EXPEDITIONARY LEARNING

Grade 5: Module 2A:
Overview

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GRADE 5: MODULE 2A: OVERVIEW

Researching to Build Knowledge and Teaching Others:

Biodiversity in Rainforests of the Western Hemisphere

This module—intended to be used in conjunction with a Social Studies unit about Latin America—features a close read of *The Most Beautiful Roof in the World* (1160L)* by Kathryn Lasky. This beautifully illustrated informational text describes the work of scientists documenting the biodiversity of rainforests. The specific literacy focus is on reading scientific and technical text as well as writing to inform and explain. In the first unit, students build basic background knowledge about the rainforests (particularly those of the Western Hemisphere), and begin to examine how scientists closely observe the natural world to then help them communicate their research through carefully organized and worded scientific text. Unit 2 focuses on a case study of Meg Lowman, the researcher featured in *The Most Beautiful Roof in the World*. Students then analyze the structure and function of scientific field guides and field journals, determining what quality field guides and journals look and sound like. Students research a living thing that scientist Meg Lowman may encounter in the rainforest and write with clear and effective word choice about their chosen insect. As the final performance task, students produce an informational report and then a field journal—style page intended for younger readers. This performance task 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.

Guiding Questions And Big Ideas
• **What is unique about living things in the Amazon?**
• **How do scientists learn about the natural world and communicate what they learn?**
• *Scientists observe closely and record those observations in various ways.*
• *Authors organize informational text in specific ways to convey scientific ideas and concepts.*

*The Lexile measure for *The Most Beautiful Roof in the World* is well above the fifth-grade band, due largely to the domain-specific science vocabulary. Yet, based on qualitative measures and professional judgment, this text is appropriate for fifth-graders. Lessons include explicit instruction on how to use a glossary when reading informational text, and how to infer scientific terms from context.

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Performance Task

Research-based Narrative Writing: Rainforest Field Journal Page
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 the arthropod contributes to the rainforest ecosystem and lists essential characteristics. 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.

Content Connections

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

NYS Social Studies Core Curriculum:

- The extensive biodiversity of North and South America produces unique biomes and species of plants and animals.
- Geographic reasoning: Identify how environment affects human activities and how human activities affect the environment.

NYS Science:

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

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CCS Standards: Reading—Literature	Long-Term Learning Targets
• RL.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	• I can explain what a text says using quotes from the text. • I can make inferences using quotes from text.
• RL.5.2. Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.	• I can determine a theme based on details in a literary text. • I can summarize a literary text.
• RL.5.4. Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.	• I can explain the main points in a historical, scientific, or technical text, using specific details in the text.
• RL.5.5. Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.	• I can explain how a series of chapters, scenes, or stanzas fit together to create a larger literary text.
• RL.5.6. Describe how a narrator's or speaker's point of view influences how events are described.	• I can describe how a narrator's point of view influences the description of events.
• RL.5.7. Analyze how visual and multimedia elements (e.g., graphic novel or multimedia presentation of fiction, folktale, myth, or poem) contribute to the meaning, tone, or beauty of a text.	• I can analyze how visual and multimedia elements add to the meaning, tone, or beauty of literary text.

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CCS Standards: Reading—Informational Text	Long-Term Learning Targets
• RI.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	• I can explain what a text says using quotes from the text.
• RI.5.2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.	• I can determine the main idea(s) of an informational text based on key details. • I can summarize an informational text.
• RI.5.3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.	• I can explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text.
• RI.5.4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.	• I can determine the meaning of academic words or phrases in an informational text. • I can determine the meaning of content words or phrases in an informational text.
• RI.5.5. Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.	• I can compare and contrast the organizational structure of different informational texts.
• RI.5.6. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.	• I can compare and contrast multiple accounts of the same event or topic.
• RI.5.7. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.	• I can locate an answer or solve a problem efficiently, drawing from multiple informational sources.
• RI.5.8. Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).	• I can explain how authors use evidence and reasons to support their points in informational texts.

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CCS Standards: Reading—Informational Text	Long-Term Learning Targets
• RI.5.9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.	• I can accurately synthesize information from multiple texts on the same topic.
• RI.5.10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.	• I can read grade-level informational texts proficiently and independently.
CCS Standards: Foundational Skills	**Long-Term Learning Targets**
• RF.5.4. Read with sufficient accuracy and fluency to support comprehension. A. Read grade-level text with purpose and understanding. B. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.	• I can read fifth-grade level texts accurately and fluently to make meaning. A. I can read fifth-grade texts with purpose and understanding. B. I can read fifth-grade texts with fluency.
CCS Standards: Writing	**Long-Term Learning Targets**
• W.5.1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information. A. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. B. Provide logically ordered reasons that are supported by facts and details.	• I can write an opinion piece that supports a point of view with reasons and information. A. a. I can introduce the topic of my opinion piece. A. I can create an organizational structure in which I group together related ideas. B. I can identify reasons that support my opinion.

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CCS Standards: Writing	Long-Term Learning Targets
• W.5.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. A. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. B. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. C. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). D. Use precise language and domain-specific vocabulary to inform about or explain the topic.	• I can write informative/explanatory texts that convey ideas and information clearly. A. I can introduce a topic clearly. A. I can group supporting facts together about a topic in an informative/explanatory text. A. I can use text, formatting, illustrations, and multimedia to support my topic. B. I can develop the topic with facts, definitions, details, and quotations. C. I can use linking words and phrases (e.g., in contrast, especially) to connect ideas within categories of information. D. I can use precise, content-specific vocabulary to inform or explain about a topic.
• W.5.3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. A. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. B. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. C. Use concrete words and phrases and sensory details to convey experiences and events precisely.	• I can write narrative texts about real or imagined experiences or events. A. I can establish a situation. A. I can organize events in an order that makes sense in my narrative. B. I can use transitional words, phrases, and clauses to show the order of events in a narrative text. C. I can use sensory details to describe experiences and events precisely.
• W.5.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.	• I can produce clear and coherent writing that is appropriate to task, purpose, and audience.
• W.5.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	• With support from peers and adults, I can use a writing process to produce clear and coherent writing.

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CCS Standards: Writing	Long-Term Learning Targets
• W.5.7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.	• I can build knowledge about multiple aspects of a topic by conducting research. • I can use several sources to build my knowledge about a topic.
• W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.	• I can document what I learn about a topic by taking notes. • I can summarize or paraphrase information in my notes and in finished work. • I can provide a list of sources I used to gather information.
• W.5.9. Draw evidence from literary or informational texts to support analysis, reflection, and research. A. Apply grade 5 reading standards to literature (e.g., "Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]"). B. Apply grade 5 reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]").	• I can choose evidence from literary or informational texts to support analysis, reflection, and research. A. I can compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text (e.g., how characters interact). B. I can explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).
• W.5.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	• I can write for a variety of reasons.

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CCS Standards: Speaking & Listening	Long-Term Learning Targets
• SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing my own clearly. A. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon rules for discussions and carry out assigned roles. C. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. D. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.	• I can effectively engage in discussions with diverse partners about fifth-grade topics and texts. A. I can prepare myself to participate in discussions. A. I can draw on information to explore ideas in the discussion. B. I can follow our class norms when I participate in a conversation. C. I can ask questions that are on the topic being discussed. C. I can connect my questions and responses to what others say. D. After a discussion, I can explain key ideas about the topic being discussed.
• SL.5.2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.	• I can summarize text that is read aloud to me. • I can summarize information that is presented in pictures and/or numbers.
• SL.5.4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	• I can speak clearly and at an understandable pace.
• SL.5.6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.	• I can adapt my speech for a variety of contexts and tasks, using formal English when appropriate.

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CCS Standards: Language	Long-Term Learning Targets
• L.5.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. A. Use punctuation to separate items in a series. B. Use a comma to separate an introductory element from the rest of the sentence. C. Use a comma to set off the words yes and no (e.g., Yes, thank you), to set off a tag question from the rest of the sentence (e.g., It's true, isn't it?), and to indicate direct address (e.g., Is that you, Steve?). D. Use underlining, quotation marks, or italics to indicate titles of works. E. Spell grade-appropriate words correctly, consulting references as needed.	• I can use conventions to send a clear message to my reader. A. I can use punctuation to separate items in a series. B. I can use a comma to separate an introductory word or phrase from the rest of the sentence. C. I can use a comma to set off the words yes and no (e.g., Yes, thank you). C. I can use a comma to set off a tag question from the rest of the sentence (e.g., It's true, isn't it?). C. I can use a comma to indicate direct address (e.g., Is that you, Steve?). D. I can use underlining, quotation marks, or italics to indicate titles of works. E. I can spell grade-appropriate words correctly. E. I can consult reference materials to check and correct my spelling.
• L.5.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. A. Use context (e.g., cause/effect relationships, comparisons in text) as a clue to the meaning of a word or phrase.	• I can use a variety of strategies to understand grade-appropriate words and phrases I don't know. A. I can use context (e.g., cause/effect relationships. comparisons in text) to help me understand the meaning of a word or phrase.

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Central Texts
1. 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.
2. 2. "Sloth Canopy Researcher: Bryson Voirin," from the Biomes of the World Web site, copyright © 2002–2012 by UntamedScience.com and Bryson Voirin: www.thewildclassroom.com/biomes/scientistprofile/scientists/byrson.html.
3. "Hawaii's Endangered Happy Face Spider," Expeditionary Learning, 2012.
4. "Live Online Interview with Eve Nilson," Special Issues: Inside the Rainforest: http://teacher.scholastic.com/scholasticnews/indepth/rainforest/submit.asp.
5. Aaron Shepard, "The Wings of the Butterfly: A Tale of the Amazon Rainforest," in Cricket, Mar2011, 38:6: 15–18; available from NovelNY.

Excerpts
24 Questions with NRC Director Dr. Meg Lowman: http://blog.visitraleigh.com/2012/03/19/24-questions-with-nrc-director-dr-meg-lowman/.
Marian Smith Holmes, "Interview: Meg Lowman," in *Smithsonian* magazine (Dec 2006): http://www.smithsonianmag.com/science-nature/interview_lowman.html.

Video
"Great Bear Rainforest Remote Camera Project": http://vimeo.com/9433768.

Additional Resource
The official website of Dr. Meg Lowman: http://canopymeg.com/wp/2012/04/page/2/.

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Week	Instructional Focus	Long-Term Targets	Assessments
Unit 1: Building Background Knowledge: How Scientists Communicate about the Living Things of the Rainforest			
Weeks 1-2	• Building Background Knowledge: Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them • Reading an Interview: "Sloth Canopy Researcher: Bryson Voirin" • Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin" plus Identifying My Learning Style • Summarizing Informational Text (an Article): "Hawaii's Endangered Happy Face Spider" • Informational Text Features: Analyzing "Hawaii's Endangered Happy Face Spider"	• 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 explain important relationships between ideas in a scientific text using specific details in the text. (RI.5.3) • I can compare and contrast the organizational structure of different informational texts. (RI.5.5) • I can use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4)	• Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 1 (NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.3, RI.5.5, and L.5.4)

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Week	Instructional Focus	Long-Term Targets	Assessments
Weeks 1-2, continued	• Analyzing Documentary Videos: "Great Bear Rainforest Remote Camera Project" British Columbia, Canada • Synthesizing Information: Living Things in the Rainforest • Science Talk	• 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can compare and contrast the organizational structure of different informational texts. • (RI.5.5) • I can accurately synthesize information from multiple texts on the same topic. (RI.5.9) • I can write an opinion piece and identify reasons to support my opinion. (W.5.1)	• End-of-Unit 1 Assessment: Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity (NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.4, RI.5.5, RI.5.9 and W.5.1)

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Week	Instructional Focus	Long-Term Targets	Assessments
Unit 2: Case Study: *The Most Beautiful Roof in the World*: The Work of Rainforest Scientist Meg Lowman			
Weeks 3-5	• Introduction to *The Most Beautiful Roof in the World*: Why Does Meg Lowman Research the Rainforest? • Writing about How to Perform a Process: How Meg Lowman Studies the Rainforest • Supporting an Opinion: Why Is the Rainforest Canopy a Difficult Place to Research? • Close Reading in Expert Groups: What Is It Like in the Rainforest Canopy? • Reading Informational Text for Details: Meg's Rainforest Experiment	• 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4)	• Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World* Quiz (NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.4, L.5.4)

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Week	Instructional Focus	Long-Term Targets	Assessments
Weeks 3-5, continued	• Comparing Literary and Informational Text: "The Wings of the Butterfly: A Tale of the Amazon Rainforest" • Reading for Details: Taking an Inventory in the Rainforest • Reading for Fluency: Readers Theater about the Rainforest • Interviewing Meg Lowman: What Does It Mean to Be a Responsible Scientist? • Analyzing How Rainforest Scientists Communicate Their Research	• I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2) • I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) • 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 choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)	• End of Unit 2: On-Demand Analysis of Meg Lowman's Research in the Rainforest (NYSP12 ELA CCLS W.5.2, W.5.4, W.5.8, and W.5.9)

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Week	Instructional Focus	Long-Term Targets	Assessments
Unit 3: Reading and Writing Like a Scientist: Observing Nature, Conducting Research, and Creating Field Notes			
Weeks 6-8	• How Scientists Write in the Field: Introduction to the Features of Field Journals • Learning to Observe Closely and Record Accurately: How to Create a Field Journal • Journaling about the Rainforest • Taking Notes and Citing Quotes from Text: Gathering Information on Rainforest Arthropods • Structuring Our Research: Categorizing Information • Becoming Experts: Gathering Information on Rainforest Arthropods • Conducting Research: Drawing on a Variety of Sources to Capture Information about My Arthropod	• I can use quotes to explain the meaning of informational texts. (RI.5.1) • I can use quotes to support my inferences in informational texts. (RI.5.2) • I can use a variety of strategies to locate an answer or solve a problem efficiently in informational texts. (RI.5.7) • 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 document what I learn about a topic by providing a list of sources. (W.5.8) • I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)	• Mid-Unit 3 Assessment: On-Demand Note-Taking about Howler Monkeys (NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.7, W.5.8, and W.5.9)

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Week	Instructional Focus	Long-Term Targets	Assessments
Weeks 6-8, continued	• Reflection and Re-Teaching: Tracking Progress toward Learning Targets • Making Inferences about Informational Text: Science Talk on How My Arthropod Contributes to the Rainforest Ecosystem • Blending Informative and Narrative Writing: Transforming Research Notes into Field Journals • Writing and Revising Our Texts: Using Peer Critique to Improve First Drafts • Summarizing Our Research: Creating Informational Text Boxes • Revising and Polishing Our Field Journal Pages	• 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 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 choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)	• End of Unit 3 Assessment: Writing a Field Journal Excerpt on Howler Monkeys (NYSCCSS W.5.2, W.5.3, W.5.4, W.5.7, W.5.9)

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Grade 5: Module 2A:
Assessment Overview

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Note: As each unit is written, often assessments are revised. Use this document as a general guideline. But be sure to refer to each specific unit overview document for the most correct and complete write-ups of each assessment.

Final Performance Task	**Research-based Narrative Writing: Rainforest Field Journal Page** 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 the arthropod contributes to the rainforest ecosystem and lists essential characteristics. 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.

Mid-Unit 1 Assessment	**Mid-Unit Assessment: Analyzing Part 1 of an Interview with a Rainforest Scientist** This on-demand assessment centers on standards NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.3, and L.5.4. Students will read and analyze excerpts from the first half in interview with rainforest scientist Eve Nilson, and then complete short-answer text-dependent questions. (Note that students will read excerpts from other parts of this interview as a part of their End of Unit 1 Assessment; therefore, do not distribute the full interview).
End of Unit 1 Assessment	**End-of-Unit 1 Assessment: Analyzing Part 2 of an Interview with a Rainforest Scientist and Comparing and** Contrasting Texts About Rainforest Biodiversity This assessment centers on standards NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.4, RI.5.5, RI.5.9, and W.5.1. Students will read new sections of the Eve Nilson interview. (Note that they read excerpts from Part 1 of the interview during the Mid-Unit Assessment. For the End of Unit Assessment, they read excerpts from Part 2 of that same interview, which they have not read before). They will then answer text-dependent short-answer questions. They will also use information from informational texts read in previous lessons. Then students will write a paragraph in which they state a clear opinion about which text they consider more helpful (based on their text features) in terms of informing them about the rainforest. Students will use details from all texts to support their opinion about how structural features of informational text can help them as readers.

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Mid-Unit 2 Assessment	**The Most Beautiful Roof in the World Quiz** This on-demand assessment centers on standards NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.4, and L.5.4. Students will read and analyze a new section of text from *The Most Beautiful Roof in the World* and then complete short-answer and multiple-choice text-dependent questions.
End of Unit 2 Assessment	**On-Demand Analysis of Meg Lowman's Research in the Rainforest** This assessment centers on standards NYSP12 ELA CCLS W.5.2, W.5.4, W.5.8, and W.5.9. After reading and analyzing *The Most Beautiful Roof in the World*, students will write an essay in which they analyze Meg Lowman's research of biodiversity in the rainforests, providing examples of what and how she researches in order to clarify their analysis.

Mid-Unit 3 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 3 Assessment	**On-Demand Writing of a Field Journal Entry on Howler Monkeys** This on-demand assessment centers on standards NYSP12 ELA CCSS W.5.2, W.5.3, W.5.4, W.5.7, and W.5.9. After completing the performance task (which is heavily scaffolded in order to ensure student success), students will be given an on-demand assessment to demonstrate their independent mastery of the targeted standards. Students will write a second rainforest field journal excerpt, using the notes that they took during the Mid-Unit 3 Assessment about howler monkeys. The prompt for the assessment will be: "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."

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EXPEDITIONARY LEARNING

Grade 5: Module 2A:
Performance Task

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GRADE 5: MODULE 2A: PERFORMANCE TASK

Research-based Narrative Writing: Rainforest Field Journal Page

Summary of Task

- 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 the arthropod contributes to the rainforest ecosystem and lists essential characteristics. 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.
- During the first half of this unit, students will develop skills in two areas necessary to be successful in this performance task: (1) They will conduct research and take organized notes on a specific rainforest insect, and (2) they will explore the genre of field journals and write their own field notes. The product that they create will be a blend of narrative and informational writing. Students will create a fictional persona and write a first-person journal entry describing an adventure in a rainforest. They will embed information about the insect they have researched within their narrative. They also will create an accompanying informational text box about the insect they have researched, listing some of its significant characteristics as well as describing its role in the rainforest ecosystem.

Format

The final product will be two standard-size 8.5” x 11” pages of writing from each student, which will include the student’s field journal narrative, a small (approximately 4” x 6”) informational text box, and one or more optional labeled sketches of the insect that the student researched.

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Standards Assessed Through This Task

- **I can locate an answer or solve a problem efficiently, drawing from multiple informational sources. (RI.5.7)**
- **I can accurately synthesize information from multiple texts on the same topic. (RI.5.9)**
- **I can write informative/explanatory texts that convey ideas and information clearly. (W.5.2)**
  - A. I can introduce a topic clearly.
  - B. I can group supporting facts together about a topic in an informative/explanatory text.
  - C. I can use text, formatting, illustrations, and multimedia to support my topic.
  - D. I can develop the topic with facts, definitions, details, and quotations.
  - E. I can use linking words and phrases (e.g., in contrast, especially) to connect ideas within categories of information.
  - F. I can use precise, content-specific vocabulary to inform or explain about a topic.
- **I can write narrative texts about real or imagined experiences or events. (W.5.3)**
  - A. I can establish a situation.
  - B. I can organize events in an order that makes sense in my narrative.
  - C. I can use transitional words, phrases, and clauses to show the order of events in a narrative text.
  - D. I can use sensory details to describe experiences and events precisely.
- **I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)**
- **With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (W.5.5)**
- **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 summarize or paraphrase information in my notes and in finished work. (W.5.8)**
- **I can provide a list of sources I used to gather information. (W.5.8)**
- **I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)**

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Student-Friendly Writing Invitation/Task Description
• After researching scientific texts on an arthropod that Meg Lowman might see in the rainforest, write a page from a field journal in which you incorporate information that you have gathered from your research and an informational text box that lists the essential characteristics of that arthropod and how it contributes to the rainforest ecosystem.
Key Criteria For Success (Aligned With NYSP12 ELA CCLS)
Below are key criteria students need to address when completing this task. Specific lessons during the module build in opportunities for students to understand the criteria, offer additional criteria, and work with their teacher to construct a rubric on which their work will be critiqued and formally assessed.
Final products will need to meet the following criteria, all of which will be discussed and reviewed with students: • written in the first person, from the point of view of a fictional rainforest scientist • includes an encounter with the insect that the student researched • describes at least three events • describes the setting of a rainforest • includes information and vocabulary from insect research with each event • includes believable scientific research events • organizes the events in a sequence that makes sense • connects the events by linking words and phrases • includes an informational text box containing physical attributes, habitat, food, behavior, life cycle, predators and defenses, and role in the rainforest ecosystem

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Options For Students
Students will have choices as to whether to include one or more drawings in addition to their text. If time permits, the final product will include drawings or photographs embedded within the text.
Options For Teachers
• The teacher has the option of compiling all of the students' pages into a whole class rainforest field journal. • The students' work may be presented to an audience of family members or the larger school community. • For the presentation, students might assume the role of the rainforest scientist they have created by dressing up and dramatizing their characters.

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1:
Overview

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Unit 1: Building Background Knowledge: How Scientists Communicate about the Living Things of the Rainforest

In this first unit, students will explore the question: "What is unique about living things in the rainforest?" Students will begin by building background knowledge about unique living things in the rainforests and the scientists who study them. Students will also explore various forms of informational text as ways to communicate about rainforest scientists' research. Students examine two types of informational texts, an interview and an article, for specific elements and how those elements inform the reader. During those close reads, students will also build their background knowledge about rainforests of the Western Hemisphere through a focus on vocabulary and finding the main idea. The mid-unit assessment will gauge students' mastery of comprehending an interview as an informational text by answering text-dependent questions for a given new and unfamiliar interview of a scientist doing work in the rainforest. Students will continue to gain knowledge about living things in the rainforest and apply the skills learned to explore one more type of informational text, a video, in order to continue to develop an understanding of the biodiversity of the rainforest. Through further close reads, an introduction to note-taking, synthesis, and comparisons of these informational texts, students will begin to formulate an opinion on what types of informational texts, based on their specific features, made it easiest for them to learn about rainforests and why. Finally, the on-demand End of Unit 1 Assessment will measure students' ability to comprehend unfamiliar selections from the interview they read during the Mid-Unit 1 Assessment. Students will also write an opinion paragraph that states which text they consider most helpful based on its features, and why.

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	**Analyzing of an Interview with a Rainforest Scientist Part 1** This on-demand assessment centers on standards NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.3, and L.5.4. Students will read and analyze excerpts from the first half in interview with rainforest scientist Eve Nilson, and then complete short-answer text-dependent questions. (Note that students will read excerpts from other parts of this interview as a part of their End of Unit 1 Assessment; therefore, do not distribute the full interview).
End of Unit Assessment	**Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity** This assessment centers on standards NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.4, RI.5.5, RI.5.9, and W.5.1. Students will read new sections of the Eve Nilson interview. (Note that they read excerpts from Part 1 of the interview during the Mid-Unit Assessment. For the End of Unit Assessment, they read excerpts from Part 2 of that same interview, which they have not read before). They will then answer text-dependent short-answer questions. They will also use information from informational texts read in previous lessons. Then students will write a paragraph in which they state a clear opinion about which text they consider more helpful (based on their text features) in terms of informing them about the rainforest. Students will use details from all texts to support their opinion about how structural features of informational text can help them as readers.

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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:

- The extensive biodiversity of North and South America produces unique biomes and species of plants and animals.
- Geographic reasoning: Identify how environment affects human activities and how human activities affect the environment.

