and sensitivity issues, skip this page.

Lesson Vocabulary	Materials
punctuation, capitalization, feedback, peers, respectfully, summarize, summary	Rainforest Field Journal Entry rubric (one per student generated in previous lessons - there is a sample of what this rubric might look like in the Supporting Materials) Praise-Question-Suggest Note-catcher (one per student) *Rainforest Research Journal* by Paul Mason (with a focus on "Status Report" pages 8, 10, 12, 14, 18, 22, 24, and 28) Skip page 20. Informational Text Box graphic organizer (one per student) Index cards or half sheets of paper (one per student)

Using Peer Feedback and Summarizing Our Research In Informational Text Boxes

Opening	Meeting Students' Needs
A. Sharing and Adding to Homework Questions (10 minutes) Ask students to sit in their expert groups and take out their journals and Lesson 11 homework. Explain the process for sharing their homework. Each person in the group will read his or her journal entries aloud, as well as the questions that were asked of them by someone at home. The other members of the expert group then will each ask an additional question for the writer, which the writer should record in his or her journal. Give the students an example question, such as: "What time of the day are you writing about?" or "Can you add more details to your description of ..." Give students 7 minutes to share.	Consider partnering ELLs with speakers of the same L1 to review homework.
B. Unpacking Learning Targets (5 minutes) Read aloud the learning targets. Ask: "Why do we give each other *feedback* on our writing?" Listen for students to realize that feedback helps writers improve their writing. Remind students of other projects they have done where they have given and received feedback on their work. Circle the word *respectfully*; ask them for synonyms, and record their responses under the learning target. Elicit answers that indicate they understand that they need to be kind, positive, and helpful. Explain that students will also start to create the informational text boxes that will accompany the narrative part of their journal entries. This target will be explained later in the lesson.	Provide nonlinguistic symbols and visuals for academic vocabulary in learning targets. (e.g., a picture of two people talking for *feedback*, a picture of pen and paper for *writing*, etc.)

Using Peer Feedback and Summarizing Our Research In Informational Text Boxes

Work Time	Meeting Students' Needs
A. Drafting and Peer Critique (25 minutes) Tell the students that they have 10 minutes to work on completing their drafts of their rainforest research field journal. Remind them to incorporate answers to the questions that their home and expert group listeners asked. As the students work, circulate to give students individual assistance, or gather a small group for extra support. After 10 minutes, place students in trios for a peer critique session (they need not be with members of their expert groups). Distribute copies of the **Rainforest Field Journal rubric** and the **Praise-Question-Suggest Note-catcher**. Briefly review the criteria that the class has developed for Ideas, Organization, and Language on the rubric, and tell the students that the feedback they give should be tied to one of these criteria. Remind students that they used the Praise-Question-Suggest protocol in the first module to get feedback on their Readers Theater scripts; review the protocol with them as necessary.	Providing nonlinguistic symbols for rubric categories (e.g., a comma, period, or colon for *punctuation marks*) will help ELL students better understand expectations.

Using Peer Feedback and Summarizing Our Research In Informational Text Boxes

Work Time (continued)	Meeting Students' Needs
B. Creating Informational Text Boxes (15 minutes) Gather the students into a group. Reread the third learning target. Remind them that their field journal entries are going to have a second component. In addition to the journal entry, their journals will also include a text box about one of the insects they have studied. This box will contain basic factual information, much like that which is found in a field guide. Show students how this is done in the text that was explored in Lesson 10, ***Rainforest Research Journal*** by Paul Mason. Point out the boxes titled "Status Report" that appear on pages 8, 10, 12, 14, 18, 22, 24, and 28. Ask the students: * "What do you notice about these text boxes?" * "What do all of the text boxes have in common?" Help the class to identify that the information included in these boxes is always organized into the same four categories: * Name * Description * Threats * Numbers This information is linked to the purpose of the rainforest explorer's trip, which was to find out how the plants and animals of the rainforest have been affected by human activity (students should remember this from Lesson 10). Tell the students that their text box will similarly be linked to the purpose of their character's trip, which is to explore the rainforest ecosystem and especially the contribution of insects to that ecosystem. Be sure students notice that the information in the text boxes just has essential facts; it is not in full sentences. Tell the students that when they create their text boxes they too will include just the most important facts. Distribute copies of the **Informational Text Box graphic organizers**. Invite the students to read it silently, noting what they notice and wonder about it. Ask students to share what they noticed. Be sure they realize that each text box will include information from the basic areas in which their notes were categorized and will also include a statement about their insect's role in the rainforest ecosystem. Give them the remaining time to review their notes and begin to fill in the graphic organizers.	Students needing additional support may benefit from partially filled-in Informational Text Box graphic organizers.