NYS Science:

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

Central Texts

1. "Sloth Canopy Researcher: Bryson Voirin," from the Biomes of the World Web site, copyright © 2002–2012 by Explore Biodiversity and the Wild Classroom: www.thewildclassroom.com/biomes/scientistprofile/scientists/byrson.html.
2. "Hawaii's Endangered Happy Face Spider," Expeditionary Learning, 2012.
3. "Live Online Interview with Eve Nilson," Special Issues: Inside the Rainforest: http://teacher.scholastic.com/scholasticnews/indepth/rainforest/submit.asp.
4. "Great Bear Rainforest Remote Camera Project" http://vimeo.com/9433768.

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This unit is approximately 2 weeks or 10 sessions of instruction.

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 1	Building Background Knowledge: Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them	• I can compare and contrast the organizational structure of different informational texts. (RI.5.5) • I can explain important relationships between ideas in a scientific text using specific details in the text. (RI.5.3) • I can summarize information that is presented in pictures and/or numbers. (SL.5.2) • I can prepare myself to participate in discussions. (SL.5.1) • I can follow our class norms when I participate in a conversation. (SL.5.1) • I can write for a variety of reasons. (W.5.10)	• I can listen effectively to my partner when sharing. • I can record what I notice and wonder about during a Gallery Walk. • I can compare and contrast texts and images about rainforests. • I can describe in writing a unique living thing from the rainforest. • I can explain how scientists communicate their research about the rainforest. • I can explain the general purpose of an informational text.	• Journal (KWL, Notices and Wonders, paragraph)
Lesson 2	Reading an Interview: "Sloth Canopy Researcher: Bryson Voirin"	• I can compare and contrast the organizational structure of different informational texts. (RI.5.5) • I can determine the main idea(s) of an informational text based on key details. (RI.5.2) • I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) • I can connect my questions and responses to what others say. (SL.5.1)	• I can describe the features of an interview as an informational text. • I can determine the gist of an interview with scientist Bryson Voirin. • I can determine the meaning of new words from context in an interview with scientist Bryson Voirin.	• Journal (Informational Text chart, glossary) • Annotated text • Exit ticket

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Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 3	Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin"	• I can follow our class norms when I participate in a conversation. (SL.5.1) • I can determine the main idea(s) of an informational text based on key details. (RI.5.2) • I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can read fifth-grade texts with fluency. (RF.5.4)	• I can actively listen to my partner while discussing our ideas. • I can determine the main idea of an interview with scientist Bryson Voirin. • I can determine the meaning of new words from context in an interview with scientist Bryson Voirin. • I can read the interview with scientist Bryson Voirin with fluency.	• Text-dependent questions • Journal (Rainforest KWL chart, glossary) • Exit ticket
Lesson 4	Summarizing Informational Text: "Hawaii's Endangered Happy Face Spider"	• I can summarize text that is read aloud to me. (SL.5.2) • I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) • I can determine the main idea(s) of an informational text based on key details. (RI.5.2) • I can follow our class norms when I participate in a conversation. (SL.5.1) • I can draw on information to explore ideas in the discussion. (SL.5.1) • I can write routinely for a variety of purposes. (W.5.10)	• I can explain the gist of the article "Hawaii's Endangered Happy Face Spider." • I can determine the meaning of new words from context in the article "Hawaii's Endangered Happy Face Spider." • I can listen actively to my group members while discussing ideas. • I can use my group's ideas to help me determine the gist of an article.	• Student writing and signed Voirin article (from homework) • Journal (Informational Text chart, glossary, Getting the Gist protocol)

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Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 5	Informational Text Features: Analyzing "Hawaii's Endangered Happy Face Spider"	• I can follow our class norms when I participate in a conversation. (SL.5.1) • I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) • I can determine the main idea(s) of an informational text based on key details. (RI.5.2) • I can compare and contrast the organizational structure of different informational texts (RI.5.5) • I can explain important relationships between ideas in a scientific text using specific details from the text. (RI.5.3)	• I can share my ideas with my partners quickly. • I can determine the main idea of the article "Hawaii's Endangered Happy Face Spider." • I can determine the meaning of new words from context in the article "Hawaii's Endangered Happy Face Spider." • I can compare and contrast the rainforest research in Panama and Hawaii. • I can evaluate the features of an interview as an informational text.	• Paragraph from homework • Journal (Informational Text chart, Features chart, Venn diagram)
Lesson 6	Mid-Unit Assessment: Analyzing an Interview with a Rainforest Scientist Part I	• 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 explain important relationships between ideas in a scientific text using specific details in the text. (RI.5.3) • I can compare and contrast the organizational structure of different informational texts. (RL.5.5) • I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4)	• I can identify the main idea of an interview. • I can determine the meaning of new words from context in an interview about research in the rainforest. • I can analyze the features of an interview and how they help readers. • I can reflect on my learning about the rainforests and about the features of informational texts.	• Venn diagram (from Lesson 5 homework) • Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 1 • Tracking My Progress, Mid-Unit 1 recording form

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Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 7	Analyzing Documentary Videos: "Great Bear Rainforest Remote Camera Project" British Columbia, Canada	• I can summarize information that is presented in video. (SL.5.2) • I can determine the main idea(s) of an informational text based on key details. (RI.5.2) • I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can compare and contrast the organizational structure of different informational texts. (RI.5.5)	• I can explain the main idea of a documentary video on researching in the rainforest. • I can determine the meaning of new words from context in a documentary video about researching in the rainforest. • I can analyze the features of a documentary video as informational text. • I can compare and contrast the features of an interview, an article, and a documentary video.	• Journal (page for video, Informational Text charts, glossary) • Exit ticket
Lesson 8	Synthesizing Information: Living Things in the Rainforest	• I can summarize information that is presented in pictures and maps. (SL.5.2) • I can explain what a text says using quotes from the text. (RI.5.1) • I can compare and contrast the organizational structure of different informational texts. (RI.5.5) • 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 write routinely for a variety of reasons. (W.5.10)	• I can read a map to help inform me as a reader. • I can take notes on key details from multiple texts about rainforests. • I can use quotes to create a gist statement from notes about rainforests.	• Venn diagram (from homework) • Journal (Informational Text charts, Rainforests information page) • Synthesis Note-catcher

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Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 9	End-of-Unit 1 Assessment: Interview with a Rainforest Scientist Part II and Comparing and Contrasting Texts About Rainforest Biodiversity	• 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can compare and contrast the organizational structure of different informational texts. (RI.5.5) • I can use a variety of sources to develop an understanding of a topic. (RI.5.9) • I can write an opinion piece and identify reasons to support my opinion. (W.5.1)	• I can determine the main ideas in informational texts about rainforests of the Western Hemisphere. • I can compare and contrast the features of different informational texts about rainforests. • I can express my opinion about types of informational texts in writing. • I can use details to support my opinion. • I can reflect on my learning about informational texts and the rainforests.	• End of Unit 1 Assessment: Interview with a Rainforest Scientist, Part 2 • Tracking My Progress, End of Unit 1 recording form
Lesson 10	Science Talk	• I can explain what a text says using quotes from the text. (RI.5.1) • I can prepare myself to participate in discussions. (SL.5.1) • I can draw on information to explore ideas in the discussion. (SL.5.1) • I can follow our class norms when I participate in a conversation. (SL.5.1) • I can ask questions that are on the topic being discussed. (SL.5.1) • I can connect my questions and responses to what others say. (SL.5.1) • After a discussion, I can explain key ideas about the topic being discussed. (SL.5.1) • I can write an opinion piece and identify reasons to support my opinion. (W.5.1)	• I can ask questions that are relevant to rainforest research. • I can share my ideas with my peers during a Science Talk about rainforests. • I can use the ideas of my peers to help inform my ideas about the rainforests. • I can gather quotes from informational texts as evidence to prepare for a Science Talk about rainforests. • I can synthesize my ideas about rainforests after the Science Talk.	• Science Talk (Observations/Notes) • Journal: Synthesis Statement

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Optional: Experts, Fieldwork, And Service
Experts: • Invite zoologists, biologists, scientists, and botanists to come speak to the class. • **Fieldwork:** • Visit rainforest exhibits at zoos or museums. **Service:** • Explore ways to support environmental education or rainforest protection.
Optional: Extensions
• Art: Create scientifically accurate drawings of the plants or animals of the rainforest. • Geography: Study more in depth about the specific characteristics of countries or world regions where rainforests exist.

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1:
Recommended Texts

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GRADE 5: MODULE 2A: UNIT 1: RECOMMENDED TEXTS

Unit 1 builds students background about rainforests around the world, with a particular focus on biodiversity. The list below includes texts with a range of Lexile® text measures on this topic. This provides appropriate independent reading for each student to help build content knowledge. 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)			
A Rainforest Habitat	Molly Aloian and Bobby Kalman (authors)	Informational	470
The Magic School Bus in the Rain Forest	Scholastic Publishers	Informational	550[1]
Rain Forests	Nancy Smiler Levinson (author), Diane Dawson Hearn (illustrator)	Informational	570
El Soñador	Pam Muñoz Ryan	Literature	650
The Great Kapok Tree: A Tale of the Amazon Rain Forest	Lynne Cherry (author/illustrator)	Literature	670
El gran capoquero: Un cuento de la selva Amazonica	Lynne Cherry (author/illustrator), Alma Flor Ada (translator)	Literature	NP
Tropical Rain Forests	Peter Benoit (author)	Informational	730

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Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures within band level (740–1010L)			
Rain Forests: Garden of Green	Laura Purdie Salas (author), Jeff Yesh (illustrator)	Informational	770
Rain Forest Explorer	Greg Pyers (author)	Informational	830
One Day in the Tropical Rain Forest	Jean Craighead George (author)	Informational	880
Natures Green Umbrella: Tropical Rain Forests	Gail Gibbons (author/illustrator)	Informational	880
Hands of the Rain Forest: The Emberá People of Panama	Rachel Crandell (author/photographer)	Informational	890
Discover the Amazon: The World's Largest Rainforest	Lauri Berkenkamp (author), Blair Shedd (illustrator)	Informational	900*
Tree of Life: The Incredible Biodiversity of Life on Earth	Rochelle Strauss (author), Margot Thompson (illustrator)	Informational	910
Protecting Earth's Rain Forests	Anne Welsbacher (author)	Informational	920
Bats, Bugs and Biodiversity: Adventures in the Amazonian Rain Forest	Susan E. Goodman (author), Michael J. Doolittle (photographer)	Informational	920*
The Rainforest Grew All Around	Susan K. Mitchell (author), Connie McLennan (illustrator)	Verse	980
La Selva Creció y Creció	Susan K. Mitchell (author), Connie McLennan (illustrator)	Verse	NP[2]

*Lexile based on a conversion from Accelerated Reading level

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Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures within Grade 6–8 band level (925–1185L)			
The Dreamer	Pam Muñoz Ryan	Literature	NP
Chatter, Sing, Roar, Buzz: Poems about the Rain Forest	Laura Purdie Salas (author)	Poetry	NP
Biodiversity of Rain Forests	Greg Pyers (author)	Informational	1020*

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*Lexile based on a conversion from Accelerated Reading level

[1]Available as an ebook through http://store.scholastic.com/webapp/wcs/stores.

[2]Available as an ebook with Bi Lingo, LLC (translator).

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 1

Building Background Knowledge: Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

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Building Background Knowledge:
Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

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 explain important relationships between ideas in a scientific text using specific details in the text. (RI.5.3) I can summarize information that is presented in pictures and/or numbers. (SL.5.2) I can prepare myself to participate in discussions. (SL.5.1) I can follow our class norms when I participate in a conversation. (SL.5.1) I can write for a variety of reasons. (W.5.10)	
Supporting Learning Targets	**Ongoing Assessment**
• I can listen effectively to my partner when sharing. • I can record what I notice and wonder about during a Gallery Walk. • I can compare and contrast texts and images about rainforests. • I can describe in writing a unique living thing from the rainforest. • I can explain how scientists communicate their research about the rainforest. • I can explain the general purpose of an informational text.	• Journal (KWL chart, Notices and Wonders, paragraph)

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Building Background Knowledge:
Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

Agenda	Teaching Notes
1. Opening A. Unit Overview: What Do We Know about the Rainforest? (10 minutes) B. What Do We Want to Know about the Rainforest? (10 minutes) 2. Work Time A. Gallery Walk: Exploring the Rainforest (10 minutes) B. Partner Talk and Independent Writing: Becoming a Scientist (15 minutes) C. Defining Informational Text (5 minutes) 3. Closing and Assessment A. Debrief (10 minutes) 4. Homework	• In advance: Print out and display images and texts about the rainforest for the Gallery Walk (see list of links in supporting materials). Alternatively, print several copies of each image in order to give each group all images to look through instead of posting them in the room. • Print out, or be ready to project, Map of Rainforests around the World (from supporting materials). • Review: Gallery Walk, Fist to Five, and Think-Pair-Share (see Appendix). Note that Think-Pair-Share is used throughout the module. • In this lesson, students set up their reading journal, in which they will keep the majority of the notes and record of their learning during the module. A spiral or composition notebook would work well for this purpose. Take time with this, because it is a very important component of the module.

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Building Background Knowledge:
Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

Lesson Vocabulary	Materials
explain, purpose, compare, contrast, notice, wonder, effectively; discovered, biologist, ecologist, subterranean, amazed, prey, amphibians, interact, species, intensely, competitive, trek, reptiles, binoculars, tape recorder, headlight, strapped, solution, preserves, findings	• Journals (one per student) • Rainforest KWL anchor chart (new; teacher-created; see example in supporting materials) • Major Rainforests (one to display) • Images and texts for Gallery Walk (see supporting materials for examples; feel free to use your own) • Informational Text anchor chart (new; teacher-created; see Work Time C)

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Building Background Knowledge:
Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

Opening	Meeting Students' Needs
A. Unit Overview: What Do We Know about the Rainforest? (10 minutes) • Introduce the journals as a place for students to record notes (like scientists). Remind students of the journals they used in Module 1 to write responses to literature and keep notes on their thinking. Have them use the first two-page spread in their journal to create a large **Rainforest KWL chart** (see example in supporting materials; this needs to be big so that students can add to it over the course of the module): * K for "Know already" * W for "What I want to know" (questions) * L for what students "Learn" • Read aloud the learning target: "I can listen effectively to my partner when sharing." Discuss the word *effectively* with students. Ask students to share any familiar word they see as part of the word *effectively*. Listen for the word *effective*. Ask students what an effective listener does. Listen for answers such as: "He or she gives his/her full attention to the speaker, not interrupting, listening fully, and looking directly at the speaker while she/he is sharing ideas." • Ask students to independently brainstorm what they already know about living things unique to the rainforest, and to record their ideas in the K column of their KWL charts. You may need to explain that living things unique to the rainforest are found only in the rainforest, and not in any other areas. Encourage the class to think about both plants and animals. • Have students share with a partner what they know already. Listen to conversations to gauge existing background knowledge as well as any misconceptions they may have. • Display the Rainforest KWL anchor chart. Ask groups to share out what they know already about the rainforest. Record student ideas in the K column of the chart. (Keep this posted throughout the module for students to add to and reference as they learn more about rainforests.) Encourage them to add to their own charts in their journals. • Explain that there are two focuses for this module: 1. They are going to become researchers and scientists in order to learn more about the unique life that exists in the rainforests. 2. They also will be building their skills as readers and writers. As they study the rainforest, they also will be learning even more about how to read informational text and write effectively to communicate with others.	• Provide nonlinguistic symbols (e.g., an ear for *listen*) to assist ELLs and other struggling readers in making connections with vocabulary. These symbols can be used throughout the module. Specifically, they can be used in directions and learning targets. • Consider allowing students to draw their ideas during the brainstorm. This allows students who struggle with written language to participate in a meaningful way. • Consider partnering an ELL with a student who speaks the same L1 when discussing their ideas about the rainforest. This can let students have more meaningful discussions and clarify points in their L1. • Visuals can help students comprehend questions, discussions, and concepts.

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Building Background Knowledge:
Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

Opening (continued)	Meeting Students' Needs
• Show a picture of the **Major Rainforests** with Panama and New York highlighted. Ask students what they notice and wonder about this picture. Cold call students to share out their thoughts. (Note: This is a worldview of rainforests. In later lessons, students will "zoom in on" rainforests specifically located in the Western Hemisphere.)	
B. What Do We Want to Know about the Rainforest? (10 minutes) • Place students in groups of three to four and ask them to brainstorm questions they have about rainforests. Remind students to add their questions, "What I Want to Know," to the W column of the KWL chart in their journals. • After several minutes, ask groups to share out their questions. Record students' questions in the W column of the Rainforest KWL anchor chart. Encourage students to record interesting questions from other students in their individual KWL charts in their journals.	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language. • Students needing additional supports may benefit from partially filled-in graphic organizers.

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Building Background Knowledge:
Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

Work Time	Meeting Students' Needs
A. Gallery Walk: Exploring the Rainforest (10 minutes) • Ask students to begin a new page in their journals titled: Notices and Wonders—Scientific Research in Rainforests. • Introduce the learning target: "I can record what I notice and wonder about during a Gallery Walk." Ask students to give synonyms for the words *notice* and *wonder*. Explain that they will want to use their journals to record what they see (notice) in the texts and pictures, and what questions (wonder) they have about the text and images. Remind them that they used this notice and wonder routine in Module 1. • Share the learning target: "I can compare and contrast texts and images about rainforests." Focus students' attention on the words *compare* and *contrast*, asking them what those words might mean. Look for answers such as: "To compare means to find similarities, and to contrast means to find differences." • Review the Gallery Walk protocol with students. Tell them that this time, they will observe silently. Their "notices" and "wonders" do not have to be in complete sentences. • Focus students on the **images and text for Gallery Walk**. Begin the Gallery Walk. Give students about 5 minutes to move about the room and record "notices" and "wonders" in their journals. • Ask several students to share out orally what they notice and wonder. "How will you use the novel and informational texts?"	• All students developing academic language will benefit from direct instruction of academic vocabulary. • Provide anchor charts for processes, such as How to Notice and Wonder. This would include question words with nonlinguistic representations (e.g., an eye for notice, a question mark for wonder) and a question frame: "I notice ..." or "I wonder...."
B. Partner Talk and Independent Writing: Becoming a Scientist (15 minutes) • Introduce the learning target: "I can explain how scientists communicate their work about the rainforest." Focus on the word *explain*. Let students know that they are just beginning to work on this target. Throughout the unit, they will examine the research of several rainforest scientists to help them more fully understand how scientists communicate their discoveries. • Ask students to find a partner. Ask them to choose just one image from the Gallery Walk on which to focus. Say to the class: "Pretend you are a scientific team working in the rainforest. Talk with your partner about how you would explain, or describe, what you are doing or seeing to someone who wasn't there." • After students have had a few minutes to talk about their descriptions, have them each write a brief paragraph in their journal describing what they are doing or seeing in the photograph (under Notices and Wonders). Have two sets of student pairs share their writing with each other. Then student partners share out with yet another pair. Then choose a few partners to share out with the whole group.	• Some students may be unfamiliar with Tier 2 vocabulary words (e.g., *communicate, work, about*). Clarify vocabulary with students as needed. • Allowing students who struggle with writing to dictate their paragraph to their partner or the teacher will let them participate in a meaningful way.

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Building Background Knowledge:
Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

Work Time (continued)	Meeting Students' Needs
C. Defining Informational Text (5 minutes) • Introduce the learning target: "I can explain the purpose of an informational text." Ask students to explain the word *purpose*, looking for answers such as: "It means having a reason for using and/or studying a specific type of information." • Ask students to explain what informational text is. Teach *informational* as a vocabulary word, looking at the *inform* part of the word and defining this as communicating knowledge or information. • Create an **Informational Text anchor chart**, writing the class's definition at the top under the title. Invite students to brainstorm about how they think scientists communicate about their work. After allowing a moment of think time, ask students to share out their ideas and add them to the anchor chart. (Listen for examples such as: articles, books, journals, blogs, Web sites, etc.) • Ask students how any of the texts or images they viewed in the Gallery Walk might be, or come from, informational text. • Make sure students understand that there are many types of informational texts. Ask students to share any other types of informational texts they have seen during previous learning (for example, students may share that the UDHR they studied is an informational text and/or other texts about Mexico, the Great Depression, or immigration from Module 1).	• Use vocabulary learning strategies to support all learners: specifically (in this case) the root of the word *informational*. • Adding visuals (either drawn, pictures, or photographs) of the examples of informational texts to the anchor chart will allow students who struggle with language to understand the concept.

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Building Background Knowledge:
Examining the Unique Living Things of the Rainforests and the Scientists Who Study Them

Closing and Assessment	Meeting Students' Needs
A. Debrief (10 minutes) • Review the learning targets: Read each one aloud one at a time and use the Fist to Five strategy to gauge how well students did meeting each target. • Invite students to look back at the questions they recorded in their journals (KWL—W column = What I Want to Know) and on the anchor chart. Have students consider: * "What are you most excited about learning about the rainforest and why?" • Remind students that they will not only be learning about the rainforest. they will also be learning about how scientists research and communicate their findings. At the end of the module, *they* will get to be scientists and communicate what they have learned to others. • Cold call individual students to share out loud. Have classmates show a thumbs-up if they chose the same/similar topics of interest.	• Checking in individually with students who struggle with language will ensure that you get a true gauge of where they feel they are with the learning targets. • For students who struggle with language, consider providing extra time for tasks and answering questions in class discussions. Students often need more time to process and translate information.

Homework	Meeting Students' Needs
• Explain to someone at home what you will be studying. *Note: The anchor charts created in this lesson will be used many times throughout the module. Be sure to keep them visible and easily accessible in the classroom. Make sure students know that they will keep most of their thinking in their journals; it will be important that they keep track of their journals and keep up with the classwork and homework assigned.*	

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EXPEDITIONARY LEARNING

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

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Rainforest KWL Chart
(For Teacher Reference)

K What I already KNOW about this topic	W What I WANT to know about this topic	L What I have LEARNED about this topic

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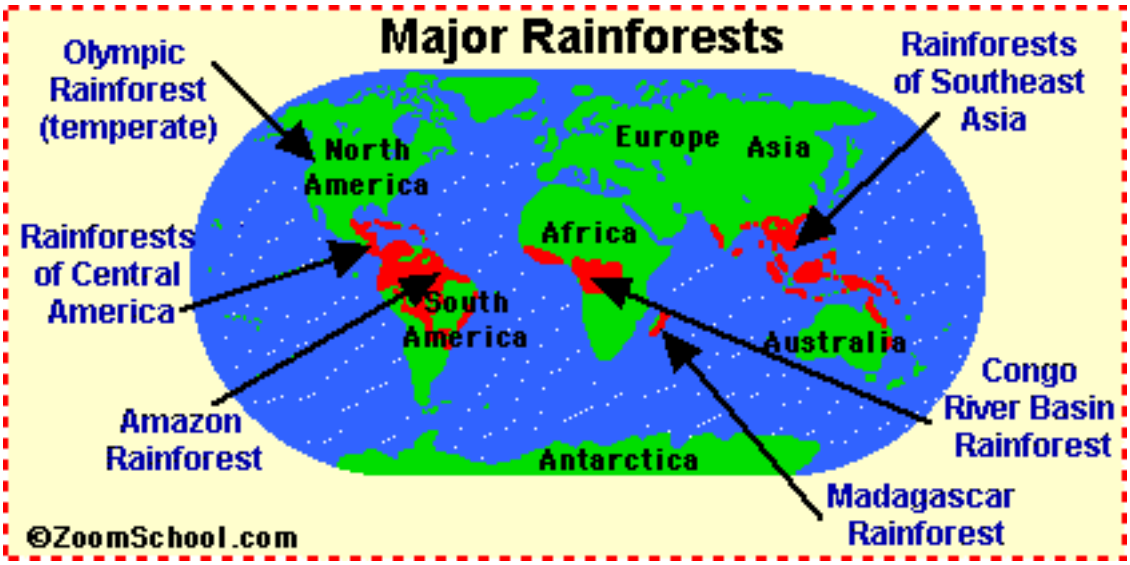
Major Rainforests



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Images and Text for Gallery Walk

Access to the materials can be found at the following websites:

Doing field research in the rainforest:
www.fredhoogervorst.com/photo/10643c/

Anna and Marco measuring trees' growth in the Atlantic rainforest:
alcoa.typepad.com/.a/6a00e553e967d588340153906f3233970b-800wi

Scientists who ventured into the heart of Borneo for their research:
www.borneotravelblog.com/2012_03_01_archive.html

Rainforest conservation volunteer opportunities:
www.cultural-ecology.com/images/crrainforce2.jpg

New way to help farmers deal with climate change:
www.adventuretravelnews.com/wp-content/uploads/2011/02/2.jpg

Clues from the rainforest could help scientists solve energy problems:
newscenter.lbl.gov/wp-content/uploads/dsc02007.jpg

The rainforest:
http://upload.wikimedia.org/wikipedia/commons/d/d3/Rain_Forest_Daintree_Australia.jpg

Goat Cove in the Great Bear Rainforest, British Columbia, Canada:
http://www.greenpeace.org.uk/files/images/migrated/MultimediaFiles/Live/Image/7212.JPG

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 2

Reading an Interview: “Sloth Canopy Researcher: Bryson Voirin”

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

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 determine the main idea(s) of an informational text based on key details. (RI.5.2) I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4) I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) I can connect my questions and responses to what others say. (SL.5.1)

Supporting Learning Targets	Ongoing Assessment
• I can describe the features of an interview as an informational text. • I can determine the gist of an interview with scientist Bryson Voirin. • I can determine the meaning of new words from context in an interview with scientist Bryson Voirin.	• Journal (Informational Text chart, glossary) • Annotated text • Rainforest KWL and Features of Informational Text charts • Exit ticket

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

Agenda	Teaching Notes
1. **Opening** A. Engaging the Reader: Rainforests of Panama (5 minutes) B. Review Learning Targets (5 minutes) 2. **Work Time** A. How Scientists Communicate Their Work: An Interview (10 minutes) B. Guided Practice Reading for Gist: "Sloth Canopy Researcher: Bryson Voirin" Interview Introduction and First Question (10 minutes) C. Vocabulary Work: Starting a Glossary (10 minutes) D. Further Reading and Vocabulary Work: "Sloth Canopy Researcher: Bryson Voirin" Interview Second and Third Questions (10 minutes) 3. **Closing and Assessment** A. Debrief: What Have We Learned about the Rainforest? (10 minutes) 4. **Homework**	• Either have a wall map available in the classroom or print out a world map and a map of the Western Hemisphere. Be prepared to help students locate Panama on the map. • In this lesson, students set up their glossaries at the back of their journal. This is, in effect, a vocabulary notebook for the module. Students will keep important unfamiliar words, both general academic vocabulary and domain-specific science words. (Note that many actual glossaries heavily emphasize domain-specific terms, but students' glossaries have two sections to purposely include a specific academic vocabulary glossary.) Students will start from the last page of their journals and work their way back to the front, in order to have plenty of room to add many words throughout the module. • Academic vocabulary is the vocabulary critical to understanding the science concepts in texts. In identifying academic vocabulary for instruction, remember that not all terms are of equal importance. Some terms are critically important, others are useful but not critical, and others are interesting but not useful. • This lesson also introduces the homework routine of daily response questions. Choose either to have students respond in their journals or to give students a printed handout of the Homework: Journal Response Question (see supporting materials). • During this lesson, students read only the first three questions and answers of the interview. They will finish reading the rest of the interview in Lesson 3.

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

Lesson Vocabulary	Materials
describe/description, features, interview, determine, gist, context, glossary; biologist, ecology, sloths, radio-collars, track, algae, occur, mammals, benefit	• Political Map of the World (one for display) • Map of North and South America (one for display) • "Interview with Sloth Canopy Researcher: Bryson Voirin" (one per student) • Informational Text anchor chart (from Lesson 1) • Features of Informational Text anchor chart (new; teacher created; see Work Time A) • Close Readers Do These Things anchor chart (from Module 1) • Sticky notes or index cards (one per student) • Rainforest KWL anchor chart (from Lesson 1) • Journal Response Question (Homework for Lesson 2) (one per student)

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

Opening	Meeting Students' Needs
A. Engaging the Reader: Rainforests of Panama (5 minutes) • Display the **Political Map of the World** and the **Map of North and South America**. Show students where the Western Hemisphere is on the world map. Orient them to where New York is located within the Western Hemisphere. Use this as a brief geography "teachable moment" about the Eastern and Western hemispheres. • Point out to students where Panama is located on the map. Ask students to notice where it is in relation to New York. Remind students that they are studying about rainforests, which are located all over the world. Nevertheless, in fifth grade in New York, the focus is on the geography of the Western Hemisphere, so they are going to study closely the scientists and living things in those particular rainforests.	•
B. Review Learning Targets (5 minutes) • Introduce the learning target: "I can describe the features of an interview as an informational text." Ask students to think about the words *describe*, *features*, and *interview*. Say: "What does it mean to *describe*?" Allow some students to share, listening for responses such as: "to tell about something using details." Then ask students what *features* are. Have them examine the things about the interview text that stand out. Examples might include: bold type, questions, answers, and spaces between questions and answers. Finally, have students consider what an *interview* is. Ask for student responses and listen for ideas such as: "One person asking another person questions about his/her work." Reread the learning target and ask students to show a thumbs-up, thumbs-sideways, or thumbs-down to demonstrate how much they understand the target. Clarify as needed.	• All students developing academic language will benefit from direct instruction of academic vocabulary.

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

Work Time	Meeting Students' Needs
A. How Scientists Communicate Their Work: An Interview (10 minutes) • Distribute the **Interview with Sloth Canopy Researcher: Bryson Voirin** to students. Remind students that often with new texts, it is helpful to skim the text quickly just to get a sense of it. (Remind students that they did this the first time they read the UDHR, during Module 1.) • Give students a minute to skim the article and notice how interviews are laid out on the page. Cold call a few students to share out what they have noticed about the structure. • Ask students to focus back on the **Informational Text anchor chart** from Lesson 1. If an interview is not already listed, add this to the chart. • Create a new **Features of Informational Text anchor chart**. Ask students to create a similar page in their journal. • Draw 3 columns. Label the first column "Type", the second column "Features," and the third column "How Does It Help the Reader?" Tell students that throughout this module they will be reading different types of informational texts, with different features or elements, so they will need to think about and look closely as they read to determine how each type of informational text uses similar and different elements to help the reader more easily understand the information. • Ask students to begin a new page in their journals. Model how to fill in the chart. • Ask members of the class what type of text they are reading today. Write *interview* in the first column as students record that word in the first column of their journal pages. • Then ask them to look for and share out the features (structural features) they can see in the Bryson Voirin interview, listening for responses such as: questions, answers, short paragraphs, bold print, etc. Have students add these to the second column of their journal charts. • Finally, ask students to consider how these features may help them read and understand the text. Listen for responses such as: "The way it's broken into parts helps me tell where one question/answer ends and a new one begins," "shorter paragraphs help me focus on one idea at a time," etc. Add these ideas to the anchor chart as students add to the third column of the chart in their journals.	• Visuals can help ELLs and other students comprehend questions and discussions. Chart main points in answers and post all questions asked to students. • Students needing additional supports may benefit from partially filled-in graphic organizers.

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

Work Time (continued)	Meeting Students' Needs
• Ask the class to think about why scientists might choose an interview to communicate their research. Cold call students to share out their ideas. Listen for ideas such as: "The information comes right from the scientist," "The question-and-answer format is easy to follow," "The writing is like people talk, which can be easier to understand," "Someone else does not have to figure out another way to say what the scientist said. The reporter can just write down the words the scientist says," "Both the interviewer and the scientist can make sure that each understands what the other is saying right away," "the interviewer can get more specific details from the scientist," etc.	•

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

Work Time (continued)	Meeting Students' Needs
B. Guided Practice Reading for Gist: "Sloth Canopy Researcher: Bryson Voirin" Interview Introduction and First Question (10 minutes) • Introduce the learning targets: "I can determine the gist of an interview with scientist Bryson Voirin," and "I can determine the meaning of new words from context in an interview with scientist Bryson Voirin." Focus students on the words *determine*, *gist*, and *context*. Say: "Remember one strategy for determining the meaning of a word is to first figure out the part of speech of a word. What type of word is *determine*?" Listen for students to say it is a verb, a doing word. Then prompt, "Which word is *determine* referring to?" Ask the class for suggestions, listening for a response with the word *gist*. Say: "So what do you think it means if you are reading to determine the *gist*?" Listen for replies such as: "*Determine* means to figure something out or decide, and *gist* means to get the main, or most important, ideas. So we need to figure out what the interview is mostly about." • Ask students to remind the group what context means. Listen for comments such as: "*Con* means with, and *text* means words on the page, so reading other words or sentences near an unfamiliar word can help me figure out what the word means." Say to the class: "You may find some unfamiliar words while you're reading this interview, but try to use context clues to help you figure out their meanings. This will help you understand the text better." • Remind students of the close reading they did in Module 1 around the UDHR and *Esperanza Rising* (or refer to readings completed earlier in the year). Refer back to the **Close Readers Do These Things anchor chart** (from Module 1) or create a new anchor chart, making sure to list strategies such as the following: * Using context by reading sentences and/or words directly before or after the unfamiliar word * Thinking about what type of speech the word is (verb, noun, adjective) and how it connects to/describes other words in the sentence * Breaking the word into familiar parts and determining meaning based on what part(s) can be defined easily * Looking for repeated words, which usually indicates this is an important word, etc. • Tell students that they will be reading this interview across two lessons. For now, ask students to just focus on the first interview question and answer. Have them read it for gist, underlining any words they don't know. • Ask the class to share out what they think the gist of this first interview question is. Listen for ideas such as: "It is about a scientist who studies sloths: how they act, what they eat, and where they live." Have students write the gist in the margin of the interview, next to the first question.	• Use vocabulary learning strategies to support all learners: prefixes, root words, suffixes, parts of speech, and context. • Provide anchor charts for processes such as Close Readers Do These Things. This would include question words with nonlinguistic representations (e.g., picture of student reading for *readers*) and/or a question frame: "What is she doing?" • When possible, provide text or materials in students' L1. This can help students understand materials presented in English. • Some students may be unfamiliar with Tier 2 vocabulary words (e.g., *meaning*, *type of speech*, *connects*, *describes*, *familiar*). Clarify vocabulary with students as needed.

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

Work Time (continued)	Meeting Students' Needs

C. Vocabulary Work: Starting a Glossary (10 minutes)
• Cold call students to share out the words they underlined and listen for the words *description*, *biologist*, *ecology*, and *sloths*. Ask students: "Could you figure out the meaning of any of these words by using context clues? If so, what other words and/or sentences helped you determine what the word meant?"
• Listen for students to share out ideas such as: "I think a sloth is a type of animal because it says he is studying 'two- and three-toed' sloths, and I know animals have toes." If students are unable to determine the meanings of these words, model other strategies, such as looking for the word root (e.g., *bio* means "life").
• Explain to students that in this module they will be focusing on two different types of words, scientific (words about science) and academic (other words that help them understand concepts) words. Knowing which words are which types helps them determine the importance of vocabulary and understand texts better. Remind them that informational text often has a glossary, a place that lists words and definitions. Explain to students that they will be creating their own glossaries to keep track of academic and scientific words that will help them become better readers.
• Ask students to turn to the last page in their journals. Tell them this is where they will begin two separate glossaries of new words that they will add to throughout the module. Invite students to write this heading at the top of their journal's last page: Scientific Word Glossary. Explain that they will build this glossary backward in the journal to maximize pages for other things in the front of their journal. Have students count at least 5 pages from the back of the book and write the heading: Academic Word Glossary at the top of that page. Tell students they will work backward in their journal to have room for lots of new words they will learn during this module.
• Have students set up a four-column chart on both Glossary pages:
  * Column 1: Word
  * Column 2: Synonym
  * Column 3: Definition
  * Column 4: Picture
	• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.
	• 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.
	• Consider allowing ELLs to draw their observations, ideas, or notes when appropriate. This allows students to participate in a meaningful way.

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Work Time (continued)	Meeting Students' Needs
• Ask students to add the words description, feature, and interview to the first Academic Word Glossary page and to write a synonym, short definition, and/or picture for each word to help them remember the meaning. Ask students to add the words biologist, ecology, and sloths to the first Scientific Word Glossary page, making sure to write a synonym, short definition, and/or picture for each of these words. Let them know that they may not get finished with all columns right now, but they can go back to it when they have more time to add more information or the picture.	•
D. Further Reading and Vocabulary Work: "Sloth Canopy Researcher: Bryson Voirin" Interview Second and Third Questions (10 minutes) • Tell students that they will now do the same process with the next chunk of the interview. • Ask them to independently read the second and third questions of the interview, underlining any words they don't know. • Ask students to determine the gist of the second and third interview questions with their partner. Cold call a few of them to share their thoughts, listening for ideas such as: "why sloths move so slowly," "how algae helps sloths," "trees in rainforests are some of the tallest in the world," and "Bryson Voirin climbs trees to get closer to sloths so he can study them." After students share aloud, have them write the gist for each interview question in the margin of the text. • Ask students to share and compare with a partner the words that each underlined as an unfamiliar word. Then invite a few partners to share out the words they discussed. Listen for mention of *radio-collars, track, algae, occur, mammals*, and *benefit*. Once again ask the members of the class if they were able to determine the meaning of any of these words through context and to explain what parts of the text helped them figure out the meaning of these words. Also ask students to identify the type of word it is, scientific or academic. If there are any words no student was able to define by using context or identify then define, provide the definition for the class. Prompt students to add these words to their glossaries in their journals, and to write a synonym, short definition, and/or picture next to each word.	•

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Reading an Interview:
"Sloth Canopy Researcher: Bryson Voirin"

Closing and Assessment	Meeting Students' Needs
A. Debrief: What Have We Learned about the Rainforest? (10 minutes) • Review the learning targets by reading aloud and pausing after each one to ask students to show one finger if they did not get the target at all; two fingers to show they almost understand; and three fingers to show they completely get it. (Make a note of students showing one or two fingers, in order to offer additional/ongoing support as needed.) • Exit ticket: Distribute a **sticky note or index card** to each student. Ask them to respond to this question: "What is one thing you learned about the sloth? Give specific details." After students record their ideas onto the note/card, have them share what they wrote with a partner. • Call on students to share with the whole class. • Add students' ideas to the **Rainforest KWL anchor chart** and have them record the responses in their journals as well. • Collect exit tickets and students' annotated interviews. • Distribute **Journal Response Question**.	• Check in with students who struggle with language individually during debrief. • Consider allowing students who struggle with language to dictate their answers to a partner or the teacher.
Homework	**Meeting Students' Needs**
• Answer the journal response question: "What did you learn about the rainforest from this interview? What text features in informational texts help you as a reader learn more about a topic?" *Note: Look over students' annotated interviews and exit tickets to check for understanding. Note which students may need reteaching (based on student texts with no annotations, student gist statements that aren't about the text, or tickets that are off topic).*	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.

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Grade 5: Module 2A: Unit 1: Lesson 2
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Political Map of the World

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Map of North and South America

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Interview with Sloth Canopy Researcher:
Bryson Voirin

What is your job description?
I am a biologist studying the behavior and ecology of two- and three-toed sloths. Right now I am studying biology and ecology at New College of Florida, and working in the rainforests of Panama with the Smithsonian Tropical Research Institute.

What do you study now?
Basically I am trying to understand why sloths move so slowly, as well as a few other weird things about them. We use radio-collars to track sloth movements in the algae that (exist) inside the hairs of sloths, something that normally does not occur in any other mammals. I am looking to see if maybe there is some benefit for the sloth to have algae.

What is the best thing about your job?
The best part of my job is getting to climb trees in the rainforest. Trees in the tropics are some of the biggest in the world, reaching over 150' tall. The view from the tops of the trees is amazing. A lot of times when I am up there troupes of monkeys come climbing by, sometimes stopping to look at me and wonder what I am doing up there with them.

What is the worst part about your job?
The worst thing, or hardest thing, is actually finding the sloths to start with. Sloths are very good at hiding. They usually live at the tops of trees, and can have greenish fur. We have to walk through the forest all day with our heads tilted up, looking for dark spots with hair. Sometimes it can take us weeks to find a single sloth.

What inspired you to first study science?
Ever since I was little, I was always fascinated with National Geographic magazine. I used to imagine I was one of the scientists in each issue, exploring unknown lands or catching wild animals. I always knew that was what I wanted to do.

What do you do in a typical day?
On a typical day working in Panama, I go out into the forest looking for sloths. I usually hike with someone else, and we use binoculars to look for the animals. When we find a sloth, I use my tree climbing gear to go up and catch it. Even though sloths are pretty slow animals, it can take hours to catch one once I am in the trees. They can move about as fast as you can walk fast, so in a tree 150' tall, it can be hard to catch them.

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Interview with Sloth Canopy Researcher:
Bryson Voirin

What advice would you give to someone interested in becoming a biologist?
I would tell anyone interested in working in biology to go outside and explore things. Walk through parks and natural lands. The things you can find in your own backyard can be really cool. If you start exploring young, it will stay with you forever.

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Journal Response Question
(Homework for Lesson 2)

"What did you learn about the rainforest from this interview? What text features in informational texts help you as a reader learn more about a topic?"

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

Continued Close Read of “Sloth Canopy Researcher: Bryson Voirin”

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Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin"

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can follow our class norms when I participate in a conversation. (SL.5.1) I can determine the main idea(s) of an informational text based on key details. (RI.5.2) I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4) I can read fifth-grade texts with fluency. (RF.5.4)	
Supporting Learning Targets	**Ongoing Assessment**
• I can actively listen to my partner while discussing our ideas. • I can determine the main idea of an interview with scientist Bryson Voirin. • I can determine the meaning of new words from context in an interview with scientist Bryson Voirin. • I can read the interview with scientist Bryson Voirin with fluency.	• Journal Response Question (Homework for Lesson 2) • Text-dependent questions • Journal (Rainforest KWL chart, glossaries) • Exit ticket

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Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin"

Agenda	Teaching Notes
1. **Opening** A. Engaging the Reader: How Do You Learn? (10 minutes) 2. **Work Time** A. Text-Dependent Questions: "Sloth Canopy Researcher: Bryson Voirin" Remaining Interview Questions and Answers (15 minutes) B. Rereading: What Else Can We Learn from Bryson Voirin's Research about the Rainforest? (15 minutes) C. Determining Words in Context (10 minutes) 3. **Closing and Assessment** A. Debrief: What Have We Learned Now about the Rainforest? (10 minutes) 4. **Homework**	• Be ready to return students' annotated texts (from Lesson 2). • Review: Glass, Bugs, Mud protocol in Checking for Understanding Techniques (see Appendix 1) and Learning Lineup protocol (explained in lesson debrief). • Throughout the module, students will be asked to reread texts to someone at home to build and practice fluency. A suggestion for students who may not have someone to read to at home is that they may practice reading aloud to themselves. Reading to a mirror may also allow students to feel as if they are reading with someone.

Lesson Vocabulary	Materials
task, identify, style, determine, fluency; greenish, tilted, inspired, fascinated, issue, unknown, typical, binoculars, gear, move about, advice, explore	• "Interview with Sloth Canopy Researcher: Bryson Voirin" (from Lesson 2; students' annotated texts) • Text-Dependent Questions for "Interview with Sloth Canopy Researcher: Bryson Voirin" (one per student) • Text-Dependent Questions for "Interview with Sloth Canopy Researcher: Bryson Voirin" (Answers for Teacher Reference) • Rainforest KWL anchor chart (from Lesson 1)

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Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin"

Opening	Meeting Students' Needs

A. Engaging the Reader: How Do You Learn? (10 minutes)
• Review the learning target: "I can actively listen to my partner while discussing our ideas." Ask students to recall what they remember about *listening actively*. As students share, listen for responses such as: "looking at the person who is speaking," "paying attention to what they are saying," "not getting distracted," etc.
• Ask students to find another student to read their Journal Response Question to. As students find a partner, congratulate them on staying "on task" by finding partners quickly.
• Tell students that in a moment, they will share their understanding of last night's homework using the Glass, Bugs, Mud protocol. Briefly explain the categories:
  * Glass = "I was able to identify and write about a text feature/element that really helped me understand the text better."
  * Bugs = "I was able to identify a text feature/element, but I'm not sure yet how it helps me understand the text better."
  * Mud = "I'm not sure about text features/elements or how they help me understand the text better."
• Ask students to raise their hand to indicate if they were "glass." Then ask for "bugs," then "mud."
	• Provide nonlinguistic symbols (e.g., an ear for *listening*) 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.
	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin"

Work Time	Meeting Students' Needs
A. Text-Dependent Questions: "Sloth Canopy Researcher: Bryson Voirin" Remaining Interview Questions and Answers (15 minutes) • Tell students that they are going to continue to read the interview with Bryson Voirin, paying attention to key vocabulary as well as to text features that help them find information about rainforests. • Review the learning targets: "I can determine the main idea of an interview with scientist Bryson Voirin" and "I can determine the meaning of new words from context in an interview with scientist Bryson Voirin." Ask students to recall the meaning of the word *determine*. If necessary, remind students that they discussed the meaning of this word in Lesson 2, when they had to *determine the gist* of the Bryson Voirin interview questions and answers. • Return students' annotated copies of **Interview with Sloth Canopy Researcher: Bryson Voirin** (from Lesson 2) and distribute the **Text-Dependent Questions for "Interview with Sloth Canopy Researcher: Bryson Voirin"** to each student. • Invite students to briefly review the "gists" they wrote about Questions 1 to 3 of the interview in their **journal** during the previous lesson, in order to reorient them to the text. • Place students in pairs. • Read the remaining questions and answers of the interview (4 through 7) aloud and ask students to follow along in their text. • Have students work with their partner first to discuss and then to write answers to the four text-dependent questions. As students work, circulate among partners to check their understanding based on their responses and discussions. • After approximately 8 to 10 minutes, lead a class discussion of student responses. Focus students' attention on the first text-dependent question. Check for the class's understanding of the word *greenish* based on their response. Look for answers such as: "It has something to do with the color green." Point out the *-ish* suffix means "somewhat" or "like." Ask students about their understanding of the word *tilted* in the text. Listen for: "It means that something is leaning or crooked." • Move on to the second question. As each text-dependent question is reviewed, elicit answers from different pairs of students. (Note: Strong possible responses are included in the supporting materials.) • Collect students' text-dependent questions and answers to assess their progress toward the learning targets.	• Consider providing smaller chunks of text (only a few questions and answers from the interview) for students who struggle with language. Teachers can check in on students' thinking as they write or speak about their text. • Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows ELLs to participate in a meaningful way. • Consider grouping students who struggle with language and rereading the interview out loud to them for the second read.