Using Peer Feedback and Summarizing Our Research In Informational Text Boxes

Closing and Assessment	Meeting Students' Needs
A. Exit Ticket (5 minutes) Gather the class. Reread the learning targets aloud. Distribute **index cards** or **half sheets of paper** to serve as exit tickets. Ask students to choose just one of the learning targets, then write down on the exit ticket one thing that they are doing well related to the one learning target they chose. Collect exit tickets to review as ongoing assessments.	Consider allowing students who struggle with writing the opportunity to draw their exit ticket.

Homework	Meeting Students' Needs
Complete your field journal entry and informational text box. Continue reading in your independent reading book for this unit at home. *Note: Review the students' exit tickets, noting where they are still having difficulties meeting the targets. There will be opportunities for re-teaching in the next two lessons.* *For Lesson 13, choose one or two entries to use as examples because they display qualities that meet the criteria stated in the Field Journal Entry Rubric for one or more areas (Ideas, Organization, Language, and Conventions).* *If possible for Lesson 13, gather copies of Peterson First Guides, particularly the ones about insects, and butterflies and moths, but really any topics will serve as models for the scientific drawing.*	

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 12
Supporting Materials

Rainforest Field Journal Rubric

(For Teacher Reference – to be co-created by teacher and students)

I can write a field journal entry from the point of view of a rainforest scientist.
I can use my notes to write a field journal entry that includes details about ants or butterflies.

	3 I met the target!	2 I'm on my way.	1 I'm getting started.
Ideas	• I have included careful observations of the rainforest environment. • I have included personal information about who I am and what I am thinking and doing. • I have included accurate scientific information about rainforest ants or butterflies.	• I have not included much detail in my observations of the rainforest environment. • I have included some personal information about who I am and what I am thinking and doing. • I have included some accurate scientific information about rainforest ants or butterflies.	• I have not included any observations of the rainforest environment. • I have not included any personal information about who I am and what I am thinking and doing. • I have not included any accurate scientific information about rainforest ants or butterflies.
Organization	• The events in my field journal entry are organized in chronological order. • I have connected the events by using linking words and phrases.	• The events in my field journal entry are not totally organized in chronological order. • I have connected some of the events by using linking words and phrases.	• The events in my field journal entry aren't organized in chronological order. • I haven't connected the events by using linking words and phrases.

Rainforest Field Journal Rubric

(For Teacher Reference – to be co-created by teacher and students)

I can write a field journal entry from the point of view of a rainforest scientist.
I can use my notes to write a field journal entry that includes details about ants or butterflies.

	3 I met the target!	2 I'm on my way.	1 I'm getting started.
Language	• I have used scientific vocabulary (at least five words). • I have written precise descriptions (at least three descriptions). • I have written sensory details (at least three details).	• I have used scientific vocabulary (at least three words). • I have written precise descriptions (at least two descriptions). • I have written sensory details (at least two details).	• I have used one or no scientific vocabulary words. • I have written one or no precise descriptions. • I have written one or no sensory details.
Conventions	• I can use periods, question marks, exclamation points, quotation marks, and commas correctly. • I can capitalize proper nouns and the first letter of sentences. • I can spell all of the words in my field journal correctly, including the scientific words from my glossary.	• I can use periods, question marks, exclamation points, quotation marks, and commas correctly most of the time. • I can capitalize proper nouns and the first letter of sentences most of the time. • I can spell most of the words in my field journal correctly, including the scientific words from my glossary.	• I did not use periods, question marks, exclamation points, quotation marks, and commas correctly. • I did not capitalize proper nouns and the first letter of sentences. • I did not spell all of the words in my field journal correctly.

Praise-Question-Suggest Note-Catcher

One compliment I heard from my peer:

One question from my peer:

One suggestion from my peer:

Informational Text Box Graphic Organizer

Name:

Date:

Your text box will only be this big, so make sure that you only include the most important information about your insect

Name of your insect:
Contribution to the Rainforest Ecosystem: Physical Characteristics: Food Sources: Predators: Life Cycle: Defenses: Behavior Habitat:

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 13

Revision and Illustration: Strengthening the Writing in my Rainforest Field Journal and Adding a Labeled Drawing

Revision and Illustration:
Strengthening the Writing in my Rainforest Field Journal and Adding a Labeled Drawing

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
With support from peers and adults, I can use a writing process to produce clear and coherent writing. (W.5.4) I can use text, formatting, illustrations, and multimedia to support my topic. (W.5.2)	
Supporting Learning Targets	**Ongoing Assessment**
• I can identify where I will need to revise my field journal entry so that my ideas, organization, and language meet our rubric for quality. • I can use text, formatting, and illustrations to support the topic of my rainforest field research journal. • I can create a labeled drawing of an insect that is detailed and accurate.	• Field journal entry drafts • Scientific drawings (first draft)

Revision and Illustration:
Strengthening the Writing in my Rainforest Field Journal and Adding a Labeled Drawing

Agenda	Teaching Notes
1. **Opening** A. Review Learning Targets (5 minutes) 2. **Work Time** A. Reflection and Revision (25 minutes) B. Making Detailed Labeled Drawings (25 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• In advance: If you have time before this lesson, collect and review the drafts of journal entries that students completed for homework. If there's no time to review their work or you do not feel confident that any of the student work can serve as an exemplar, consider creating a model yourself. • This lesson involves students looking at many different models of scientific illustrations. Review the Options for Examining Field Guide Illustrations (see supporting materials) and Part B of Work Time to determine what is realistic based on the materials you can gather.

Lesson Vocabulary	Materials
formatting, illustrations, text, critique, feedback, revise, labeled, detailed, accurate, naturalist, emphasize, fleeting, composite, unmodified, transitory, reference, immediacy	• Rainforest Field Journal Entry Rubric (from Lesson 12) • Student exemplars (see teaching note above) • Quote from Roger Tory Peterson (one per student) • Criteria for Detailed and Accurate Labeled Drawings anchor chart (new; teacher-created; see Work Time B) • Examples of Scientific Drawings (see "Teaching Resource: Model Field Journal Books and Internet Links from Lesson 1) • Books from the Unit 3 Recommended Texts List, or photos of ants and butterflies printed from websites • Unlined 3"x5" index cards or sturdy paper for sketching (several per student)

Revision and Illustration:
Strengthening the Writing in my Rainforest Field Journal and Adding a Labeled Drawing

Opening	Meeting Students' Needs
A. Review Learning Targets (5 minutes) • Ask three students to read the supporting learning targets aloud: "I can identify where I will need to revise my field journal entry so that my ideas, organization, and language meet our rubric for quality," "I can use text, formatting, and illustrations to support the topic of my rainforest field research journal," and "I can create a labeled drawing of an insect that is detailed and accurate." • Explain to the students that today they will be looking at their own writing and making revisions, and also creating the illustrations that will accompany their text. • In the first target, circle the words, *ideas*, *organization*, and *language*. Help students to understand that these are the areas that appear on the **Rainforest Field Journal Rubric**. Explain that in class today they will focus on revising the ideas. For homework and then again tomorrow they will work on organization, language, and conventions. • In the second target, circle the words *text*, *formatting*, and *illustrations*. Ensure that all students understand the words by eliciting synonyms, writing them underneath the words in the learning target. If necessary, explain that *formatting* is the way the page of a book is laid out, including the relationship of words to pictures.	• Clarifying academic vocabulary meets the needs of all students, especially when reviewing learning targets.