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Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin"

Work Time (continued)	Meeting Students' Needs
B. Rereading: What Else Can We Learn from Bryson Voirin's Research about the Rainforest? (15 minutes) • Tell students that they are going to reread the entire article with their partner, looking for new things they can learn about the rainforest. • Introduce the learning target: "I can read the interview with scientist Bryson Voirin with fluency." Focus on the word *fluency*, reminding students to remember what reading with fluency looks and sounds like. Prompt student thinking if necessary by asking them to recall the fluent reading they did for their Readers Theater in Module 1. • Ask student pairs to determine their roles: One person will be the interviewer, and the other will be Bryson Voirin. Give students about 5 minutes to read aloud. As students read, move throughout the room, offering feedback based on the fluency criteria students named and/or other criteria previously used. • After about 5 minutes, ask students to discuss the new things they were able to learn about rainforests during this read of the interview. Remind students to add their new learning to the L column in their journals. (Do not have students share out now, as they will share out during the debrief.)	• When possible, provide text or materials in students' L1. This can help students understand materials presented in English. • ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin"

Work Time (continued)	Meeting Students' Needs

C. Determining Words in Context (10 minutes)
• Ask students: "Why do you think scientists choose such specific words when communicating about their research?" Listen for responses such as: "They want to make their readers feel like they are researching with them" or "They want readers to get excited about their research."
• Remind students that these words are usually scientific words. Ask students to consider some other words, or academic words, from the text, looking back at the reading to try to figure out the meaning of each word by using context clues. Ask:
  * "What does the word *issue* mean in this context?" Students should respond with answers such as: "one magazine," "a magazine published on a single topic/date," etc.
• Point out the word *unknown*. Ask: "What does the prefix *un-* mean? What does the word root *known* mean?" Expect responses such as: "knowledge you already have" or "Something you know to be true." Then ask what the entire word means. Answers should include: "not known."
• Continue to have students define the phrases/words:
  * typical = normal; usual; everyday
  * move about = go different places; not stand still; walk, etc.
  * advice = guidance on how to do something; how to accomplish something, etc.
• Invite students to add these new academic words to their glossaries in their journals. Remind students to write a synonym, short phrase, and/or picture next to each word as a reminder of the word's meaning.
	• All students developing academic language will benefit from direct instruction of academic vocabulary.

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Continued Close Read of "Sloth Canopy Researcher: Bryson Voirin"

Closing and Assessment	Meeting Students' Needs
A. Debrief: What Have We Learned Now about the Rainforest? (10 minutes) • Tell students that they will use the Learning Lineup protocol to review two or three of the learning targets. Designate one end of the room where students will stand if they feel they are Expert (completely understand and can apply understanding); and an opposite end of the room where students will stand if they feel they are Beginner (still not quite understanding the target.) Explain that they will stand somewhere in the middle of Expert and Beginner if they feel they are Novices (getting the idea) about the learning target. Read through each target and pause to ask students to line up to indicate their mastery of the target. • After students return to their seats, ask them to share out the new things they learned about the rainforest during this lesson: "What is one new thing you have learned about the rainforest from the interview with Bryson Voirin?" Have students share out their responses to this question, from the L column of the KWL chart in their journals. Go around, ensuring that all students have an opportunity to share at least one thing. They can repeat what someone else shares. Add student responses to the class **Rainforest KWL anchor chart** in the L column. • Collect students' journals to informally assess.	• Consider allowing some students to dictate their exit ticket to a partner or the teacher. • Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows students to participate in a meaningful way.

Homework	Meeting Students' Needs
• With someone at home, read the interview again. Ask your partner to be the interviewer. You be Bryson Voirin. After you are done reading the interview, pretend to be Bryson Voirin and answer one more question: "What would you like to explore further in the rainforest? Why?" Write your answer to this question. Have the person who interviewed you sign your interview. Bring the signed interview and your written answer back to class with you. *Note: Check students' journals for completion and understanding. Look for responses in journals that are off-topic or incomplete. Make sure to check in with those students individually to reteach or clarify concepts.*	• Audio recordings of text can aid some students in comprehension. Students can pause and replay confusing portions while they follow along with the text.

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EXPEDITIONARY LEARNING

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

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Text-Dependent Questions for Interview with Sloth Canopy Research: Bryson Voirin"

1. (Fourth interview question and answer) What does *greenish* mean? Why would having "*greenish* fur" make sloths difficult to find? What in the text makes you think so?

2. (Fifth interview question and answer) When the interviewer asks Bryson Voirin, "What *inspired* you to first study science?" Bryson Voirin says he was "always *fascinated* with National Geographic." What does the word *fascinated* mean in that sentence? What in the text makes you think so?

3. (Sixth interview question and answer) What equipment, or tools, does Bryson Voirin say he uses for his research? How does each of these tools help him to study sloths?

4. Bryson Voirin tells readers "to go outside and *explore* things" if they are interested in biology. What feeling about being a biologist does the word *explore* create for someone reading this interview? How would the reader feel about being a biologist if he used the word *see* instead?

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Text-Dependent Questions for Interview with Sloth Canopy Research: Bryson Voirin"

(Answers for Teacher Reference)

1. (Fourth interview question and answer) What does *greenish* mean? Why would having "*greenish* fur" make sloths difficult to find? What in the text makes you think so?

   Greenish means like the color green; the text says that sloths live in the tops of trees, which have green leaves, so something greenish in color would blend in and be hard to see.

2. (Fifth interview question and answer) When the interviewer asks Bryson Voirin, "What *inspired* you to first study science?" Bryson Voirin says he was "always *fascinated* with National Geographic." What does the word *fascinated* mean in that sentence? What in the text makes you think so?

   Fascinated means that he was really interested in it. He says that he would imagine he was one of the scientists exploring unknown lands or catching wild animals; after he says he was fascinated by the magazine, and how scientists explored and caught animals, he says, "I always knew that's what I wanted to do."

3. (Sixth interview question and answer) What equipment, or tools, does Bryson Voirin say he uses for his research? How does each of these tools help him to study sloths?

   He uses binoculars and (tree climbing) gear; binoculars are for looking at animals, and tree climbing gear is used to catch a sloth up in a tree.

4. Bryson Voirin tells readers "to go outside and *explore* things" if they are interested in biology. What feeling about being a biologist does the word *explore* create for someone reading this interview? How would the reader feel about being a biologist if he used the word *see* instead?

   It makes being a biologist sound like an adventure, seeing new places and things, interesting (or similar responses); because the word "see" creates the feeling of standing still and looking, so it makes being a biologist sound less exciting. [or similar answers]

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 4

Summarizing Informational Text: “Hawaii’s Endangered Happy Face Spider”

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Summarizing Informational Text:
"Hawaii's Endangered Happy Face Spider"

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can summarize text that is read aloud to me. (SL.5.2) I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) I can determine the main idea(s) of an informational text based on key details. (RI.5.2) I can follow our class norms when I participate in a conversation. (SL.5.1) I can draw on information to explore ideas in the discussion. (SL.5.1) I can write routinely for a variety of purposes. (W.5.10)	
Supporting Learning Targets	**Ongoing Assessment**
• I can explain the gist of the article "Hawaii's Endangered Happy Face Spider." • I can determine the meaning of new words from context in the article "Hawaii's Endangered Happy Face Spider." • I can listen actively to my group members while discussing ideas. • I can use my group's ideas to help me determine the gist of an article.	• Student writing and signed Voirin article (from homework) • Journal (Informational Text chart, glossaries, Getting the Gist protocol)

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Summarizing Informational Text:
"Hawaii's Endangered Happy Face Spider"

Agenda	Teaching Notes
1. **Opening** A. Engaging the Reader: A Rainforest in Hawaii (5 minutes) B. Review Learning Targets and Informational Text (5 minutes) 2. **Work Time** A. Reading the Entire Article "Hawaii's Endangered Happy Face Spider," Focusing on Gist (10 minutes) B. Jigsaw, Part 1: Rereading Chunks, Focusing on Main Idea and New Vocabulary (15 minutes) C. Jigsaw, Part 2: Sharing Gists and New Vocabulary (10 minutes) 3. **Closing and Assessment** A. Debrief: What Did We Learn about the Rainforest from an Article? (10 minutes) B. Exit Ticket (5 minutes) 4. **Homework**	• Make sure all anchor charts from Lessons 1 to 3 are visible to students. • Review "Hawaii's Endangered Happy Face Spider." • Review: Getting the Gist, Jigsaw, and Thumb-O-Meter protocols (see Appendix 1).

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Summarizing Informational Text:
"Hawaii's Endangered Happy Face Spider"

Lesson Vocabulary	Materials
article, determine the gist, discussing; (chunk 1) *Theridion grallator*, arachnid, Hawaiian, quite, millimeters, length; (chunk 2) unique, pattern, resemble, curved, similar; (chunk 3) scientists, developed, strange, markings, predators, agree, theory, features, avoid, enemies; (chunk 4) generally, limelight, undersides, difficult, locate, study; (chunk 5) nearly, interview, due to, danger, extinction, stated, species, under threat, non-native, brought; (chunk 6) endangered, status, symbol, threatened, wildlife, conservationist, images, attention, loss, various, fauna, throughout, Hawaii	• Map of Western Hemisphere including Hawaii (find yourself in an atlas or an online site like Google Maps) • Informational Text anchor chart (from Lesson 2) • "Hawaii's Endangered Happy Face Spider" (one per student) • Close Readers Do These Things anchor chart (from Module 1) • "Hawaii's Endangered Happy Face Spider" Note-catcher (one per student) • Rainforest KWL anchor chart (from Lesson 1) • Index card (one per student)

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Summarizing Informational Text:
"Hawaii's Endangered Happy Face Spider"

Opening	Meeting Students' Needs
A. Engaging the Reader: A Rainforest in Hawaii (5 minutes) • Display the **map of the Western Hemisphere** and show students where Hawaii is in relation to New York and Panama (north/west). Remind students that they are focusing on rainforests of the Western Hemisphere. Tell students they are going to find out more about this rainforest by reading a new kind of informational text.	•
B. Review Learning Targets and Informational Text (5 minutes) • Have students turn in their homework (their writing and the signed Voirin interview). Ask some students to share out about their experience of rereading the text with someone at home. Ask students: "Why would a reader choose to reread a text several times?" Call on a few students to share their thoughts with the class. • Review learning targets: "I can explain the gist of the article 'Hawaii's Endangered Happy Face Spider'" and "I can determine the meaning of new words from context in the article 'Hawaii's Endangered Happy Face Spider.'" • Remind students of how they have learned new information about rainforests by reading an interview with Bryson Voirin about his scientific research. Now they will be reading an article, another type of informational text that some scientists choose to communicate their research. Direct students' attention to the **Informational Text anchor chart**. • Point out the word *article* if it is already on the chart; if not, add it. Be sure students understand how the word article is being used in this context (a short piece of informational writing, usually published in a magazine.) • Clarifying the meaning of *article* will be particularly important because students learned the word during Module 1 as well, when they studied the articles (agreements) of the UDHR. Use this as an opportunity to again point out to students that one word can mean very different things, depending on the context. That is part of the reason it is so important that they learn to figure out words in context, rather than just memorizing lists of words or looking up words in the dictionary. • Tell students that they will examine the features of the article, just as they did with the features of an interview during the past two lessons.	• ELLs may be unfamiliar with Tier 2 vocabulary words (e.g., *explain, gist, article, determine, context*). Clarify vocabulary with students as needed.

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Summarizing Informational Text:
"Hawaii's Endangered Happy Face Spider"

Work Time	Meeting Students' Needs
A. Reading the Entire Article "Hawaii's Endangered Happy Face Spider," Focusing on Gist (10 minutes) • Display and distribute the entire article **"Hawaii's Endangered Happy Face Spider."** Tell students that they will listen to the entire article read aloud for the gist. Encourage them to think about the words that are clues to the gist, or what the article is mostly about. • Read the article aloud, one paragraph at a time. Be sure class members are following along in their own texts. • Ask students to turn and share with a partner what they think the article is mostly about. Remind them to refer to specific words or phrases in the text when discussing the gist. Tell students they do not need to write a gist statement yet; rather, just share orally. • Call on a few partners to share their thinking aloud.	• When possible, provide text or materials in students' L1. This can help students understand materials presented in English.

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Summarizing Informational Text:
"Hawaii's Endangered Happy Face Spider"

Work Time (continued)	Meeting Students' Needs
B. Jigsaw, Part 1: ReReading Chunks, Focusing on Main Idea and New Vocabulary (15 minutes) • Place students into one of six groups, one for each chunk of the text. Explain to students that they are going to use a Jigsaw protocol. Remind them of the protocol, as needed: In Part 1, they become experts on their chunk of the text, and in Part 2 they share with peers who read different chunks. • Introduce the learning targets: "I can listen actively to my group members while discussing ideas" and "I can use my group's ideas to help me determine the gist of an article." Remind students of the discussion in Lesson 3 about the phrase *listening actively*. Ask several students to share out the meaning, listening for responses such as: looking at the person speaking, staying on topic, etc. • Review the **Close Readers Do These Things anchor chart** to remind students of everything they have learned about close analytical reading. Remind them that this unit is their first time reading scientific text, specifically. They will encounter a lot of words that they don't know, and should remember to go slowly and reread. • Distribute the **"Hawaii's Endangered Happy Face Spider" Note-catcher** (one per student). • Tell them they will use a simple Note-catcher to write the *gist* of their group's numbered paragraph (chunk) of the article and to record new/unfamiliar vocabulary. Remind students to keep all texts and Note-catchers that are separate from their journals in their Rainforests folder. Instruct the class: • "On your own, read the chunk of text, focusing on gist. Choose no more than five key words that support the main idea, or gist, of what your chunk was about and write those words in the second column of the Note-catcher. After this, discuss the gist of your paragraph with your group. Then, on your own, write a gist statement in the third column of the Note-catcher." (Students will need these for the Jigsaw in Step C of Work Time.) • Give students 5 minutes to work on their own. Support individual students as needed. Circulate to each group to define specific words that they may not be able to define from context: • * #1: *Theridion grallator*—the Latin name for happy face spider • * #5: *extinction*—when a type of living thing does not exist anymore; not a single one of its kind remains on the planet • * #5: *species*—a specific type of something (plant or animal; living thing) • * #6: *fauna*—animal life in general	• Students needing additional supports may benefit from partially filled-in graphic organizers. • ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language. • Provide anchor charts for processes such as How to Find the Gist. This would include question words with nonlinguistic representations and a question frame. • All students developing academic language will benefit from direct instruction of academic vocabulary.

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Summarizing Informational Text:
"Hawaii's Endangered Happy Face Spider"

Work Time (continued)	Meeting Students' Needs
• Then ask them to discuss their gists for 2 to 3 minutes. Circulate throughout the room, listening for discussions that are off-topic or students having difficulty formulating a gist statement. • Discuss vocabulary words students may have had difficulty with. Pay close attention to vocabulary that students mention is listed in the lesson vocabulary. Encourage students to use context clues, rereading, and/or breaking apart the word to determine its meaning. Model these strategies for students as necessary. • Give students a moment to revise their gist statements based on any new learning from the rereading and discussion of vocabulary.	•

C. Jigsaw, Part 2: Sharing Gists and New Vocabulary (10 minutes)
• Regroup students into new groups of six. Each group should have one student who read each chunk of the text.
• In these new groups, ask students to do the following:
  * "Share out the gist statements about your chunk of the article."
  * "As your peers share, listen and take notes in the three-column Note-catcher. What is each chunk mostly about?"
• Then ask the groups to think about the article as a whole:
  * "Now that you have reread chunks of the text more carefully, what do you think is the gist of the whole article?"
• Ask students to write their gist statement in the last box of the Note-catcher.
 	
Note: Students will return to this article and Note-catcher in the next lesson, so they do not share out with the whole group at this time.
	•

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Summarizing Informational Text:
"Hawaii's Endangered Happy Face Spider"

Closing and Assessment	Meeting Students' Needs
A. Debrief: What Did We Learn about the Rainforest from an Article? (10 minutes) • Review the learning targets with students, reading through each one and pausing to gauge students' self-assessed mastery of the target by having them use the Thumb-O-Meter protocol: thumbs-down (don't understand), thumbs-sideways (somewhat understand), thumbs-up (got it!). Note which students place their thumbs down or sideways, because they may need more support during independent and/or small group work time. • Ask the following question to the whole group: "What can we add to our **Rainforest KWL anchor chart** in the L--Learned--column about rainforests?" • Call on several students to share their ideas. Record students' ideas on the Rainforest KWL anchor chart, as students add to their journals.	• Consider allowing students who struggle with language to dictate their exit ticket answers to the teacher or a partner.
B. Exit Ticket (5 minutes) • Distribute **index cards**. • Ask the class to answer this question on their index card: "How was reading closely with a group different from doing it alone? What helped or supported your understanding of the text?" • Collect exit tickets.	•

Homework	Meeting Students' Needs
• Imagine that you were the scientist studying the happy face spider in the rainforest. In your journal, write a descriptive paragraph about the spider for people who are not in the rainforest to see it themselves. *Note: Review the exit tickets to gauge students' thoughts on close reads. Look for students whose answers are not about close reads or who had a particularly difficult time working in a group. Check in with those particular students the next time they are supposed to work in groups to ensure that they have the supports necessary to succeed.* *Be sure to allow students the opportunity to add new vocabulary words to the glossaries in their journals later in the day, when they have time to do so.*	• Consider allowing ELLs to draw their observations, ideas, or notes when appropriate. This allows students to participate in a meaningful way.

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 4
Supporting Materials

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"Hawaii's Endangered Happy Face Spider"

Author's drawing of the "happy face spider"

#1	Meet *Theridion Grallator*, meaning "happy face spider." This little *arachnid*, found in *Hawaiian* rainforests, is quite small. It measures only 5 millimeters in length, at most!
#2	The happy face spider's name comes from the *unique pattern* found on its pale-colored back. The marks resemble two circles that look like eyes. There is a *curved* shape below, similar to a smile.
#3	Some scientists think the spider may have developed these *strange markings* as a way to warn *predators*, such as birds. However, not all scientists agree on this *theory*. Some believe the features may do nothing to help the spider avoid its enemies.
#4	The happy face spider generally tries to stay out of the *limelight*. It lives its life on the *undersides* of leaves, deep in the rainforest. This can make it difficult for scientists to *locate* and study.
#5	One scientist, Dr. Geoff Oxford, has studied the happy face spider for nearly twenty years. In an interview in 2009, Dr. Oxford said the spider is very *difficult* to find because it is in danger of *extinction*. He stated that the species was *under threat* from *non-native* animals brought to the islands.
#6	Because of the happy face spider's *endangered* status, it has become a *symbol* for all of Hawaii's *threatened* wildlife. In fact, *conservationists* have placed images of it on T-shirts, baseball hats, and even garbage trucks. They hope to use this as a way to bring *attention* to the loss of various *fauna* throughout Hawaii.

Written by Expeditionary Learning for Instructional Purposes 2012

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"Hawaii's Endangered Happy Face Spider"
Citations

http://en.wikipedia.org/wiki/Theridion_grallator "Theridion grallator" last updated 9/19/12

http://www.telegraph.co.uk/news/newstopics/howaboutthat/5199409/British-scientists-study-Hawaiian-happy-face-spider.html
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http://hbs.bishopmuseum.org/good-bad/spider.html
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"Photo of the Day: Best of 2007" caption

(All sites last accessed 10/07/12)

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Hawaii's Endangered Happy Face Spider
Note-catcher

TEXT Paragraph Number	VOCABULARY Important words	GIST What is the main idea of what you read?
#1		
#2		
#3		
#4		
#5		
#6		

GIST
What is the main idea of what you read?

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 5

Informational Text Features: Analyzing “Hawaii’s Endangered Happy Face Spider”

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
I can follow our class norms when I participate in a conversation. (SL.5.1) I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) I can determine the main idea(s) of an informational text based on key details. (RI.5.2) I can compare and contrast the organizational structure of different informational texts. (RI.5.5) I can explain important relationships between ideas in a scientific text using specific details from the text. (RI.5.3)

Supporting Learning Targets	Ongoing Assessment
• I can share my ideas with my partners quickly. • I can determine the main idea of the article "Hawaii's Endangered Happy Face Spider." • I can determine the meaning of new words from context in the article "Hawaii's Endangered Happy Face Spider." • I can compare and contrast the rainforest research in Panama and Hawaii. • I can evaluate the features of an interview as an informational text.	• Paragraph from homework • Journal (Informational Text chart, Rainforest KWL chart, Features chart, Venn diagram)

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Agenda	Teaching Notes
Opening A. Engaging the Reader: What We Know about the Happy Face Spider from Hawaii (10 minutes) B. Reviewing Close Reading of Informational Text (5 minutes) **Work Time** A. Text-Dependent Questions: "Hawaii's Endangered Happy Face Spider" (15 minutes) B. Learning about the Rainforest: Comparing Two Informational Texts (10 minutes) C. Features of Articles: How Do They Help Us Learn about the Rainforest? (10 minutes) **Closing and Assessment** A. Learning about Text Features: Comparing and Contrasting Interviews and Articles (10 minutes) **Homework**	• Make sure all anchor charts from previous lessons in this module are visible to students. • Prepare a music selection for the Milling to Music activity in Opening, Part A. • Make sure students have their completed Note-catcher about the "Hawaii's Endangered Happy Face Spider" article (from Lesson 4). • Review: Fist to Five (see Appendix 1).

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Lesson Vocabulary	Materials
unique, pattern, curved, scientists, strange, markings, predators, theory, limelight, undersides, locate, endangered, symbol, threatened, wildlife, conservationist, attention, fauna	• Rainforest KWL anchor chart (from Lesson 1) • Close Readers Do These Things anchor chart (from Module 1) • "Hawaii's Endangered Happy Face Spider" (from Lesson 4) • "Hawaii's Endangered Happy Face Spider" Note-catcher (from Lesson 4) • Text-Dependent Questions: "Hawaii's Endangered Happy Face Spider" (one per student) • Text-Dependent Questions: "Hawaii's Endangered Happy Face Spider" (Answers for Teacher Reference) • Interview and Articles Venn Diagram (for Teacher Reference) • Features of Informational Text anchor chart (from Lesson 3) • Highlighters (one color) • Text Features Venn Diagram (for Teacher Reference) • Document camera

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Opening	Meeting Students' Needs
A. Engaging the Reader: What We Know about the Happy Face Spider from Hawaii (10 minutes) • Review learning targets: "I can share my ideas with my partners quickly." Ask several students to share what sharing *quickly* means, listening for responses such as: "being fast, speedy," etc. • Tell students that they are going to use a Milling to Music activity to share their homework paragraphs. The purpose is to share details with one another about the happy face spider, and to reorient them to the article so they will be able to add their ideas to the **Rainforest KWL anchor chart** in the next step. • Explain the activity: * It is similar to musical chairs, except there are no chairs and no one gets "out." * While the music plays, students will move throughout the room. * When the music stops, each student will share his/her paragraph with the student closest to her/him. * When the music begins again, students begin moving to find another partner. • Begin the music. Have students mill and share twice, so they have the opportunity to share their paragraphs with two peers. As students share their paragraphs, reinforce the learning targets: circulate and compliment them on joining partners *quickly* and *staying on task* by sharing their paragraphs. • Have students return to their seats. Cold call members of the class to share information about the happy face spider that they want to add to the L column of the Rainforest KWL anchor chart. Record students' responses on the anchor chart as they add the information to the L column of the KWL chart in their journals. • If students wrote their homework paragraphs on a separate sheet of paper, collect the paragraphs now. If students' paragraphs are in their journals, wait to collect them at the end of the lesson, because students need their journals during the rest of the lesson.	• Consider writing and breaking down the directions to Milling to Music into numbered elements. Students can return to these guidelines to make sure that they are on track. • ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Opening (continued)	Meeting Students' Needs
B. Reviewing Close Reading of Informational Text (5 minutes) • Review the **Close Readers Do These Things anchor chart**, focusing students on what they have done to read the article closely so far. • Remind students about how they learned information about the happy face spider from the Hawaiian rainforests during the previous lesson. They: * Heard the entire article read aloud * Worked in small groups to become "experts" on one paragraph (chunk) of the article * Discussed vocabulary * Shared with peers who had read other paragraphs * Wrote gist statements • Ask students to Think-Pair-Share: "How did reading in all of those different ways help you to understand the text better?"	• Consider providing extra time for tasks and answering questions in class discussions. ELLs often need more time to process and translate information.

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Work Time	Meeting Students' Needs

A. Text-Dependent Questions: "Hawaii's Endangered Happy Face Spider" (15 minutes)
• Make sure each student has their text **"Hawaii's Endangered Happy Face Spider"** and the **"Hawaii's Endangered Happy Face Spider" Note-catcher** (from Lesson 4).
• Ask students to briefly review the gist statements they wrote for each chunk of the article. Re-orient students to the main ideas and vocabulary.
• Give each student a copy of the **Text-Dependent Questions: "Hawaii's Endangered Happy Face Spider."**
• Give students 7 to 8 minutes to work on their own to:
  * Independently reread the article
  * Read and respond in writing to the text-dependent questions
• Next, invite students to work with a partner to talk about the questions and their answers. As the class works, circulate among partners to check their understanding of main ideas and vocabulary based on their responses to questions.
• Vocabulary to pay attention to:
  * Question 1 (paragraphs 1 and 2): unique, pattern, and curved
  * Question 2 (paragraph 3): scientists, strange, markings, predators, and theory
  * Question 3 (paragraph 4): limelight, undersides, and locate
  * Question 4 (paragraphs 5 and 6*): endangered, symbol, threatened, wildlife, conservationist, attention*, and *fauna*
• Give students time to revise their answers based on their discussions with their partners. (Optional: Have students write their revised responses in a second color pen, to help them see how their thinking grows as a result of collaboration.)
	• Consider providing 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 providing smaller chunks of text and fewer questions (sometimes just a few questions) for struggling students. Teachers can check in on students' thinking as they write or speak about their text.
	• All students developing academic language will benefit from direct instruction of academic vocabulary.

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Work Time (continued)	Meeting Students' Needs
B. Learning about the Rainforest: Comparing Two Informational Texts (10 minutes) • Remind students of the information that they have learned about rainforests from the interview and the article. Focus them on the L column of the Rainforest KWL anchor chart. Ask students to discuss with their partner what information about rainforests was the same and what was different in the interview and the article. Call on some partners to share out their ideas. • Have students create an **Interviews and Articles Venn diagram** in their journals. (See a sample in the supporting materials). Tell them they will be comparing and contrasting the *content* of each informational text. Ask students what is meant by *content* of the Bryson Voirin interview and the happy face spider article, listening for answers like: "the information in the texts about the rainforests or the living things in the rainforests," etc. Review how to fill out a Venn diagram: Aspects that are similar or shared go in the middle; aspects that are different or unique go in the outer circles. • Give students five minutes to work in pairs to write their ideas in the appropriate sections of the Interviews and Articles Venn diagram. Be sure each student completes his or her own Venn diagram. • Then ask pairs to join another pair. Ask these new groups of four to share their Venn diagrams.	• 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 supports may benefit from a partially filled-in Venn diagram. • Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows all students to participate in a meaningful way.

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Work Time (continued)	Meeting Students' Needs
C. Features of Articles: How Do They Help Us Learn about the Rainforest? (10 minutes) • Focus on the learning target: "I can evaluate the features of an interview as an informational text." Focus on the word *evaluate*, asking students for suggestions about what the word means. Listen for responses such as: "analyze or judge," etc. • Direct students' attention to the **Features of Informational Text anchor chart**. Review prior learning: Ask several students to briefly share what features of informational text they have identified so far. • Distribute **highlighters**. Ask students to skim through the "Hawaii's Endangered Happy Face Spider" article. Ask them to highlight informational text features they notice (e.g., title, paragraphs, direct quotes, images, etc.). • After 2 to 3 minutes, have students join with a partner to briefly share out about what features they noticed. Then, lead a quick whole class share-out. Be sure to probe, asking students to state specifically how each feature helps readers. Add students' ideas to the Features of Informational Text anchor chart as students add the new ideas to the same chart in their journals. • Invite students to think about what they learned about their individual learning styles. Ask them to consider which feature, out of those listed on the anchor chart, is most helpful for their learning style and why. • Invite students to join other group members who identified the same learning style and share their responses with the group. Circulate among the groups to listen for conversations that are off topic or that need clarifying.	•

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Informational Text Features:
Analyzing "Hawaii's Endangered Happy Face Spider"

Closing and Assessment	Meeting Students' Needs
A Learning about Text Features: Comparing and Contrasting Interviews and Articles (10 minutes) • Review the learning targets: Read each one aloud one at a time and use the Fist to Five strategy to gauge how well students did toward mastering each target. • Have students draw a **Text Features Venn diagram** in their journals, to use for comparing and contrasting the text features of an interview versus an article (see sample in supporting materials). Direct students to refer to the Features of Informational Text anchor chart as a resource. Place students into triads. Tell them that as with the first Venn, they may discuss ideas as a group, but each person should complete his or her own Venn diagram. • After 5 to 6 minutes, ask students to refocus as a whole group. Project a blank Text Features Venn diagram on **document camera**. Cold call a few students to share out their ideas, filling in the Venn diagram. • After several students have shared, ask triads to talk briefly again to determine whether they want to change and/or add any ideas to their individual Venn diagrams. • Collect student journals to informally assess.	• Have students who struggle with written language dictate their ideas to a teacher or their partner.
Homework	**Meeting Students' Needs**
• Read the "Hawaii's Endangered Happy Face Spider" article to someone at home. Be sure to have your listener sign it. Turn it in tomorrow to your teacher. *Note: Read and check journals for understanding. Check to make sure students' answers are on topic and complete. Adjust teaching for the next lessons based on students' mastery of learning targets so far.* *Have students add new words to the glossaries in their journals during other literacy times during the day. Remind them to write a synonym, short phrase, and/or picture next to each new word as a reminder of the word's meaning.* *In Lesson 6, students will complete the mid-unit assessment, using an online interview. Read through and become familiar with this text, noting that although this text is long, students will be asked to respond only to questions about the introductory paragraph and interview questions and answers 1 to 12.*	• Audio recordings of text can aid some students in comprehension. Students can pause and replay confusing portions while they follow along with the text.

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

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Text-Dependent Questions: "Hawaii's Endangered Happy Face Spider"

1. Describe the unique pattern found on the happy face spider's back. What does unique mean? What makes this pattern unique? What in the text makes you think so?

2. What do different scientists believe about the strange markings found on the happy face spider's back? Include details from the text in your answer.

3. How does living on the undersides of leaves help the happy face spider stay out of the limelight? Use a quote from the text in your answer.

4. Using information from the text, explain what conservationists do. How specifically have they used the image of the happy face spider to help them? (Note: To answer this question, you will need to draw an inference, since the answer is not given directly in the text. What evidence from the text helped you make this inference?)

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Text-Dependent Questions:
"Hawaii's Endangered Happy Face Spider"
(Answers for Teacher Reference)

1. Describe the unique pattern found on the happy face spider's back. What does unique mean? What makes this pattern unique? What in the text makes you think so?

   The article says the pattern is two circles that look like eyes and a curved shape below that looks like a smile. This pattern is unique because it is found only on this one type of spider. I think it is found only on this one type of spider because the article title says "Endangered Happy Face Spider." "Endangered" means not many exist (or this article talks only about this one kind of spider having the pattern).

2. What do different scientists believe about the strange markings found on the happy face spider's back? Include details from the text in your answer.

   The article states that some scientists think the spider developed the markings to warn off predators such as birds, but other scientists think the marks don't help the spiders at all. The article also says scientists do not agree on one theory.

3. How does living on the undersides of leaves help the happy face spider stay out of the limelight? Use a quote from the text in your answer.

   Living on the undersides of leaves keeps the spiders hidden, so they cannot be in the limelight because that means they would be easily seen. The article says that living deep in the rainforest on the undersides of leaves makes them difficult for scientists to find and study.

4. Using information from the text, explain what conservationists do. How specifically have they used the image of the happy face spider to help them? (Note: To answer this question, you will need to draw an inference, since the answer is not given directly in the text. What evidence from the text helped you make this inference?)

   The article says that the conservationists are trying to bring attention to the loss of living things/fauna in Hawaii. It also says they have put the image of the happy face spider on T-shirts, baseball hats, and garbage trucks as a symbol for all of Hawaii's threatened wildlife.

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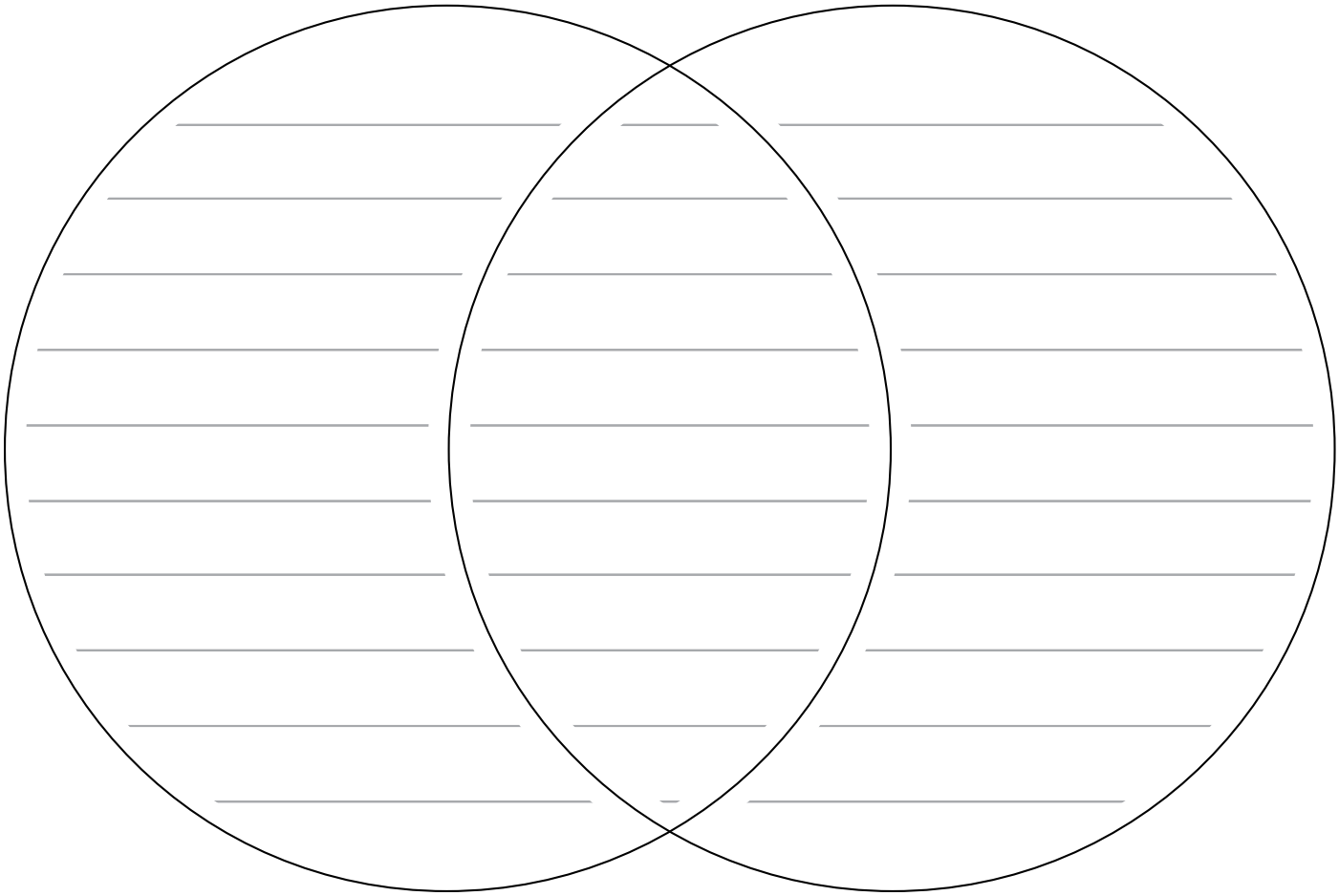
Text Features Venn Diagram



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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 6

Analyzing an Interview with a Rainforest Scientist Part 1

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Analyzing an Interview with a Rainforest Scientist Part 1

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 explain important relationships between ideas in a scientific text using specific details in the text. (RI.5.3) I can compare and contrast the organizational structure of different informational texts. (RI.5.5) I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4)

Supporting Learning Targets	Ongoing Assessment
• I can identify the main idea of an interview. • I can determine the meaning of new words from context in an interview about research in the rainforest. • I can analyze the features of an interview and how they help readers. • I can reflect on my learning about the rainforests and about the features of informational texts.	• Venn diagram (from Lesson 5) • Mid-Unit 1 Assessment: Analyzing Part 1 of an Interview with a Rainforest Scientist • Tracking My Progress, Mid-Unit 1 recording form

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Analyzing an Interview with a Rainforest Scientist Part 1

Agenda	Teaching Notes
1. **Opening** A. Review Learning Targets (5 minutes) B. Review How Scientists Communicate Research about the Rainforest and Features of Informational Text (10 minutes) 2. **Work Time** A. Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 1 (30 minutes) B. Mid-Unit 1 Tracking My Progress: Reflecting on Learning (10 minutes) 3. **Closing and Assessment** A. Debrief: Sharing Reflections on Learning Targets (5 minutes) 4. **Homework**	• Review and be familiar with Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 1 and excerpts from the "Live Online Interview with Eve Nilson" (see supporting materials). • Note: for the mid-unit assessment, students read excerpts from just the first part of the "Online Interview with Eve Nilson." Later, as a part of their End of Unit 1 Assessment (Lesson 9), students will read excerpts from the second half of this same interview with Eve Nilson. Thus, it is important to only distribute the first half of the interview for Lesson 6. • Consider numbering the questions and answers for students. • In this lesson, students formally self-assess on their progress toward the learning targets for the first time. But this process is similar to the routine reviewing of the learning targets they have done in almost every lesson. • Use the 2-Point Rubric: Writing from Sources/Short Response (see Supporting Materials) to score students responses on their assessments.

Lesson Vocabulary	Materials
identify, main idea, meaning, context, analyze, reflect	• Rainforest KWL anchor chart (from Lesson 1; one per student) • Features of Informational Text anchor chart (from Lesson 3; one per student) • Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1 (one per student) • Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1(Answers for Teacher Reference) • Assessment Text: "Live Online Interview with Eve Nilson" (one per student) • Tracking My Progress, Mid-Unit 1 recording form (one per student) • 2-Point Rubric: Writing from Sources/Short Response (for Teacher Reference; see Teaching Note above)

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Analyzing an Interview with a Rainforest Scientist Part 1

Opening	Meeting Students' Needs
A. Review Learning Targets (5 minutes) • Review the first three learning targets: "I can identify the main idea of an interview," "I can determine the meaning of new words from context in an interview about research in the rainforest," and "I can analyze the features of an interview and how they help readers." Focus students' attention on the words: *identify*, *main idea*, *meaning*, *context*, *analyze*, and *reflect*. Ask students to share aloud the meaning of these words, listening for definitions such as: * *identify*—find out, decide, determine * *main idea*—what it is mostly about * *meaning*—definition * *context*—words and sentences around another word or phrase * *analyze*—study closely, examine * *reflect*—think about, consider • Point out to students that the main idea is synonymous with the key or central point of a text. It is a little different from the *gist* (which they have also focused on), since gist is a more general sense of what a passage is mostly about.	• Provide nonlinguistic symbols (e.g., a lightbulb for *main idea*, a person thinking for *reflect*) to assist ELLs and other 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.

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Analyzing an Interview with a Rainforest Scientist Part 1

Opening (continued)	Meeting Students' Needs

B. Review How Scientists Communicate Research about the Rainforest and Features of Informational Text (10 minutes)
• Remind students that they will take an assessment today.
• Tell them that there have been two main focuses for their learning so far in this unit. Tell them they will now have an opportunity to review what they have learned by looking back at their journals and the class anchor charts with two other students.
• Ask students to form triads. Direct students to first look at their **Rainforest KWL charts**. Ask students to consider and discuss: "What did I learn about rainforests?" Ask a few triads to share out.
• Direct students to then review the **Features of Informational Text anchor chart** and their Venn diagram comparing the features of interviews and articles (from Lesson 5), and discuss the following with their triad:
  * "What is similar and what is different about interviews and articles as informational text?"
  * "What specific features of informational text did you notice in the interview? In the article?"
  * "Which features helped you the most to understand the information in the text? Why? What is the connection to your learning style?"
• Have several different triads share out.
	• Visuals can help students comprehend questions and discussions. Chart main points in answers and post all questions asked to students.
	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Analyzing an Interview with a Rainforest Scientist Part 1

Work Time	Meeting Students' Needs
A. Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 1 (30 minutes) • Distribute the **Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1** and the **Assessment Text: "Live Online Interview with Eve Nilson"** to each student. • Ask students to quickly scan the assessment. • Address any clarifying questions. • Give students 30 minutes to work independently to complete questions about excerpts from Part 1 of the "Live Online Interview with Eve Nilson." • Circulate to supervise; since this is a formal on-demand assessment, do not provide support other than formally approved accommodations. • If students finish the assessment early, they may do the following: • Work on their glossaries in their journals. They may add new words from the "Online Interview with Eve Nilson" that they just read for the mid-unit assessment, or add synonyms, phrases, and/or pictures to any words they have not had time to complete.	• 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. These are an accommodation provided to ELLs on state assessments. • Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information. ELLs receive extended time as an accommodation on NY State assessments.

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Analyzing an Interview with a Rainforest Scientist Part 1

Work Time (continued)	Meeting Students' Needs
B. Mid-Unit 1 Tracking My Progress: Reflecting on Learning (10 minutes) • Introduce the learning target: "I can reflect on my learning about the rainforests and about the features of informational texts." 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 the **Tracking My Progress, Mid-Unit 1 recording form** to students. Explain that this is a self-assessment, and is very much like the self-assessing they have done at the end of most lessons. They will reflect on their progress toward the learning targets. Read through the tracker and provide clarification as necessary for students. • Ask students to independently complete their Tracking My Progress. Ask them to hold on to this sheet to refer to during the lesson debrief.	• Consider allowing students who struggle with written language to dictate their reflections to a partner or the teacher. This allows all students to participate in the self-reflection in a meaningful way.

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Analyzing an Interview with a Rainforest Scientist Part 1

Closing and Assessment	Meeting Students' Needs
A. Debrief: Sharing Reflections on Learning Targets (5 minutes) • Pair students up. Ask them to share the reflections on their Mid-Unit Tracking My Progress. • Invite several students to share out with the whole group. • Collect students' Mid-Unit Assessments, Interview with Eve Nilson, and Tracking My Progress to review.	• 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.

Homework	Meeting Students' Needs
• None. *Note: Score students' assessments using the 2-Point Rubric: Writing from Sources/Short Response rubric (see Supporting Materials). In the next few lessons, students examine and analyze a documentary-style video about research in the Canadian rainforest. Be sure to have technology available and check to make sure that it is working before the lesson.*	•

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 6
Supporting Materials

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Assessment Text: "Live Online Interview with Eve Nilson"

Excerpts from Part 1 of the "Live Online Interview with Eve Nilson"

Thank you for joining Scholastic News Zone's live interview with 15-year-old scientist Eve Nilson on Tuesday, April 23. The following is a transcript from that interview.

Eve Nilson displays a lizard she found sunning itself between two rocks by a stream in Brazil. The lizard was photographed so it could be identified later. Photo Courtesy Eve Nilson

Q: What was your inspiration to study animals?
Eve: I have always had a fascination with animals and an interest in tropical rain forests and the tropics. Growing up in Alaska and studying whales with my mother, I spent a lot of time in nature and found them to be extremely interesting.

Q: Is it cool to be a scientist?
Eve: Yes, it has been an amazing experience waking up in the morning when I was in Brazil, waking up and seeing so many animals I've never seen before, and going out into the forest to study the frogs. Also, knowing that I'm making a difference, that's amazing to me. The students of today are interested in biology, and by spreading the word about the danger rain forests are in, I feel I am making a difference, which is a really good feeling.

Q: Did you travel alone?
Eve: Yeah, I traveled for the first two and a half months. I stayed in the forest alone in my hut. The scientists lived about a mile further down the road, so I wasn't completely alone.

Q: Where is the picture for the chat taken?
Eve: That is in front of the research station in Brazil, about 50 feet from my hut.

Q: Do you like snakes, tarantulas, reptiles, and turtles?
Eve: Yeah, I really like snakes. I like all of the animals except for mice. I'm really afraid of mice. Why? I don't know, I guess the way they sneak up on you. That's frightening. I had a bad experience as a kid when I reached into a cracker box and there was a mouse. I've been afraid ever since.

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Assessment Text: "Live Online Interview with Eve Nilson"

Q: Why did you want to study frogs?
Eve: I was offered a position studying frogs, but I also felt they were extremely important. They are an indicator species; they're extremely sensitive to the environment and its changes. Any rapid disappearance of frogs is a sign there's trouble in the environment. Also because frogs breathe through their skin. You're able to see more clearly the affects that pollution and acid have.

Q: Did you ever get lost? Were you glad to be home? Did you ever get homesick? Were you ever threatened by an animal?
Eve: The first week I was extremely homesick and I called home. It was wonderful talking to my family. After that I was okay. I found it was really peaceful. I was never lost. A few times in the beginning I would be walking out alone at night and I'd hear noises. There's only so much you can see with a small flashlight. I got used to it. I got used to sleeping in the jungle at night. An animal did not threaten me, but I was followed by a jaguar. Its tracks were really fresh. A ranger went up after me and saw that the tracks were following me down. That was really intimidating knowing that a jaguar was just a few minutes behind me.

Q: Did you bring any animals back with you?
Eve: A bots fly bit my mother, and her ankle swelled up. My mom came to visit the last few weeks of my trip and got bit by a bots fly. Bots flies commonly bite cattle. She was a host for the bots fly. When the doctors did an incision in her foot and brought out the larva it was an inch long and ready to hatch. So she brought back an insect with her by accident! We're not allowed to bring back any plant or animal species. It's against Brazilian and U.S. law.

Q: Would the fly have hatched inside of your mother?
Eve: No, when it hatches, it breaks the skin and flies away. It would have hurt when it broke the skin. She got sharp pains in her foot when it moved around. It was in there six weeks. Doctors weren't exactly sure what it was. It was the first bots fly found in California.

Q: Do you plan to go to college? What do you want to study?
Eve: I definitely plan to go to college. Absolutely. That's my number one priority right now since I'm a junior in high school. I plan to major in biology, but I also want to study zoology because I'm so interested in animals in the rain forest.

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Assessment Text: "Live Online Interview with Eve Nilson"

Q: Why are you so interested in the rain forest over other regions of the world?
Eve: I've always had this fascination for the rain forest because of the high diversity of animals. When you are walking in the forest, you look up in the trees and see things you have never seen before in your life. I'm especially interested in the tropical rain forest. There are so many animals living in such a small region of the world. The rain forest can support such an extreme amount of diversity. I also like how pristine and beautiful the forest is when you are walking through and really appreciating nature.

Q: Why do they call the rain forest a rain forest?
Eve: Rain forests receive large amounts of rain every year. It's very lush and green because of the rain, which makes it a hot spot for biodiversity.

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Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1

Name:

Date:

Directions:

- Read the title, introductory paragraph, interview questions and responses.
- Consider the gist of the interview-—what it is mostly about.
- Skim the assessment questions below.
- Reread the interview, thinking about the assessment questions.
- Answer the questions in complete sentences.
- Be sure to cite evidence from the text to support your answers.

1. Reread the title and introductory paragraph of the interview. What do you think a *transcript* from an interview is? Why do you think that?

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Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1

2. Part A:

   Look at the picture, read the caption, and reread the first few interview questions and answers. In what country is the rainforest that Eve Nilson studied?