Revision and Illustration:
Strengthening the Writing in my Rainforest Field Journal and Adding a Labeled Drawing

Work Time	Meeting Students' Needs
A. Reflection and Revision (25 minutes) • Seat students in their expert groups. Distribute copies of the Rainforest Field Journal rubric (included in the supporting materials). • Display student exemplar that meets the criteria for Ideas in the Rainforest Field Journal rubric. Read the example aloud, or ask the student to do so. Ask the class: * "How does this journal entry show that the author has met the criteria on our rubric for Ideas?" • Ask students to talk at their tables about how the example matches the rubric, and to identify the exemplary passages from the example. • Ask each table group to share out a passage they discussed. • Ask students to take out their own rainforest journal entry drafts. Invite them to choose one aspect of quality from the Ideas section of the rubric, and to review their own work by checking to see if it matches the criteria. Ask them to share with their groups a place in their drafts that matches the criteria, and a place where they need to revise. Either circulate to help individual students or pull a small group that will need more support with this task. • Repeat the same process with the rubric criteria for Organization and Language: Show an example, have students identify places for revision, and discuss in their expert groups. • Be sure to allow 5 minutes for students to begin their revisions. Address any clarifying questions, to ensure they can continue to revise independently as homework.	•

Revision and Illustration:
Strengthening the Writing in my Rainforest Field Journal and Adding a Labeled Drawing

Work Time (continued)	Meeting Students' Needs

B. Making Detailed Labeled Drawings (25 minutes)
• Distribute copies of the **Quote from Roger Tory Peterson**. Read the quote aloud as students follow along.
• Explain that Peterson was one of the world's greatest naturalists, and that he has written and edited over 50 different field guides on many branches of natural history. Have the students reread this quote silently, and then talk at their tables about the gist. Encourage them to try to figure out unfamiliar words together from the context.
• After a few minutes of discussion, ask the class: "Which did Peterson prefer to put in his field guides—photos or drawings?" and then "Why did he think that drawings are better than photographs for field guides?" Allow many students to contribute their thoughts, but look for an answer such as, "Drawings can show the important features more clearly than photographs." Begin an anchor chart: **Criteria for Detailed and Accurate Labeled Drawings**. Write as the first criteria on the list, "Shows the important features of my insect."
• Show students **examples of scientific drawings**.
• Ask students to take 5 minutes to examine the illustrations and list everything they notice about these drawings.
• Invite the class to share their lists of what they noticed about these drawings. Add these criteria to the Criteria for Detailed and Accurate Labeled Drawings anchor chart. Listen for students to note for qualities such as "They are accurate," "They are detailed," "They are realistic," and "They have labels that tell you about the important features."
• Distribute **books from the Unit 3 Recommended Texts List**, or **photos of ants and butterflies printed from websites** and **unlined 3"x5" index cards** to draw on.
• Ask them to look for a photograph of the ant or butterfly that they have included in their field journal entry. Remind them of the drawing tips you gave them in Lesson 3:
  * Keep your focus on the object you're drawing, not on your page.
  * Draw the outline first.
  * Don't lift the pencil from the page as you do so.
  * Don't erase.
	• Consider providing ELLs with a version of this quote in which definitions or synonyms are provided for the difficult vocabulary (e.g., *emphasize, fleeting, composite, unmodified, transitory, reference, immediacy*).
	• Visuals can help ELLs and other students comprehend questions and discussions. Chart main points in answers and post all questions about the rubric asked to students.
	• Creating scientific drawings is a way for students to demonstrate their thinking and learning in a meaningful way.
	• Consider partnering ELL students with a student who speaks the same L1 for the peer critique section of this lesson.