   A. Alaska

   B. Amazon

   C. Brazil

   D. California

   Part B:

   Which sentence from the interview best supports the answer to Part A?

   A. Eve Nilson displays a lizard she found sunning itself between two rocks by a stream in Brazil.

   B. Growing up in Alaska and studying whales with my mother, I spent a lot of time in nature and found them extremely interesting.

   C. I stayed in the forest alone in my hut.

   D. Yes, it has been an amazing experience waking up in the morning when I was in Brazil, waking up and seeing so many animals I've never seen before, and going out into the forest to study the frogs.

3. Explain what Eve means when she says that frogs "are an *indicator species*." Why might that make frogs so important to study? Use quotes from the text in your answer.

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Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1

4. What inspired Eve to study animals in the rainforest? Cite examples from the text.

5. Part A:

   Eve says that she believes it is important to study one particular animal. Which one is that?

   A. Snakes

   B. Frogs

   C. Jaguars

   D. Mice

   Part B:

   Which sentence from the passage helps the reader understand why it is important to study the animal that is the answer to Part A?

   A. Any rapid disappearance of frogs is a sign there's trouble in the environment.

   B. I've always had this fascination for the rain forest because of the high diversity of animals.

   C. An animal did not threaten me, but I was followed by a jaguar.

   D. Yeah, I really like snakes.

   E. I like all of the animals except for mice.

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Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1

6. What were some of the text features in this interview that you found the most helpful for learning about Eve Nilson's work in the rainforest, and why?

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Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1

(Answers for Teacher Reference)

1. Reread the title and introductory paragraph of the interview. What do you think a *transcript* from an interview is? Why do you think that?

   A transcript is a written version of something that was originally recorded another way (audio or video). The beginning says it was a live interview, which means she said it aloud. So this is a written version of that interview.

2. Part A:

   Look at the picture, read the caption, and reread the first few interview questions and answers. In what country is the rainforest that Eve Nilson studied, and what did she study while she was living there?

   A. Alaska

   B. Amazon

   C. **Brazil**

   D. California

   Part B:

   Which sentence from the interview best supports the answer to Part A?

   A. Eve Nilson displays a lizard she found sunning itself between two rocks by a stream in Brazil.

   B. Growing up in Alaska and studying whales with my mother, I spent a lot of time in nature and found them extremely interesting.

   C. I stayed in the forest alone in my hut.

   D. **Yes, it has been an amazing experience waking up in the morning when I was in Brazil, waking up and seeing so many animals I've never seen before, and going out into the forest to study the frogs.**

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Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1
(Answers for Teacher Reference)

3. Explain what Eve means when she says that frogs "are an *indicator species*." Why might that make frogs so important to study? Use quotes from the text in your answer. (RI.5.1, RI.5.3)

   She says they are important because they are an indicator species; an indicator species is a type of animal that can show what is happening in the environment. Eve says the frogs breathe through their skin, so it makes it easy for scientists to see if there is a lot of pollution and acid in the environment by looking at how the frogs' skin changes.

4. What inspired Eve to study animals in the rainforest? Cite examples from the text. (RI.5.2)

   She has always been fascinated with the rainforest and she explained how studying whales with her mother inspired her to study animals. She said, "Growing up in Alaska and studying whales with my mother, I spent a lot of time in nature and found them to be extremely interesting."

5. Part A:

   Eve says that she believes it is important to study one particular animal. Which one is that? (RI.5.2)

   A. Snakes

   B. **Frogs**

   C. Jaguars

   D. Mice

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Mid-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist, Part 1
(Answers for Teacher Reference)

6. Part B:

   Which sentence from the passage helps the reader understand why it is important to study the animal that is the answer to Part A? (RI.5.2)

   A. **Any rapid disappearance of frogs is a sign there's trouble in the environment.**

   B. I've always had this fascination for the rain forest because of the high diversity of animals.

   C. An animal did not threaten me, but I was followed by a jaguar.

   D. Yeah, I really like snakes.

   E. I like all of the animals except for mice.

7. What were some of the text features in this interview that you found the most helpful for learning about Eve Nilson's work in the rainforest, and why?

   Possible answers students may give –

   The interview features Question and Answer helped me "hear" the conversation between Eve and the interviewer (auditory learners)

   The picture helped me see what the plants and animals in Brazil are like (visual learners)

   Because of how it is broken up into Question and Answer, I was able to focus on one part of the interview at a time and feel like I was moving in the rainforest with her; carrying a flashlight through the dark forest; etc (kinesthetic learners)

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Tracking My Progress, Mid-Unit 1

Learning Target: I can identify the main idea of an interview.

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:

_____

_____

_____

_____

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Tracking My Progress, Mid-Unit 1

Learning Target: I can determine the meaning of new words from context in an interview about research in the rainforest.

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:

_____

_____

_____

_____

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Tracking My Progress, Mid-Unit 1

Learning Target: I can analyze the features of an interview and how they help readers.

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:

_____

_____

_____

_____

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2-Point Rubric: Writing from Sources/Short Response1

(for Teacher Reference)

Use the below rubric for determining scores on short answers in this assessment.

2-point Response	The features of a 2-point response are:
	Valid inferences and/or claims from the text where required by the prompt Evidence of analysis of the text where required by the prompt Relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt Sufficient number of facts, definitions, concrete details, and/or other information from the text as required by the prompt Complete sentences where errors do not impact readability

1-point Response	The features of a 1-point response are:
	A mostly literal recounting of events or details from the text as required by the prompt Some relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt Incomplete sentences or bullets

0-point Response	The features of a 0-point response are:
	A response that does not address any of the requirements of the prompt or is totally inaccurate No response (blank answer) A response that is not written in English A response that is unintelligible or indecipherable

[1]From New York State Department of Education, October 6, 2012.

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 7

Analyzing Documentary Videos: “Great Bear Rainforest Remote Camera Project” British Columbia, Canada

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can summarize information that is presented in video. (SL.5.2) I can determine the main idea(s) of an informational text based on key details. (RI.5.2) I can determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4) I can compare and contrast the organizational structure of different informational texts. (RI.5.5)	
Supporting Learning Targets	**Ongoing Assessment**
• I can explain the main idea of a documentary video on researching in the rainforest. • I can determine the meaning of new words from context in a documentary video about researching in the rainforest. • I can analyze the features of a documentary video as informational text. • I can compare and contrast the features of an interview, an article, and a documentary video.	• Journal (page for video, Rainforest KWL chart, Informational Texts chart(s), and glossaries) • Exit ticket

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Agenda	Teaching Notes
1. **Opening** A. Engaging the Reader: Rainforest of British Columbia, Canada (5 minutes) B. Review Types of Informational Text (5 minutes) 2. **Work Time** A. First View: Getting the Gist of What Scientists Are Researching in the Great Bear Rainforest (15 minutes) B. Second View: Determining the Meaning of Words in Context (15 minutes) C. Third View: Documentaries as Informational Text (10 minutes) 3. **Closing and Assessment** A. Debrief: What Have We Learned about the Rainforest? (10 minutes) 4. **Homework**	• Preview the video: "Great Bear Rainforest Remote Camera Project" from http://vimeo.com/9433768. • 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. • During this lesson, students view this short video three times. During the first two viewings, the video is paused at key points to give students time to think, talk, and write about what they just saw and heard. • Read the video transcript (in supporting materials) in order to know when to pause the video during instruction. • In advance: Ensure that all technology is working properly. • Review: Glass, Bugs, Mud (Appendix 1). • Students will be watching a documentary video in this lesson. Some students may need to read a transcript as they are watching the video (see supporting materials).

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Lesson Vocabulary	Materials
documentary, main idea, analyze, compare, contrast, temperate, terrestrial/marine ecosystems, field of view, track, behavior, remote, species, indicates, range, monitor, nocturnal, presence, threat, talon, insight, carnivores, behavior, conservationists, traditional, methods, habituating, poaching, trophy hunting, disadvantage, noninvasive, documented, preying, inaccessible	• Political Map of the World (from Lesson 2) • Map of North and South America (from Lesson 2) • Informational Text anchor chart (from Lesson 2) • Transcript: "Great Bear Rainforest Remote Camera Project" (for Teacher Reference) • Video: "Great Bear Rainforest Remote Camera Project" (see link in supporting materials) • Sticky notes • Rainforest KWL anchor chart (from Lesson 1) • Features of Informational Text anchor chart (from Lesson 3) • Homework: Venn Diagram Comparing the Features of Two Types of Informational Text (one per student)

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Opening	Meeting Students' Needs
A. Engaging the Reader: Rainforest of British Columbia, Canada (5 minutes) • Explain to students that they will be learning about research in another rainforest, the Great Bear Rainforest in British Columbia, Canada. • Show students the **Political Map of the World** or **the Map of North and South America** (both from Lesson 2). With your finger, draw an invisible line on the map from New York to British Columbia, Canada. Ask students to locate the British Columbia rainforest in relation to the other rainforests they have studied: • "Where is Panama?" "Where is Hawaii?" "Where is the British Columbia rainforest located in relation to both Panama and Hawaii?" Listen for students to state: "to the north/northwest/northeast," etc. • Ask students to Think-Pair-Share: • "What are you noticing about where rainforests are located around the world?" Invite a few partners to share their thinking. Listen for comments such as: "Most rainforests are close to the equator, but not the one in British Columbia." Remind students that this is because there are different types of rainforests and that the basic definition of a rainforest is a forest that gets a certain amount of rainfall per year. The majority of the areas that receive the most rainfall in the world are close to the equator. But not all.	•

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Opening (continued)	Meeting Students' Needs
B. Review Types of Informational Text (5 minutes) • Remind students that they are learning about different ways that scientists communicate their research about rainforests. Scientists use a wide range of informational texts to inform people about their research. • Direct students' attention to the **Informational Text anchor chart**. Ask students to think about what types of informational texts they have already read. Cold call a few students for responses (interview and article). • If *documentary video* is not already listed on the anchor chart, add it. Ask students to Think-Pair-Share: "What makes a video informational?" Listen for comments such as: "It has facts," "Experts share information," "shows real places/things," etc. Invite a few students to share something their partner said. • Use this as an opportunity to teach academic vocabulary. Ask students what root word they see in the word *documentary*. Explain the meaning of "document" in this context: facts or information. Provide clarification for students about what a *documentary* is: a film or TV program about history, science, or other topics that provides factual information. Documentaries often include interviews. (If appropriate, note that documentaries are supposed to be unbiased, yet often do in fact present the filmmakers' opinion.) Make sure to discuss with students that not all videos are considered informational text.	• 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. • All students developing academic language will benefit from direct instruction of academic vocabulary.

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Work Time	Meeting Students' Needs

A. First View: Getting the Gist of What Scientists Are Researching in the Great Bear Rainforest (15 minutes)
• Review the learning target: "I can explain the main idea of a documentary video on researching in the rainforest." Invite several students to share out what *main idea* means, listening for students to say that it is the same as getting the "gist," and/or what something is mainly about.
• Explain to students that they will view another type of informational text, a documentary video, to learn more about the work of scientists in the Great Bear Rainforest.
• The video is almost 7 minutes long. Tell students that they will watch the video several times, just like they have been doing with their reading.
• The first time they watch the video, they will focus on gist.
• For this first view, they will watch six shorter segments or "chunks" (they have also done this as readers). After each chunk, they will think, talk, and write, recording a gist statement about what they heard and saw.
•
Note: See ***Transcript: "Great Bear Rainforest Remote Camera Project"*** *(in supporting materials) for pause points in the video.*
•
• Help students prepare for taking notes:
  * Ask students to begin a new page in their journals to write their gist statements. They will write six gist statements total.
  * Tell students to leave space on their page after each gist statement, since they will be adding other notes about each video segment later.
• Place students in triads.
• Begin showing the documentary video **"Great Bear Rainforest Remote Camera Project."**
• At each pause point, give students a moment to think, briefly discuss in triads what the gist of the video segment was, and then record individual gist statements in their journals.
	• Some students may be unfamiliar with Tier 2 vocabulary words (e.g., *explain, video, researching*). Clarify vocabulary with students as needed.
	• When playing videos, use the English subtitles or a transcript of the text if available. Providing a visual can assist struggling learners in understanding the content of the video.

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Work Time (continued)	Meeting Students' Needs
B. Second View: Determining the Meaning of Words in Context (15 minutes) • Review the learning target: "I can determine the meaning of new words from context in a documentary video about researching in the rainforest." Remind students that they have worked with this target several times before with written texts. Ask students to share what they know about how to determine the meaning of words using the context of the text. Listen for suggestions such as: "You look at the parts of words or the words around it in the same sentence or other sentences." Remind students of the strategies they have been using to determine the meaning of unknown words, such as using context clues; breaking the word into smaller parts; identifying parts of the word that they may already know, etc. • Tell students that they will now watch the video again (just like rereading difficult written text). This time, they will listen carefully for words about what and how these scientists are learning in the Great Bear Rainforest. Tell them that each time the video is paused, they should write down specific words in their journal, underneath the gist statement for that segment of the documentary. • Play the video again. As before, pause after each of the six segments so students have time to think and write down their words. Remind students that they can also write down any unknown and/or confusing words heard in the video so they can come back to them to determine meaning from context. Explain that they do not have to know how to spell the words at this time. • Give students time to share with their triad. Then invite triads to share out the words they chose from the video, listening for words listed in the vocabulary section of this lesson. Move throughout the room to offer support to students as necessary, paying close attention to students' understanding of vocabulary. It might be necessary to replay sections of the video to hear the context of the words again.	• Provide anchor charts for processes, such as How to Determine the Meaning of Words from Context. This would include question words with nonlinguistic representations and a question frame. • Consider providing smaller chunks of text (sometimes just a few sentences) for some students. Teachers can check in on students' thinking as they write or speak about their text. • Visuals can help students comprehend questions and discussions. Chart main points in answers and post all questions asked to students.

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Work Time (continued)	Meeting Students' Needs
C. Third View: Documentaries as Informational Text (10 minutes) • Introduce the learning targets: "I can analyze the features of a documentary video as informational text," and "I can compare and contrast the features of an interview, an article, and a documentary video." Ask students to remember what it means to *analyze*. Listen for responses such as: "study closely," "examine," "evaluate," explore," etc. Also ask students to review the meaning of the words *compare* (identify similarities) and *contrast* (identify differences). • Focus students' attention on the **Features of Informational Text anchor chart**. Ask several students what is meant by "features of a video," listening for students to share ideas, such as: "how a video looks/sounds," "how information is shared in a video," or similar ideas. • Give each student three **sticky notes**. Explain that as they watch the full video a third time, they will *analyze* the features of a documentary video as a type of informational text. They will use the sticky notes to write down informational text features they notice in the video. • Play the video again, this time without pausing, as students record their observations on their sticky notes. • Ask students to talk with their triad: * "What features did you notice?" * "What types of oral and visual clues in the video helped you understand what scientists were trying to communicate?" • Listen to groups' conversations for ideas, such as "The narrator introduced an idea, and then the scientist went into more detail," "There was a lot of video footage of the animals and their habitat/the scientists setting up cameras/viewing the footage," "I could hear what the experts were saying, rather than just reading the words; repeated important information/words," "I could see what the scientists and animals were doing," etc. • Cold call members from each triad to share out ideas with the class. Chart students' ideas on the Features of Informational Text anchor chart. In the left-hand column, write the phrase "documentary video." In the right-hand column, add students' ideas about features of an informational video. Ask students to write these same notes in their anchor chart in their journals.	• Giving features of informational text already written on sticky notes for students to choose from when looking for features in the video would allow for full participation of students who struggle with multiple tasks at one time. • ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Analyzing Documentary Videos:
"Great Bear Rainforest Remote Camera Project" British Columbia, Canada

Closing and Assessment	Meeting Students' Needs

A Debrief: What Have We Learned about the Rainforest? (10 minutes)
• Ask triads to discuss the following questions:
  * "What type(s) of technology did they use to track wildlife?"
  * "What types of wildlife were they tracking?"
  * "What were they able to learn about the wildlife, using this technology?"
• Remind students to justify their responses to these questions by referring directly back to the words from the video. Circulate to support individuals and groups, as necessary.
• Direct students' attention to the **Rainforest KWL anchor chart**. Ask each triad to share out one or two ideas they want to add about what they have learned about rainforests from their discussions to the L column of the anchor chart. Students should record these ideas in the L column of their journal KWL as well.
• Review learning targets: "I can explain the main idea of a video on researching in the rainforest," and "I can compare and contrast the features of an interview, an article, and a video." Ask students to use the Glass, Bugs, and Mud strategy to indicate their level of mastery toward meeting these two targets.
• Distribute **Homework: Venn Diagram Comparing the Features of Two Types of Informational Text**.
	• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.

Homework	Meeting Students' Needs
• Choose two of the informational texts examined so far (interview, article, and/or video) and complete the Venn diagram comparing and contrasting the features of these different types of informational text.	• Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows all students to participate in a meaningful way.

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 7
Supporting Materials

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Transcript: Great Bear Rainforest Remote Camera Project
(For Teacher Reference)

Note: times to pause video during the first viewing

"Great Bear Rainforest Remote Camera Project"
http://vimeo.com/9433768
by Twyla Roscovich
February 13, 2010

0:01-1:30	**Narrator:** Located on the western edge of the North American continent exists one of the last great wilderness regions of its kind: the Great Bear Rainforest, the largest expanse of temperate old growth rainforests left on the planet. Here, where the land meets the sea, terrestrial and marine ecosystems are intertwined, creating one of the most biologically rich areas in the world. Yet, because of its remote nature this region and its wildlife still harbor many mysteries. A group of engineers, biologists, and filmmakers have developed a new way to gain insight into the inner workings of this secretive coastal rainforest.
	Ian McAllister (Pacific Wild director): Well, for nearly two decades we've been trying to really further our understanding of predator/prey relationships in particular in these remote salmon rivers of the Great Bear Rainforest. What we've realized now is that there's far more going on these wild river systems than we're capable of observing firsthand. So what we are doing now is deploying a new generation of wireless video cameras in these remote areas, and we are extremely excited about it because we hope to uncover feeding behavior, inter-species relationships that has not been recorded previously.

1:30-2:19	**Andrew Wright (Field Crew engineer):** So we've got the first system down here, this is one of our high-end cameras. What's superb about them is they have a 360-degree field-of-view on a horizontal plane and 180 in the vertical plane, so we can pretty much look at any angle, so it gives us huge flexibility. So it's very exciting because we can spot the wolves as long as they're in our field of view; and follow them, track them, pan, tilt, and zoom, watching their behavior, which is just so exciting because we now know just 150 feet from where we had the camera last night, we've located their prime feeding ground. So next step get the camera up and get situated for tomorrow's footage--tomorrow evening's footage, I should say.

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Transcript: Great Bear Rainforest Remote Camera Project
(For Teacher Reference)

Note: times to pause video during the first viewing

2:19-3:28	**Narrator:** The remote cameras are placed in areas of high wildlife activity. This season they're focusing on salmon rivers, as this is where many of the species will come to feed. The field crew knows what to look for when placing cameras, as each species leaves behind its own unique clues. A headless salmon indicates that wolves are in the area. Once the cameras are installed, the crew heads back to the boat to set up the radio receivers, and then wait and watch.
	Farlyn Campbell (Field coordinator): This is one of the radios that will be receiving video signal from one of the cameras that's set up in the roof up there.
	Andrew Wright (Field Crew engineer): So, we have three cameras set up. We're just taking a quick look around the stream here to see what's going on. The nifty thing is we've got the complete field of view of everything that's going on in or near the stream. So that shot is from about 100 yards away; there's a very big, dynamic range on the zoom, which is huge.

3:28-4:22	**Narrator:** The cameras are equipped with infrared technology, allowing the crew to monitor the river valley 24 hours a day. Tonight they are testing the cameras. They're hoping that this night-vision will open up new levels of insight into the lives of nocturnal animals like the wolves.
	(Young scientists and Andrew Wright making various comments about what they see on video, "It's coming right up; there it is," etc.; watching the wolf fish a salmon out of the stream, "Wow! That is beautiful." "Pretty cool, pretty cool.")
	Narrator: 24 hours a day, the cameras catch everything that moves through the river valley.

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Transcript: Great Bear Rainforest Remote Camera Project
(For Teacher Reference)

Note: times to pause video during the first viewing

4:22-5:25	**Narrator:** Back on the boat, the crew takes turns keeping watch on the cameras.
	Farlyn Campbell (Field coordinator): "You never get to watch wildlife just doing their thing. No matter how quiet you are, you always have some presence there that they'll be watching. They know you're there. They're always going to be looking back at you and making sure you're not a threat. It's exciting just for me 'cause, yeah, I've spent a lot of time watching eagles, but never got to just get a good look at them like this. So they always (go away) when you get too close. So it makes you look at the world differently, like how everything is affected by our presence; and it's completely changed, so the eagle doesn't even know we're looking at it, so it's not trying to deal with our presence. So, once I zoom in you can really see its tongue and (its) eye, its big talon. Oh, look at its talons.... They're huge. It just gives you a little insight into their life."

5:25-6:48	**Ian McAllister (Pacific Wild director):** So this is our first season, it's a pilot season. But we've already noticed from observing wildlife, especially large carnivores, that they're completely unaware of the cameras, and they're acting in a way that we've never been able to observe before by our physical presence changing their behavior. As conservationists and researchers, we really have responsibility to protect wildlife that we're viewing and studying and getting to understand. And one of the problems with traditional research methods is that we frequently are habituating wildlife to human presence, and in an area like this where poaching and trophy hunting is happening, we're really putting these animals at a disadvantage, because how can they tell the difference between somebody carrying a tripod and a camera, and someone carrying a rifle? So this is using very sophisticated technology to observe wildlife behavior here in a noninvasive way. It's incredible. I mean when you consider the amount of work that's been done in the temperate rainforests, especially up here in British Columbia, yet we've never documented, you know, wolverines preying on salmon, cougars preying on salmon.... There's so much unknown about what goes on up here in these salmon rivers, and we really hope with this camera system, with this new technology, that it's going to open up our eyes to a world that's been previously inaccessible.

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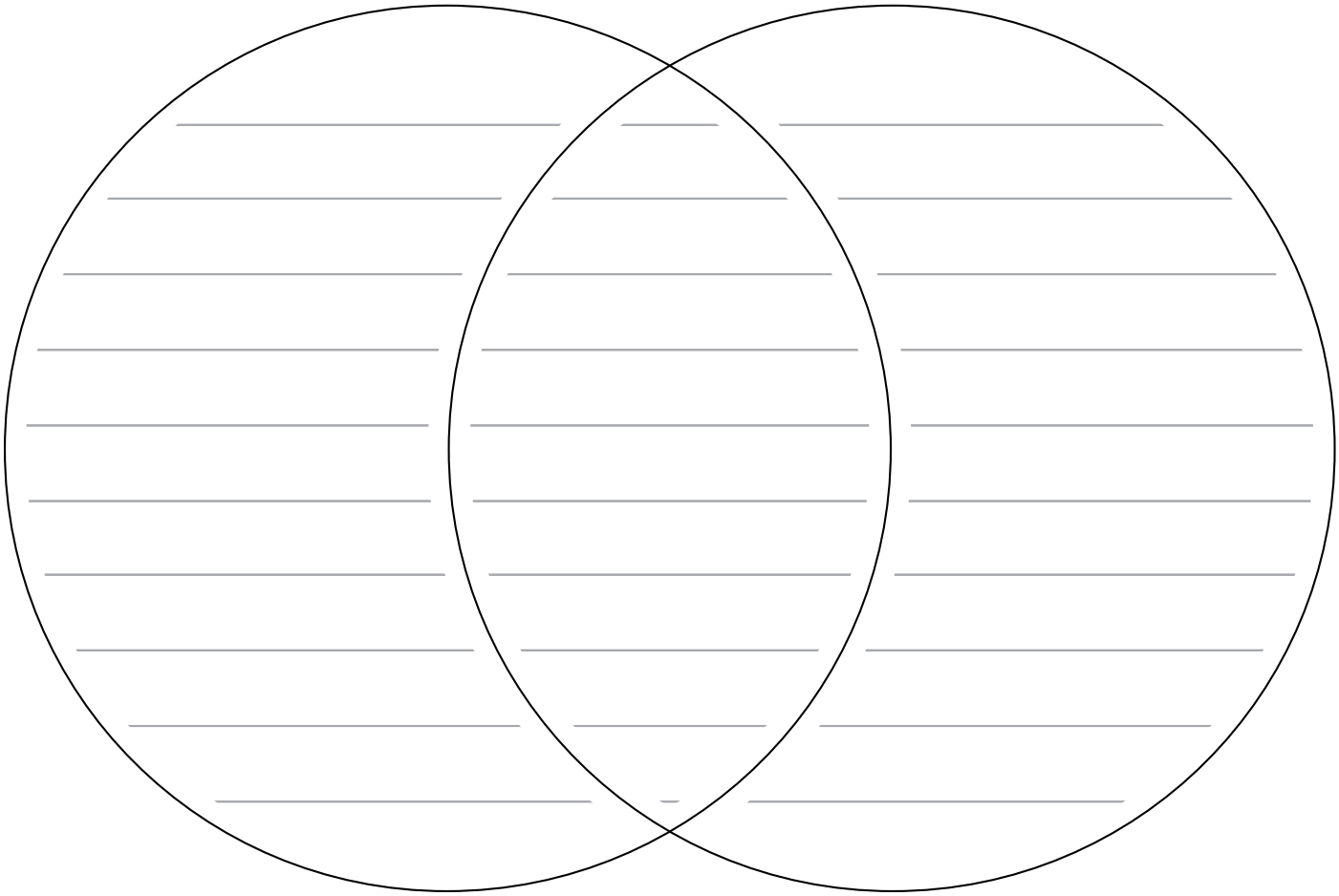
Homework: Venn Diagram Comparing the Features of Two Types of Informational Text

Directions: Choose two of the informational texts you have examined so far (interview, article, and/or video). Complete the Venn diagram, comparing and contrasting the features of these different types of informational text.



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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 8

Synthesizing Information: Living Things in the Rainforest

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Synthesizing Information:
Living Things in the Rainforest

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can summarize information that is presented in pictures and maps. (SL.5.2) I can explain what a text says using quotes from the text. (RI.5.1) I can compare and contrast the organizational structure of different informational texts. (RI.5.5) 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 write routinely for a variety of reasons. (W.5.10)	
Supporting Learning Targets	**Ongoing Assessment**
• I can read a map to help inform me as a reader. • I can take notes on key details from multiple texts about rainforests. • I can use quotes to create a gist statement from notes about rainforests.	• Venn diagram (from homework) • Journal (informational text charts, Rainforest KWL chart) • Synthesis Note-catcher

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Synthesizing Information:
Living Things in the Rainforest

Agenda	Teaching Notes
1. **Opening** A. Engaging the Reader: Maps as Informational Text (10 minutes) B. Review Homework (5 minutes) 2. **Work Time** A. Note-Taking for Research (20 minutes) B. Synthesizing Notes: Paragraph about Unique Life in the Rainforest (15 minutes) 3. **Closing and Assessment** A. What Do We Still Want to Know about Rainforests from Scientists? (5 minutes) B. Exit Ticket (5 minutes) 4. **Homework**	• Students will be working in groups of four for the note-taking and synthesis sections of the Agenda. Consider intentionally grouping students heterogeneously to allow all students the most possible support. • Review: Thumb-O-Meter (see Appendix). • In this lesson, students reread several texts that they have seen in other lessons. Be sure that students have access to the texts read in all previous lessons; prepare additional texts as needed. • In this lesson, students will be introduced to note taking as a step in the research process. Today they practice taking notes with texts they already know fairly well. Students will have many more opportunities in Unit 3 to practice and master note taking. • No new vocabulary is introduced or formally taught in this lesson; look for opportunities to reinforce vocabulary from previous lessons.

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Synthesizing Information:
Living Things in the Rainforest

Lesson Vocabulary	Materials
inform, key, quotes, create, gist	• Features of Informational Text anchor chart (from Lesson 3) • Major Rainforests (from Lesson 1) • Document camera • Rainforest KWL anchor chart (from Lesson 1) • Note-taking Note-catcher (one per student) • "Live Online Interview with Eve Nilson" (from Lesson 6 Mid-Unit 1 Assessment) • Interview with Sloth Canopy Researcher: Bryson Voirin (from Lesson 2) • "Hawaii's Endangered Happy Face Spider" (from Lesson 4) • "Great Bear Rainforest Remote Camera Project" video transcript (from Lesson 7) • Sticky notes or index cards

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Synthesizing Information:
Living Things in the Rainforest

Opening	Meeting Students' Needs
A. Engaging the Reader: Maps as Informational Text (5 minutes) • Introduce the learning target: "I can read a map to help inform me as a reader." Focus students' attention on the word *inform*, asking several students to share what the word *inform* means in this target. Listen for students to respond with ideas such as: "help me understand," "give me information," "educate," etc. • Review the **Features of Informational Text anchor chart** with students, asking them to share out about the various types of informational text features they have seen in an interview, an article, and a video. • Display the world map of **Major Rainforests**, and prompt students to look closely. Ask: • * "What text features on the map help you understand information about rainforests?" • Allow students to Think-Pair-Share their ideas and cold call students to share. ("ighlighted areas where there are rainforests," "arrows pointing to the rainforests", "the names of rainforests in bold print," etc.) • Follow up with a few more specific questions: * "How is a map a type of informational text?" ("It shows pictures of real places," "It has the names of different rainforests/regions/continents," etc.) * "What information can we learn about rainforests from this map?" ("There are six major rainforests in the world," "Rainforests are found all over the world," "Most rainforests are located on/below the equator," etc.) • Add students' ideas to the Features of Informational Text anchor chart and the **Rainforest KWL anchor chart**, respectively.	• Some students may be unfamiliar with Tier 2 vocabulary words (e.g., *explain, map, reader*). Clarify vocabulary with students as needed.
B. Review Homework (5 minutes) • Invite students to share their Venn Diagram Comparing the Features of Two Types of Informational Text (completed for homework) with a partner. Then ask several students to share out with the whole group. • Collect students' Venn diagrams to informally assess.	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Synthesizing Information:
Living Things in the Rainforest

Work Time	Meeting Students' Needs
A. Note-Taking for Research (20 minutes) *Note: This section of Work Time is relatively short, since students have read all of these texts at least three times each in previous lessons.* • Review the learning targets: "I can take notes on key details from multiple texts about rainforests," and "I can use quotes to create a gist statement from notes about rainforests." Focus on the phrase *key details*. Allow several students to share what is meant by *key details*, listening for responses such as: "the most important information," "information about rainforests," etc. • Then bring students' attention to the words *quotes* and *create*. Ask students to share what a *quote* is (what somebody actually says) and what feature in texts lets you know that somebody is talking/saying something (quotation marks). Invite several students to share their thinking. Remind students that when someone uses the exact words from the text in their answers, that is also called a *quote*. It does not have to be dialogue/something someone said. Finally, ask several students to share the meaning of the word *create*, listening for answers such as: "write," "make," etc. Explain to students that they will just begin to use note-taking as way to record the most essential, or *key*, details of informational text in this lesson. They will be doing much more of this in Unit 3. • Remind students that the purpose of reading/viewing informational texts is to learn more about a topic, and that one of the reasons they have been working with a variety of informational texts and text features was to learn about unique things found in rainforests. They are going to take notes about those unique living things from the texts they have read and heard. • Introduce the class to the note-taking process they will be using throughout this module. Using a **document camera**, project the **Note-Taking Note-catcher** for students to see. • Do some brief guided practice, taking notes together about the **"Live Online Interview with Eve Nilson"** (from the Mid-Unit 1 Assessment in Lesson 6). • In the Text column of the Note-catcher, write the title of the text or source: "Live Online Interview with Eve Nilson." • Project the question: "Why did you want to study frogs?" from that interview with Eve. Read the interview question and answer aloud. Ask students if, based on this question and answer, they can identify a unique thing found in the rainforests. Listen for ideas such as: "Frogs are an indicator species," "frogs breathe through their skin," "The disappearance of frogs means that something is wrong in the environment."	• Students needing additional supports may benefit from partially filled-in Note-catchers. • Provide anchor charts for processes such as How to Take Notes. This would include question words with nonlinguistic representations and a question frame. • Consider allowing students who struggle to use only two of the four texts to gather notes.

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Synthesizing Information:
Living Things in the Rainforest

Work Time (continued)	Meeting Students' Needs

• In the Facts column of the Note-catcher, paraphrase what students say, and pose the question: "Why didn't I write the ideas using complete sentences?" Listen for students to respond with: "to shorten it," "to put it in your own words," "You don't need to write notes as complete sentences," or similar ideas.
• Then ask students to Think-Pair-Share to locate a quote from the article to support/give more information about the fact. Listen in on students' conversations for suggestions like: "They're extremely sensitive to the environment and its changes" or "Any rapid disappearance of frogs is a sign there's trouble in the environment." Ask several students to share the quotes aloud with the whole group, and record them in the Quotes column of the Note-catcher.
• Finally, bring students' attention to the My Thinking column, prompting them to consider their own thoughts and reactions to the fact and corresponding quote. Cold call several students to share their responses, listening for ideas similar to: "It's important to pay attention to frogs in the rainforest, so we know if the pollution in the air might be harmful to us."
• Place students into groups of four. Ask students to take out their **journals** and draw a blank four-column Note-catcher, copying the model that they just worked with during guided practice. Make sure that all group members have the following texts:
  * **Interview with sloth canopy researcher Bryson Voirin** (from Lesson 2)
  * **"Hawaii's Endangered Happy Face Spider" article** (from Lesson 4)
  * **"Great Bear Rainforest Remote Camera Project" video transcript** (from Lesson 7).
• Tell students that they also will need to refer to the class Rainforest KWL anchor chart and the notes they have taken in their journals.
• Remind students of their goal: to identify key facts/details about the unique things found in rainforests.
• As students work with their group members to fill out the Note-catcher in their journals, move throughout the room to offer support by reminding students to review one source at a time to note key details; identify quote(s) that support key details; and write a response.
	•

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Synthesizing Information:
Living Things in the Rainforest

Work Time (continued)	Meeting Students' Needs
B. Synthesizing Notes: Paragraph about Unique Life in the Rainforest (10 minutes) • Remind students that throughout this year, they will be writing routinely—to learn new information, and also to show what they know. Be sure students know that today's writing will not be formally assessed; it's just another way to synthesize their learning. • Tell them that today they will just write a quick paragraph to inform others about the unique life that exists in the rainforest. They may use anything from the notes in their three-column Note-catchers they just created. Their paragraph should include facts/key details about unique life in the rainforests, from each of the informational texts; and a quote that supports each fact/key detail, from each of the informational texts. • Ask students to write their paragraphs right on the lines on the second page of their Note-catcher. • Give students 15 minutes to write. Circulate to support as needed. • Collect students' Note-catchers and paragraphs to informally assess. Do not formally grade this writing.	• Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows all students to participate in a meaningful way.

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Synthesizing Information:
Living Things in the Rainforest

Closing and Assessment	Meeting Students' Needs
A. What Do We Still Want to Know about Rainforests from Scientists? (5 minutes) • Return students' attention once again to the class Rainforest KWL anchor chart. Review all the questions listed in the W column, asking students to locate any answers to those questions in the L column of the chart. Check off any questions that have been answered; circle any questions that have not yet been answered (for reference throughout this module). Ask students if there are any additional questions they would like to add to the W column of the chart, then record new student questions. Ask if there are any L statements students would like added to that column of the chart. Record students' ideas.	•

B. Exit Ticket (5 minutes)
• Distribute an **index card** or **sticky note** to each student. Ask them to respond to the following questions in writing:
  * "What are the commonalities in how scientists of the rainforest gather evidence?"
  * "Why is it important to draw from multiple texts when doing research?"
• Ask students to share what each wrote with a partner. Then cold call several students to share out with the whole group.
• Collect students' exit ticket to informally assess.
	• Some students may need the questions for the exit ticket written so they can see them.
	• Consider allowing some students to dictate their answers to a partner or the teacher. This allows students who struggle with written language to participate in meaningful ways.

Homework	Meeting Students' Needs
• What questions do you still have about rainforests? Add any new questions to the W column of the Rainforest KWL chart in your journal. *Note: In Lesson 9, students will take the on-demand end of unit assessment. As a part of this assessment, they will be reading another section of the "Live Online Interview with Eve Nilson" (used in Lesson 6). Be sure students have access to this text, or print fresh copies.*	• Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows all students to participate in a meaningful way.

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Grade 5: Module 2A: Unit 1: Lesson 8
Supporting Materials

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Note-Taking Note-catcher

	Facts	Quotes	My Thinking
Interview With Sloth Canopy Researcher Bryson Voirin			
Hawaii's Endangered Happy Face Spider			
Great Bear Rainforest Remote Camera Project Video Transcript			

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Note-Taking Note-catcher

Include the following in your paragraph:

- Facts/key details about unique life in the rainforests, from each of the informational texts
- A quote that supports each fact/key detail, from each of the informational texts

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 9

End of Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity

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End of Unit 1 Assessment:

Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity

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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4) I can compare and contrast the organizational structure of different informational texts. (RI.5.5) I can use a variety of sources to develop an understanding of a topic. (RI.5.9) I can write an opinion piece and identify reasons to support my opinion. (W.5.1)	
Supporting Learning Targets	**Ongoing Assessment**
• I can determine the main ideas in informational texts about rainforests of the Western Hemisphere. • I can compare and contrast the features of different informational texts about rainforests. • I can express my opinion about types of informational texts in writing. • I can use details to support my opinion. • I can reflect on my learning about informational texts and the rainforests.	• End of Unit 1 Assessment • Tracking My Progress, End of Unit 1 recording form

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End of Unit 1 Assessment:

Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity

Agenda	Teaching Notes
1. **Opening** A. Review Learning Targets (5 minutes) 2. **Work Time** A. End-of-Unit 1 Assessment: Analyzing Part 2 of an Interview with a Rainforest Scientist and Comparing and Contrasting Texts About Rainforest Biodiversity (40 minutes) B. End of Unit 1 Tracking My Progress: Reflecting on Learning (10 minutes) 3. **Closing and Assessment** A. Exit Ticket (5 minutes) 4. **Homework**	• In advance: Review the End-of-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity (see supporting materials). • Review the text, excerpts from "Live Online Interview with Eve Nilson," in Supporting Materials. • The End-of-Unit 1 Assessment is "open book." Students may use all of their texts, notes, and other written resources, but they must work independently. • In this lesson, students formally self-reflect on learning targets for the second time. • Use the 2-Point Rubric: Writing from Sources/Short Response (see Supporting Materials) to score students responses on their assessments.

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End of Unit 1 Assessment:

Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity

Lesson Vocabulary	Materials
biodiversity, express, opinion, details, support	• Assessment Text: "Live Online Interview with Eve Nilson" (one per student) • End of Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 2 (one per student) • End of Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 2 (Answers for Teacher Reference) • Tracking My Progress, End of Unit 1 recording form (one per student) • Note card or sticky note • Rainforest KWL anchor chart (from Lesson 1) • 2-Point Rubric: Writing from Sources/Short Response (for Teacher Reference; see Teaching Note above)

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End of Unit 1 Assessment:

Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity

Opening	Meeting Students' Needs
A. Review Learning Targets (5 minutes) • Tell students that today they are going to take the end of unit assessment so they can show all they have learned about rainforests of the Western Hemisphere; what they know about how scientists communicate their research; and the different types of informational texts that helped them learn more about the rainforests. • Read each of the learning targets aloud reminding students that they have been working on all of these targets throughout the unit. As targets are read aloud focus students' attention on the words *express, opinion, details*, and *support*. Ask students to share their suggestions for the meaning of these words, listening for ideas such as: * *express*—share ideas through writing * *opinion*—what I think; my own feelings about something * *details*—specific ideas; supporting facts/information * *support*—use details/information from sources to justify/explain thinking	• All students developing academic language will benefit from direct instruction of academic vocabulary.

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End of Unit 1 Assessment:

Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity

Work Time	Meeting Students' Needs
• A. End-of-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity (40 minutes) • Explain to students that today they will read excerpts from the second part of the "Live Online Interview with Eve Nilson." Then they will respond to some questions about this text, as well as the other informational texts they have read/viewed throughout this unit. • Tell students that this is an "open book" assessment, which means they may use their resources but must work on their own. They may use their journal notes, other texts, and all anchor charts to support their responses to questions/prompts. • Distribute the **Assessment Text: "Live Online Interview with Eve Nilson"** and the **End-of-Unit 1 Assessment: Analyzing an Interview with a Rainforest Scientist Part 2** to students. • Answer any clarifying questions then ask students to begin. • Give students 35 minutes to complete the assessment. • Collect students' assessments.	• Consider providing smaller chunks of text and fewer questions for assessment (sometimes just a few sentences and questions) for ELLs and other students who struggle with reading and writing. Teachers can check in on students' thinking as they write or speak about their text. • For ELLs, consider providing extra time for tasks and answering questions in class discussions. ELLs often need more time to process and translate information. ELLs receive extended time as an accommodation on NY State assessments.

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End of Unit 1 Assessment:

Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity

Work Time (continued)	Meeting Students' Needs

B. End of Unit 1 Tracking My Progress: Reflecting on Learning (10 minutes)
• Introduce the learning targets: "I can determine the main ideas in informational texts about rainforests of the Western Hemisphere," and "I can compare and contrast the features of different informational texts about rainforests." Focus on the words *determine, compare, contrast,* and *features*. Ask students to recall the meaning of these terms, listening for students to share ideas like:
  * *determine*—decide; conclude
  * *compare*—identify similarities
  * *contrast*—identify differences
  * *features*—specific parts; elements; characteristics
• Distribute the **Tracking My Progress, End of Unit 1 recording form** to students Remind students that they did a similar self-assessment a few lessons ago, and that they also have been reflecting on their progress toward the learning targets almost daily.
• Read through the tracker and provide clarification as necessary for students. Ask students to independently complete their Tracking My Progress.
• After several minutes, invite students to share their self-assessment of these targets, by referring to their End of Unit Tracking My Progress, with a partner. Invite several students to share aloud with the group.
	• Allow students who struggle with written language to dictate their reflections on learning targets to a partner or the teacher. This allows all students to be able to participate in a meaningful way.

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End of Unit 1 Assessment:

Analyzing an Interview with a Rainforest Scientist Part 2 and Comparing and Contrasting Texts About Rainforest Biodiversity

Closing and Assessment	Meeting Students' Needs
A Exit Ticket (5 minutes) • Distribute a **note card** or **sticky note** to each student. Pose the following question: "If you could meet one of the scientists we read about in our informational texts, what question about the rainforest would you want to talk with her/him about? Why?" • Ask several students to share out their ideas, and then add all questions to the Rainforest KWL anchor chart (W column).	• 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.

Homework	Meeting Students' Needs
• Continue reading in your independent reading book for this unit at home. *Note: Score students' assessments using the **2-Point Rubric: Writing from Sources/Short Response rubric** (see Supporting Materials). In Lesson 10, students participate in a Science Talk. To prepare, become familiar with the Science Talk protocol. Choose compelling student questions from the W of the class Rainforest KWL anchor chart and/or create a "provocative, open-ended question" to use for the Science Talk in Lesson 10. Some suggested questions/question types to use:* *"Why is biodiversity important?"* *"How are we dependent on rainforests/biodiversity?"* *"Why should we try to protect biodiversity?"* *"Why should we try to save endangered animals?"*	•

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 9
Supporting Materials

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Assessment Text:
Live Online Interview with Eve Nilson

Below are excerpts from Part II of the original interview, reprinted by permission of Scholastic Inc.:

Q: What made you move to the rain forest?
Eve: I don't live in the rain forest, I just spent three months studying there. I'm returning this summer for three months. I plan to conduct studies in the rain forest after I graduate from college. The rain forest is so appealing to me. It's so pure and natural. I really like being where there isn't the noise of the city. I love all the animals in the forest. I want more than anything to protect the rain forest because it is undergoing such change and is in such danger.

Q: Are you going to study frogs again next summer?
Eve: No, I'll be studying brown capuchin monkeys. They are extremely intelligent monkeys. I saw some last summer. They are highly endangered. I feel it would be very important to do research of these monkeys. I'll be doing a census of how many monkeys are in certain areas. I'll study the effects hunters will have on these groups.

Q: What do your friends think about your fascination with the rain forest? Do they really like science, too?
Eve: Some of them think I'm a little weird, actually. They really respect that I am so passionate about something that is in such critical condition. It is so important to the world. It affects everything. The depletion of the rain forest is occurring so rapidly. It's important that we do something about it. They have actually asked me about how they can get involved in rain-forest research as well.

Q: What kinds of dangers do rain forests face?
Eve: The effects of global warming and logging, too much logging, and urbanization. Urbanization is when the cities encroach on the land that was original forest to make houses for the people. Six percent of the original forest remains and that's just for the Atlantic rain forest. That's why my study was important. Scientists wanted to determine if they could reforest the areas cut down. I was studying whether there were any new frog species that adapted to the land. The results of my study were that they could reforest without replacing any original species, because all were common to the pond site.

Q: What did your family think about you going to the rain forest?
Eve: My mother was extremely supportive. She actually feels there's more danger in California as a teenager than in the rain forest for me. I was pretty comfortable in nature, because I was raised in Alaska. It seemed really natural for me to be in the jungle. She was sure that I was with safe people. My mother wasn't there, but the scientists were very trustworthy.

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Assessment Text:
Live Online Interview with Eve Nilson

Q: When did you first start taking an interest in our environment?
Eve: I've always had an interest, because my mom is a whale biologist, and growing up in Alaska, I've always had an appreciation for nature. I'm just more comfortable in the wilderness. I've had this appreciation for nature ever since I was a young girl.

Q: Did you see anything you did not expect?
Eve: I came into a clearing one day and saw a lot of bullet holes in trees. There was litter everywhere. It really shocked me. It was traumatizing because I was walking through pristine forest, and then to come to this area where trash was thrown about like people didn't care about the forest. It was from the poachers who had been hunting the monkeys that we had been observing earlier that day.

Q: What scientists do you most respect?
Eve: I most respect Jane Goodall for her work. I really appreciate all the work she's done for the environment. I also respect my mother for the work she's done as a whale biologist. She has instilled this appreciation in me for animals and nature that I live by.

Q: Are poachers dangerous? Why do they poach?
Eve: I was actually afraid of poachers when I was walking alone at night, because I was afraid they would mistake me for an animal and shoot me. One of the rangers, who took hikes with me and became my friend, used to be a poacher. I asked him why. He said because he was very poor and he was doing it to feed his family. Some of them kill to eat them and use all the parts. But there are also some that just do it for the sport and that's shocking to me.

Q: Has your brother or any family members ever gone on any of these trips with you?
Eve: My brother grew up in Alaska with me studying whales. We both have this appreciation for nature. My mother came down to the rain forest in Brazil for a month and she also went some other places with me. We went to the Amazon, Pantanal, where there are more species of flora and fauna than anywhere else in the world. Those places are also highly endangered. The area is undergoing great destruction. There's also another area of Brazil that needs focus. My brother is 18. He's a musician, so this summer he's going to be performing in Macedonia. He plays all kinds of music: jazz, flamenco. He's a guitar player. Classical, blues, rock, everything.