Revision and Illustration:
Strengthening the Writing in my Rainforest Field Journal and Adding a Labeled Drawing

Work Time (continued)	Meeting Students' Needs
• Ask students to begin their drawings. • After approximately 8–10 minutes, ask students to come to a stopping point and review the criteria on the rubric. Instruct students to compare their drawings to the criteria, noticing areas that need improvement. Invite students to continue drawing, this time revising their drawings according to the criteria they noticed that needed improvement. Circulate among students, providing clarification or redirection as needed.	•

Revision and Illustration:
Strengthening the Writing in my Rainforest Field Journal and Adding a Labeled Drawing

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Ask several students to share with the class some of the helpful feedback they received. • Return to the learning targets. Ask students to self-assess their progress toward meeting the targets using the Fist to Five strategy.	• Consider providing students who struggle with language a sentence frame or cloze sentence when sharing about feedback. (e.g., "The feedback that was most helpful to me was _____ because _____.")
Homework	**Meeting Students' Needs**
• Review the criteria on the rubric for Ideas, Organization, and Language and the notes you took in class today, and revise your field journal entry to meet these criteria. • Continue reading your independent reading book for this unit. *Note: During the next lesson, students will be working independently to revise the three components of their final products: the journal entry, the informational text box, and the scientific drawing. In advance, make an inventory of where each student is in this process and jot down notes about what kind of support they will need.*	•

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 13
Supporting Materials

Quote from Roger Tory Peterson

"A drawing can do much more than a photograph to emphasize the field marks. A photograph is a record of a fleeting instant; a drawing is a composite of the artist's experience. The artist can edit out, show field marks to best advantage, and delete unnecessary clutter. He can choose position and stress basic color and pattern unmodified by transitory light and shade. A photograph is subject to the vagaries of color temperature, make of film, time of day, angle of view, skill of the photographer and just plain luck. The artist has more options and far more control even though he may use photographs for reference... Whereas a photograph can have a living immediacy a good drawing is really more instructive."
—*R T Peterson, A Field Guide to The Birds: Eastern and Central North America.*

Source: "Peterson, Roger Tory. Peterson First Guide to Birds of North America. 2nd ed. Boston: Houghton Mifflin Harcourt, 1998. Print." Fair use

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 14
Revising and Polishing Our Final Products

Revising and Polishing Our Final Products

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can use the writing process to produce clear and coherent writing (with support). (W.5.5) I can use conventions to send a clear message to my reader. (L.5.2) I can use technology to publish a piece of writing (with support). (W.5.6) (Optional; for schools with adequate technology only)	
Supporting Learning Targets	**Ongoing Assessment**
I can finalize my field journal entry so that my ideas, organization, language, and use of conventions meet our rubric for quality. I can summarize the most important information about an ant or a butterfly in a text box. I can create a scientific drawing of an insect that is detailed and accurate. I can give my classmates kind, helpful, and specific feedback about their rainforest field journal entries. I can use the feedback I receive from my classmates to improve my work.	Drafts of field journal narratives, informational text boxes, and labeled drawings Project Management checklists

Revising and Polishing Our Final Products

Agenda	Teaching Notes
1. Opening A. Review Learning Targets (5 minutes) 2. Work Time A. Finishing Our Rubric: Conventions (10 minutes) B. Making a Plan (5 minutes) C. Independent Work Time (30 minutes) 3. Closing and Assessment A. Debrief (5 minutes) B. Reviewing Learning Targets (5 minutes) 4. Homework	This lesson is designed to give students time to work independently on whatever components of their final performance task need attention. Consider having students sign up on a schedule posted on the board for appointments to get feedback.

Lesson Vocabulary	Materials
manage, management, components, publish, publication	Rainforest Field Journal rubric (from Lesson 12) Project Management checklist (one per student) Document camera

Revising and Polishing Our Final Products

Opening	Meeting Students' Needs
A. Review Learning Targets (5 minutes) Read the first three learning targets: "I can finalize my field journal entry so that my ideas, organization, language and use of conventions meet our rubric for quality," "I can summarize the most important information about an ant or a butterfly in a text box," and "I can create a scientific drawing of an insect that is detailed and accurate." Say: "Today you will have time to complete all three parts of your field journal entry—the narrative, the text box, and the drawing. We will talk about how you can manage your time so that you get as much work done as possible." Review the other two learning targets: "I can give my classmates kind, helpful, and specific feedback about their rainforest field journal entries," and "I can use the feedback I receive from my classmates to improve my work." Remind the class of the importance of giving and receiving feedback. Say: "During today's work time you need to get feedback from a peer and from me to make your work as strong as possible."	Provide nonlinguistic representations of academic vocabulary (e.g., a picture of two people talking for *feedback*, a light bulb for *ideas*) in learning targets.

Revising and Polishing Our Final Products

Work Time	Meeting Students' Needs
A. Finishing Our Rubric: Conventions (10 minutes) Display the Rainforest Journal Entry rubric that you have been working on since Lesson 10 (sample in supporting materials). Scroll down to the Conventions section. Ask the students to reread the first learning target, and tell a neighbor what the three criteria should be for this section. Call on students to share responses. Listen and record criteria that are similar to: * I can use periods, question marks, exclamation points, quotation marks, and commas correctly. * I can capitalize proper nouns and the first letter of sentences. * I can spell all of the words in my field journal correctly, including the scientific words from my glossary.	
B. Making a Plan (5 minutes) Explain how their work time will be structured. Tell students that for the rest of the lesson, they will be working toward the supporting targets. By the end of the lesson, students will need to have completed a final draft that includes all three components of the product—a journal entry, an informational text box, and a scientific drawing. The difference is which stage of the writing process students are on and the support they need. Distribute the **Project Management checklist** and display on a **document camera**. Review the checklist components. Review a few key process points: * Start by working on any of the three components of the project you want. * Use the checklist to keep track of what you have done and what you still need to do. * Manage time so you can finish all components by the end of the lesson. * If you need feedback from a peer or teacher who is busy, tell that person you're ready, but then work on something else while you're waiting.	Consider writing and breaking down multistep directions for completing their field journal page into numbered elements. Students can return to these guidelines to make sure they are on track. Consider providing some students with a more scaffolded Project Management checklist that includes a sequence and time frame for completion of each task. Struggling writers may need sentence starters or additional graphic organizers to support writing. Students who struggle with spelling may benefit from using a spell-checker when they type up their final performance task.

Work Time (continued)	Meeting Students' Needs
C. Independent Work Time (30 minutes) Address any clarifying questions. Ask all students to note for themselves what component of the project they want to work on first. Begin independent work time. Circulate to be sure that students are engaged in either creating their product or holding a peer critique session. Work with individual students as needed. As you give feedback, take note of exemplary work that can be shared during the debrief session.	

Revising and Polishing Our Final Products

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) Ask students to share the exemplary passages from their work that you identified during feedback. Invite other students to offer warm feedback about how these examples meet the learning targets.	
B. Reviewing the Learning Targets (5 minutes) Reread the first three learning targets. Ask students to turn and talk with a neighbor about which learning target was easiest for them to meet, which was the most difficult, and why. Congratulate students. Remind them that their final performance task is due at the start of the next lesson. Tell them that they will also get a chance to "show what you know" on an assessment. For this on-demand assessment, they will write a NEW field journal entry, but this one will include information about the howler monkeys that they learned about in Lesson 8.	
Homework	**Meeting Students' Needs**
If you have not finished all of the components of your final product, get feedback from someone at home and finalize your work. Continue reading your independent reading book for this unit. *Note: For the end of unit assessment in Lesson 15, students will need to use their notes on howler monkeys that they took during the mid-unit assessment (Lesson 8). Have those ready to distribute. Also consider having on hand copies of the texts that were used during the mid-unit assessment in case a student needs to refer back to them.*	Find time during the rest of the day to support ELLs and other struggling students to complete their final product.

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 14
Supporting Materials

Project Management Checklist
Rainforest Field Journal Entry

Directions

- Start by working on any of the three components of the project you want.
- Use the checklist to keep track of what you have done and what you still need to do.
- Manage time so you can to finish all components by the end of the lesson.
- If you need feedback from a peer or teacher who is busy, tell that person you're ready, but then work on something else while you're waiting.
- When you finish a task, put your initials in the box.