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End of Unit 1 Assessment:
Analyzing an Interview with a Rainforest Scientist, Part 2

Name:

Date:

Directions:

- Read the excerpts from Part 2 of the "Live Online Interview with Eve Nilson."
- Consider the gist of the interview—what it is mostly about.
- Skim the assessment questions below.
- Reread the text in chunks. Think about the answers to the assessment questions.
- Answer the following questions in complete sentences.
- Be sure to cite evidence from the text to support your answers.

1. Part A:
   What does the word *urbanization* mean as it is used in this interview?

   A. more trees are being planted

   B. buildings in cities are getting taller

   C. cities are expanding onto land that was once forest

   D. historical buildings in cities are being knocked down to build new ones

   Part B:
   Which of the phrases from the interview best helps the reader understand the meaning of *urbanization*?

   A. It is so important to the world.

   E. Urbanization is when the cities encroach on the land that was original forest to make houses for the people.

   F. Six percent of the original forest remains and that's just for the Atlantic region.

   G. Scientists wanted to determine if they could reforest the areas cut down.

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End of Unit 1 Assessment:
Analyzing an Interview with a Rainforest Scientist, Part 2

2. Part A:
   What is one of the main ideas of the interview with Eve Nilson?

   A. Rain forests have many species of plants and animals.

   B. Scientists are trying to reforest some areas of the rain forest.

   C. Poachers cause harm to the rain forests.

   D. Rain forests are being destroyed.

   Part B:

   Which sentence from the article best supports the answer to Part A?

   A. I want more than anything to protect the rain forest because it is undergoing such change and is in such danger.

   B. There was litter everywhere.

   C. The results of my study were that they could reforest without replacing any original species, because all were common to the pond site.

   D. Those places are also highly endangered.

3. According to the interview with Eve Nilson, in what ways are the plants and animals of the rain forest in danger? Quote evidence from the text in your answer.

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End of Unit 1 Assessment:
Analyzing an Interview with a Rainforest Scientist, Part 2

4. According to the articles we have read and the video documentaries we have viewed, what is a definition of the word *biodiversity*?

5. Write a paragraph that explains the three main informational texts read and analyzed during this unit: "Interview With Sloth Canopy Researcher: Bryson Voirin," "Hawaii's Endangered Happy Face Spider," and the "Great Bear Rainforest Remote Camera Project," about the rainforests of the Western Hemisphere.

Make sure to include:
The *type* of text each is;
The *features* in each type of text;
The *main idea* each scientist *communicated* about the rainforest.

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End of Unit 1 Assessment:
Analyzing an Interview with a Rainforest Scientist, Part 2

6. Which type of informational text helped you learn the most about rainforests of the Western Hemisphere? What specific *features* in the text helped you the most?

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End of Unit 1 Assessment:
Analyzing an Interview with a Rainforest Scientist, Part 2
(Answers for Teacher Reference)

1. Part A:

   What does the word *urbanization* mean as it is used in this interview?

   A. more trees are being planted

   B. buildings in cities are getting taller

   C. cities are expanding onto land that was once forest

   D. historical buildings in cities are being knocked down to build new ones

   Part B:
   Which of the phrases from the interview best helps the reader understand the meaning of *urbanization*?

   A. It is so important to the world.

   B. **Urbanization is when the cities encroach on the land that was original forest to make houses for the people.**

   C. Six percent of the original forest remains and that's just for the Atlantic region.

   D. Scientists wanted to determine if they could reforest the areas cut down.

2. Part A:

   A. What is one of the main ideas of the interview with Eve Nilson?

   B. Rain forests have many species of plants and animals.

   C. Scientists are trying to reforest some areas of the rain forest.

   D. Poachers cause harm to the rain forests.

   E. Rain forests are being destroyed.

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End of Unit 1 Assessment:
Analyzing an Interview with a Rainforest Scientist, Part 2
(Answers for Teacher Reference)

Part B:

Which sentence from the article best supports the answer to Part A?

A. I want more than anything to protect the rain forest because it is undergoing such change and is in such danger.

B. There was litter everywhere.

C. The results of my study were that they could reforest without replacing any original species, because all were common to the pond site.

D. **Those places are also highly endangered.**

3. According to the interview with Eve Nilson, in what ways are the plants and animals of the rain forest in danger? Quote evidence from the text in your answer.
Capuchin monkeys are highly endangered because they are hunted by poachers. The effects of global warming, logging and urbanization is causing the depletion of rainforest. Hunters shoot and leave bullet holes in trees, and they leave their litter everywhere after they hunt. Rain forests are undergoing great destruction.

4. According to the articles we have read and the video documentaries we have viewed, what is a definition of the word *biodiversity*?

Biodiversity means many (a lot of) different plants and animals in one area.

5. Write a paragraph that explains the three main informational texts read and analyzed during this unit: "Interview With Sloth Canopy Researcher: Bryson Voirin," "Hawaii's Endangered Happy Face Spider," and the "Great Bear Rainforest Remote Camera Project," about the rainforests of the Western Hemisphere.

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End of Unit 1 Assessment:
Analyzing an Interview with a Rainforest Scientist, Part 2
(Answers for Teacher Reference)

Make sure to include:
The *type* of text each is;
The *features* in each type of text;
The *main idea* each scientist *communicated* about the rainforest.

Student answers will vary, but should include ideas like: Bryson Voirin was an *interview*, Happy Face Spider was an *article*, and Great Bear was a *video*. All informational texts have titles. Interviews share information by using questions and answers, captions, quotes, broken into chunks and sometimes have pictures. Articles have bold and italicized words and/or numbers and statistics, captions, sometimes have pictures, and are sometimes broken up into smaller parts. Videos have sound and recorded video images, a narrator, and live interviews with experts. The main idea of the interview was about Bryson Voirin studying sloths in the rainforest of Panama to discover why they move so slow. The main idea of the article was about the discovery of the happy face spider in Hawaii, how it has become endangered, and how it is used by conservationists to bring attention to disappearing species in Hawaii's rainforests. The main idea of the Great Bear video was using new camera technology to study the animals of the Great Bear Rainforest more closely than ever before (or similar answers).

6. Which type of informational text helped you learn the most about rainforests of the Western Hemisphere? What specific *features* in the text helped you the most?

   Student answers will vary; make sure each student names the interview, article or video, and specific features (e.g., bold print, question/answer, chunked text, italicized words, sound, visuals, etc.) of that text that helped him or her the most.

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Tracking My Progress, End of Unit 1

Learning Target: I can determine the main ideas in informational texts about rainforests of the Western Hemisphere.

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:

_____

_____

_____

_____

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Tracking My Progress, End of Unit 1

Learning Target: I can compare and contrast the features of different informational texts about rainforests.

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:

_____

_____

_____

_____

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2-Point Rubric: Writing from Sources/Short Response1

(for Teacher Reference)

Use the below rubric for determining scores on short answers in this assessment.

2-point Response	The features of a 2-point response are:
	Valid inferences and/or claims from the text where required by the prompt Evidence of analysis of the text where required by the prompt Relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt Sufficient number of facts, definitions, concrete details, and/or other information from the text as required by the prompt Complete sentences where errors do not impact readability

1-point Response	The features of a 1-point response are:
	A mostly literal recounting of events or details from the text as required by the prompt Some relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt Incomplete sentences or bullets

0-point Response	The features of a 0-point response are:
	A response that does not address any of the requirements of the prompt or is totally inaccurate No response (blank answer) A response that is not written in English A response that is unintelligible or indecipherable

[1]From New York State Department of Education, October 6, 2012.

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 10
Science Talk

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Science Talk

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 prepare myself to participate in discussions. (SL.5.1) I can draw on information to explore ideas in the discussion. (SL.5.1) I can follow our class norms when I participate in a conversation. (SL.5.1) I can ask questions that are on the topic being discussed. (SL.5.1) I can connect my questions and responses to what others say. (SL.5.1) After a discussion, I can explain key ideas about the topic being discussed. (SL.5.1) I can write an opinion piece and identify reasons to support my opinion. (W.5.1)	
Supporting Learning Targets	**Ongoing Assessment**
• I can ask questions that are relevant to rainforest research. • I can share my ideas with my peers during a Science Talk about rainforests. • I can use the ideas of my peers in order to help inform my ideas about the rainforests. • I can gather quotes from informational texts as evidence in order to prepare for a Science Talk about rainforests. • I can synthesize my ideas about rainforests after the Science Talk.	• Science Talk (observations/notes) • Journal: synthesis statement

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Science Talk

Agenda	Teaching Notes
1. **Opening** A. Engaging the Reader: Communicating Like Scientists (2 minutes) B. Review Learning Targets (8 minutes) 2. **Work Time** A. Establishing Norms for a Science Talk (10 minutes) B. Participating in a Science Talk (20 minutes) C. Synthesizing Information from a Science Talk (10 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) B. Exit Discussion (5 minutes) 4. **Homework**	• Become familiar with the Science Talk protocol (see Appendix.) Consider the suggested compelling questions in the lesson; feel free to craft a different question if students have become interested in some other compelling angle on this topic. Just be sure that the question is provocative and open-ended. • Be sure to envision the process for Work Time, Part B: Orchestrating a Science Talk can be a bit complex the first time. Students begin in two concentric circles (an inner circle of students facing an outer circle).

Lesson Vocabulary	Materials
relevant, quotes, my ideas, ideas of peers, inform, synthesize, details	• Science Talk Norms anchor chart (new; teacher created; see Work Time A) • Science Talk Note-catcher (one per student) • Sticky notes • Rainforest KWL anchor chart (from Lesson 1)

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Science Talk

Opening	Meeting Students' Needs
A. Engaging the Reader: Communicating like Scientists (2 minutes) • Congratulate students on all the learning they have done about rainforests. Remind them that they have also been focusing on how scientists communicate their findings. • Tell students that today they are going to learn more about how scientists think and discuss, or communicate, their ideas with other scientists by participating in a Science Talk. Say: "Now we are going to do what scientists do when they get together."	
B. Review Learning Targets (8 minutes) • Introduce the learning target: "I can ask questions that are relevant to rainforest research," and focus students' attention on the word *relevant*. Ask students what it means to ask *relevant* questions about rainforest research. Listen for students to share ideas like: "related to what we have read/viewed," "connected to the rainforest," "important to help us understand more about rainforest research," etc. • Ask students to join a partner, and refer back to their journals (begun in Lesson 1) and the informational texts they have read/viewed in order to identify the *relevant* questions scientists they have been learning about asked. Ask several students to share out, listening for examples such as: "Bryson Voirin wanted to know why sloths are so slow or if the algae in their fur helps them in some way," The scientists in the Happy Face Spider article wanted to know if its marking keep predators away," "Eva Nilson wanted to know if the environment was changing/harmful to people, based on how frogs' skin changed," or other examples. • Ask students to Think-Pair-Share how these questions were *relevant*. Listen for students to refer back to the meaning of the word *relevant*. "Knowing if algae helps sloths may help us discover ways algae can help people; knowing if frogs' skin is changing/they are disappearing will tell us if the environment is becoming harmful to us/we can take steps to clean up the environment," or similar connections.	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Science Talk

Work Time	Meeting Students' Needs
A. Establishing Norms for a Science Talk (10 minutes) • Say to students: "A Science Talk is a discussion about a *relevant*, or 'big,' question scientists have. While scientists discuss these big questions with one another, it is important for them to create a set of rules, or norms, that they will all follow so everyone's ideas can be heard and considered." • Introduce the learning targets: "I can share my ideas with my peers during a Science Talk about rainforests," and "I can use the ideas of my peers in order to help inform my ideas about the rainforests." • Start a **Science Talk Norms anchor chart** and focus students' attention on the phrases: *share my ideas* and *use the ideas of my peers to . . . inform*. Ask students what it looks/sounds like to share ideas with peers, listening for responses such as: "wait my turn to speak, so I am heard," "don't shout/speak too loudly," "make sure everyone gets a turn to speak," "no one person does most/all of the speaking," "use information from text to support my ideas," etc. Add students' ideas to the anchor chart. • Then ask students what it looks/sounds like to use the ideas of my peers to inform their ideas, listening for students to share thoughts like: "not thinking I have the one/right answer to the question," "listening to what other people say," "consider evidence others use when discussing question and whether it makes me think about the question differently," or similar suggestions. Record students' ideas on the anchor chart. • Give students a moment to read over the norms listed on the anchor chart, then consider which one they think will be most useful during a Science Talk with their peers, and why. Ask students to turn to a partner and share their thinking, then invite several students to share with the whole group.	• Provide nonlinguistic symbols (e.g., two people talking for share, a lightbulb for *main idea*, an eye for *looks like*, an ear for *sounds like*) to assist ELLs and other 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.

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Work Time (continued)	Meeting Students' Needs

B. Participating in a Science Talk (20 minutes)
• Introduce the learning target: "I can gather quotes from informational texts as evidence in order to prepare for a Science Talk about rainforests." Invite several students to define the word *quotes* (what someone actually says, surrounded by quotation marks in written text) and share some examples of quotes from scientists they read/viewed in the informational texts.
• Remind students that they can refer to the Facts/Quotes Note-catcher in their journals for ideas. Make sure students have access to all the informational texts used within this unit, for reference.
• 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 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 (students will need to paste these into their journals). Point out the three columns they will need to make notations in during the Science Talk:
  * Question: Record the question you are discussing.
  * Quotes: Record the quotes, from articles and/or journal notes, you refer to during the discussion of the question (various quotes from articles).
  * Gist: Write a brief statement of what your partner said.
• Pose a compelling question, and post it in an area visible to all students:
  * "Why is biodiversity important?"
• Ask students to write the question on their Science Talk Note-catchers.
• Remind students that as they discuss their ideas about the question, they will need to use quotes from the scientists, in their informational texts, to support their thinking.
• Invite students to begin the Science Talk.
	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.
	• Students needing additional supports may benefit from partially filled-in Note-catchers.
	• 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.

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Work Time (continued)	Meeting Students' Needs

• Approximately every 5 minutes, ask students in the inner circle to move two places to the left. They now will be facing a new partner.
• Ask these new pairs to discuss the same question.
• Students will move three times, so they have the opportunity to discuss the question, and make notations, with three of their peers.
• As students talk in their pairs, circulate to note which students are speaking and what ideas they are sharing. Record on **sticky notes** 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, and added to the class **Rainforest KWL anchor chart**.
• If specific pairs are losing momentum, offer additional "probing questions" to ensure that they remain on topic and explore the question fully. For example:
  * "How do the diverse species in rainforests depend on one another?"
  * "How is life on earth dependent upon biodiversity?"
	•

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Work Time (continued)	Meeting Students' Needs

C. Synthesizing Information from a Science Talk (10 minutes)
• Place students in triads. Introduce the learning targets: "I can synthesize my ideas about rainforests following 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; quotes; facts; information
• Say to students: "You just had an opportunity to participate in a Science Talk around one of our big questions about rainforests. Here are some of the ideas I heard from the class . . ." (Read aloud the intriguing questions/comments recorded on sticky notes while listening to student conversations during the Science Talk.) As each comment/question is read aloud, ask students why it is a compelling comment/question, and place sticky notes on the class Rainforest KWL anchor chart in the appropriate column (W or L), for ongoing reference throughout this module.
• Ask students to discuss the following questions with their triad partners:
  * "What answers to the question did you and your peers discuss?"
  * "What details and quotes, from the informational texts, did you and/or your peers use to support your thinking?"
• After 5 minutes, invite triads to share out with the 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. For this statement, they are to write their answer to "Why is biodiversity important?" using evidence and details from the discussions they just had during the Science Talk. They will have an opportunity to continue synthesizing, or thinking about all that they have learned, in future lessons as well.
• Invite several students to share their synthesis statements with the whole group.
	• Consider allowing students who struggle with language to dictate their synthesis statement to a partner or the teacher.

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Closing and Assessment	Meeting Students' Needs
A Debrief (5 minutes) • Read aloud the learning target: "I can share my ideas with my peers during a Science Talk about rainforests." Ask students to use thumbs-up to show if they met the target; or thumbs-down to show they still need to work on the target. Call on several students to share why they gave themselves a thumbs-up or thumbs-down, prompting them to refer to the norms they determined for the Science Talk Norms anchor chart as a way to support their self-assessment. • Repeat for the second target: "I can use the ideas of my peers in order to help inform my ideas about the rainforests."	
B. Exit Discussion (5 minutes) • Invite students to Think-Pair-Share: "How did participating in a Science Talk support me as a learner?" • Cold call several students to share out with the class.	• Some students may need the question for the exit discussion written so they can see them.
Homework	**Meeting Students' Needs**
• None.	

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 1: Lesson 10
Supporting Materials

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Science Talk Note-catcher

Question:

QUOTES From informational texts	**GIST** What my partner said...

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 2:
Overview

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Case Study:
The Most Beautiful Roof in the World and the Work of Rainforest Scientist Meg Lowman

Unit 2: Case Study: *The Most Beautiful Roof in the World* and the Work of Rainforest Scientist Meg Lowman

In this unit, students will continue to build new reading skills and learn about the process scientists use to conduct research in the natural world through a close read of *The Most Beautiful Roof in the World: Exploring the Rainforest Canopy* (L1160), by Kathryn Lasky, with photographs by Christopher G. Knight. They will take an in-depth view of how one scientist, Meg Lowman, became interested in her chosen career, created new ways to study the natural world, and communicates her findings to others. Students will compare and contrast Meg Lowman's work to that of other rainforest scientists while navigating the terrain of various forms of informational text (articles, interviews, videos). The class also will read the short story "The Wings of a Butterfly," fiction modeled after an indigenous tribe's folktale of animal encounters with humans in the Amazon rainforest. This will allow the students further opportunity to practice fluency when reading as well as compare literature to informational text. For the mid-unit assessment, students will demonstrate skills learned for determining the meaning of new vocabulary and the main ideas in informational text through the completion of a text-dependent short-answer quiz. In the end of unit assessment, students will continue to demonstrate their ability to summarize, use quotes to explain the meaning of text, and determine the meaning of new words in context. In preparation for individual research to be conducted in Unit 3, the members of the class will hone in specifically on the research Meg Lowman did during extended stays in the canopy of the rainforest. Students will write an essay in which they analyze Lowman's research of biodiversity in the rainforests, providing examples of what and how she researches to clarify their analysis.

Guiding Questions And Big Ideas
• **How do scientists communicate what they learn about the natural world?**
• **What is unique about living things in the rainforest?**
• *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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Case Study:
The Most Beautiful Roof in the World and the Work of Rainforest Scientist Meg Lowman

Mid-Unit Assessment	**Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World* Quiz** This on-demand assessment centers on standards NYSP12 ELA CCLS RI.5.1, RI.5.2, RI.5.4, and L.5.4. Students will read and analyze a new section of text from *The Most Beautiful Roof in the World* and then complete a short-answer and multiple-choice text-dependent questions quiz.
End of Unit Assessment	**On-Demand Analysis of Meg Lowman's Research in the Rainforest** This assessment centers on standards NYSP12 ELA CCLS W.5.2, W.5.4, and W.5.9. After reading and analyzing *The Most Beautiful Roof in the World*, students will write an essay in which they analyze Meg Lowman's research of biodiversity in the rainforests, providing examples of what and how she researches to clarify their analysis.

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Case Study:
The Most Beautiful Roof in the World and the Work of Rainforest Scientist Meg Lowman

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/Harcourt, 1997), ISBN: 978-1-4352-6563-9 (hardcover); (New York: Sandpiper/Harcourt, 1997), ISBN: 978-0-15-200897-0 (paperback).
2. Aaron Shepard, "The Wings of the Butterfly," in *Cricket*, Mar 2011, 38:6.

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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	Introduction to *The Most Beautiful Roof in the World*: Why Does Meg Lowman Research the Rainforest? (Pages 2–4)	• I can make inferences 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can compare and contrast the organizational structure of different informational texts. (RI.5.5) • I can follow our class norms when I participate in a conversation. (SL.5.1)	• I can make inferences about Meg Lowman. • I can explain which features of *The Most Beautiful Roof in the World* make it an informational text. • I can determine what motivated Meg Lowman to become a rainforest scientist using details from the text as evidence. • I can determine the meaning of new words in *The Most Beautiful Roof in the World*. • I can actively listen to my group members during discussions.	• Journal (Meg Lowman KWL chart) • Meg Lowman Note-catcher
Lesson 2	Reading and Writing about How to Perform a Process: How Meg Lowman Studies the Rainforest (Pages 4–8)	• 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 explain how authors use evidence and reasons to support their points in informational texts. (RI.5.8) • I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) • I can use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) • I can connect my questions and responses to what others say. (SL.5.1)	• I can determine the process Meg Lowman uses to preserve specimens. • I can list the steps to preserving a specimen from the natural world. • I can contribute to my group's discussion by giving suggestions that are on topic. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can follow steps for collecting and preserving specimens.	• Journal (Meg Lowman chart, glossaries) • Steps to Preserve a Specimen Note-catcher • Preserved specimen

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Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 3	Supporting an Opinion: Why Is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)	• 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 explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) • I can write an opinion piece that supports a point of view with reasons and information. (W.5.1) • I can make inferences using quotes from the text. (RI.5.1)	• I can explain why the canopy is a difficult place to research. • I can identify the skills needed by scientists in order to study the rainforest canopy. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can write an opinion about being a rainforest scientist that is supported by reasons from the text. • I can infer what skills Meg Lowman must have in order to be a rainforest scientist.	• Journal (Meg Lowman KWL chart, Close Read Note-catcher, glossaries)
Lesson 4	Close Reading: Blue Creek, a Rainforest in Belize (Page 12)	• 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can explain how authors use evidence and reasons to support their points in informational texts. (RI.5.8)	• I can explain how the Blue Creek rainforest is biodiverse. • I can explain how Kathryn Lasky uses language to paint a picture for the reader about biodiversity in the Blue Creek rainforest. • I can determine the meaning of new words in *The Most Beautiful Roof in the World*.	• Journal (AQUA Biodiversity anchor chart, glossaries) • Text-dependent questions

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Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 5	Close Reading in Expert Groups: What Is It Like in the Rainforest Canopy? (Pages 13–16)	• 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 use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) • I can summarize information that is presented in pictures. (SL.5.2)	• I can write a gist statement for a chunk of texts from *The Most Beautiful Roof in the World*. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can sketch the gist of a chunk of text from *The Most Beautiful Roof in the World*. • I can match a gist statement to a picture of the same chunk of text.	• Journal (Meg Lowman KWL chart, Biodiversity AQUA chart, glossaries) • Gist statements • Gist sketches
Lesson 6	Reading Informational Text for Details: Meg's Rainforest Experiment (Pages 17–20)	• 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 use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) • I can summarize text that is read aloud to me. (SL.5.2)	• I can explain Meg Lowman's process for conducting experiments in the rainforest. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*.	• Journal (Meg Lowman KWL chart, glossaries) • Experiment Note-catcher

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Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 7	Mid-Unit Assessment: Text-Dependent Multiple-Choice and Short-Answer Assessment	• 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4) • I can use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4)	• I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can determine the main ideas of a selection of text from *The Most Beautiful Roof in the World*. • I can justify my answers using quotes and evidence from the text.	• Mid-Unit 2 Assessment • Tracking My Progress, Mid-Unit 2 recording form
Lesson 8	Close Read: Epiphytes of the Rainforest and the Creatures That Call Them Home (Pages 24–26)	• 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 explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) • I can use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4)	• I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can explain the relationship between animals and plants in the rainforest using evidence from the text. • I can synthesize what I read in *The Most Beautiful Roof in the World*.	• Journal (Close Read Note-catcher, AQUA Biodiversity chart, synthesis statement)

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Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 9	A Rainforest Folktale: Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale	• I can summarize text that is