Field Journal Entry	Initials	
Write a first draft of my journal entry.		
Review my draft against our rubric and make changes.		
Have another student give me feedback on my first draft. Ask the other student to put his or her initials in the box when done.		
Write a revised draft.		
Receive feedback from the teacher. Ask the teacher to put his or her initials in the box when you are done.		
Write a final draft.		

Informational Text Box	Initials	
Write a first draft of my text box in the Informational Text Box graphic organizer.		
Have another student give me feedback on my first draft. Ask the other student to put his or her initials in the box when done.		
Write a revised draft in a new Informational Text Box graphic organizer.		
Receive feedback from the teacher. Ask the teacher to put his or her initials in the box when you are done.		
Write a final draft in a new Informational Text Box graphic organizer.		

Project Management Checklist

Rainforest Field Journal Entry

Scientific Drawing	Initials	
Use a 3"x5" index card to draw a first draft of my scientific drawing in pencil.		
Have another student give me feedback on my first draft. Ask the other student to put his or her initials in the box when done.		
Draw a revised draft on a new index card in pencil.		
Receive feedback from the teacher. Ask the teacher to put his or her initials in the box when you are done.		

Publication	Initials
Type up your narrative on a computer or rewrite it onto a blank sheet of unlined paper. Be sure to copy your text exactly; don't add any errors to your error-free final draft!	
Tape or glue the final draft of your text box and drawing on to a sheet of unlined paper.	

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 15

End of Unit Assessment: Writing a Rainforest Field Journal Entry about Howler Monkeys

End of Unit Assessment:
Writing a Rainforest Field Journal Entry about Howler Monkeys

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
I can use a variety of strategies to locate an answer or solve a problem efficiently in informational texts. (RI.5.7) I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) I can write narrative texts about real or imagined experiences or events. (W.5.3) I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) I can use several sources to build my knowledge about a topic. (W.5.7) I can choose evidence from fifth-grade informational texts to support analysis, reflection, and research. (W.5.9)

Supporting Learning Targets	Ongoing Assessment
• I can write a field journal entry about howler monkeys using ideas, organization, language, and use of conventions that meet our rubric for quality. • I can summarize the most important information about howler monkeys in a text box.	• End of Unit 3 Assessment • Tracking My Progress, End of Unit 3 recording form

End of Unit Assessment:
Writing a Rainforest Field Journal Entry about Howler Monkeys

Agenda	Teaching Notes
1. **Opening** A. Introducing the Assessment (10 minutes) 2. **Work Time** A. End of Unit Assessment (35 minutes) 3. **Closing and Assessment** A. Tracking My Progress (5 minutes) B. Celebration Gallery Walk and Debrief (10 minutes) 4. **Homework**	• Students should have completed their final performance task during the previous lesson or, if need be, for homework. They get to celebrate that performance task at the end of this lesson. In the first part of the lesson, students demonstrate their learning through an unscaffolded task that builds on the note-taking they did for the mid-unit assessment (Lesson 8). • Consider having copies available of the text that students read during the mid-unit assessment. Though students are supposed to work from their notes, some may need to refer back to these texts to refresh their memories. • Create a positive tone for the assessment by reminding students of all that they have learned. Frame this as an opportunity to show how they have met some or all of the learning targets. • Score student work using the Rainforest Field Journal Rubric, which they have helped to develop throughout this unit.

Lesson Vocabulary	Materials
N/A	• Students' work from the mid-unit assessment (individual pages of notes on howler monkeys) • End of Unit 3 Assessment: On-Demand Writing of a Field Journal Entry on Howler Monkeys (one per student) • Blank lined paper (two sheets per student) • Rainforest Field Journal rubric (distributed in Lesson 12) • Tracking My Progress, End of Unit 3 recording form (one per student)

End of Unit Assessment:
Writing a Rainforest Field Journal Entry about Howler Monkeys

Opening	Meeting Students' Needs
A. Introducing the Assessment (10 minutes) • Collect the class's final performance tasks. Praise them for accomplishing this challenging three-part task: creating a narrative field journal entry, an informational text box, and a labeled drawing. Tell the students that at the end of the lesson there will be time to look at each other's work and celebrate their achievement. • Tell the students that today they will have the chance to show what experts they have become on how scientists keep field journals. Without any help from their teacher or classmates, they will use the notes they took on howler monkeys during the mid-unit assessment to create a second page in their rainforest field journal. Review the Rainforest Field Journal rubric to make sure that everyone understands what makes an excellent product.	•

End of Unit Assessment:
Writing a Rainforest Field Journal Entry about Howler Monkeys

Work Time	Meeting Students' Needs
A. End of Unit Assessment (35 minutes) • Seat the students so that they have space to work privately and independently. • Distribute **students' work from their mid-unit assessment** (done in Lesson 8): their notes on the howler monkey. Tell students they will need to refer to these notes today. • Distribute the **End of Unit 3 Assessment: On-Demand Writing of a Field Journal Entry on Howler Monkeys** and **lined paper**. Give students an opportunity to review the directions. Address any clarifying questions. • Remind students to refer to their **Rainforest Field Journal Rubric**. • Give students 30 minutes to work on the assessment, leaving 5 minutes at the end to debrief. • While students are working, circulate to make sure that they are working independently. Because this is an assessment of what students can do without support, you may not answer substantive questions, but should provide clarification about the directions and encouragement to keep going. • Collect the assessments.	• For students needing additional support producing language, consider offering a sentence frame or starter, or a cloze sentence to assist with language production and provide the structure required. • Consider providing extra time to some students in order to complete the assessment. ELLs often need more time to process and translate information, and are entitled to extended time as an accommodation on NY State assessments.

End of Unit Assessment:
Writing a Rainforest Field Journal Entry about Howler Monkeys

Closing and Assessment	Meeting Students' Needs
A. Tracking My Progress (5 minutes) • Distribute **Tracking My Progress, End of Unit 3 recording form** and give students time to complete these forms.	•
B. Celebration Gallery Walk and Debrief (10 minutes) • Celebrate the students' achievement by having students display their end of unit work on tables around the room. Invite the students to walk around and quietly read and appreciate their classmates' hard work. If you like, you may hand out sticky notes and ask students to jot down warm feedback to leave on the work as they circulate. • Gather the students for a last opportunity to debrief what they have learned about the rainforest. Give students a prompt such as: "I used to think ... but now I know." (For example: "I used to think that ants were annoying, but now I know that they are important.") Give them 1 minute of think time, and then ask all students to share their responses with the class.	•
Homework	**Meeting Students' Needs**
• None.	•

EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3: Lesson 15
Supporting Materials

End of Unit Assessment:
Writing a Rainforest Field Journal Entry about Howler Monkeys

It is time to show what an expert you have become on researching and reporting on rainforest animals. So put on your rainforest explorer gear and get ready to roll!
After researching scientific texts on howler monkeys, write a page from a field journal that describes howler monkeys and how they contribute to the rainforest ecosystem. Support your discussion with evidence from your research. Be sure you include precise scientific vocabulary and sensory details. Use our Rainforest Field Journal Entry rubric to guide your work.

Directions:

1. If you need to, reread the article on howler monkeys from our mid-unit assessment.
2. Read over the notes you took on howler monkeys during our mid-unit assessment.
3. Based on the article and your notes, write a new first-person field journal entry from the point of view of the same main character as in your first rainforest field journal entry. Describe at least one event in your field journal entry.
4. Create an informational text box about the howler monkey to go with your field journal entry.

Tracking My Progress
End of Unit 3

Name:

Date:

Learning Target: I can write a field journal entry about howler monkeys using ideas, organization, language, and use of conventions that meet our rubric for quality.

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

End of Unit 3

Name:

Date:

Learning Target: I can summarize the most important information about howler monkeys in a text box.

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: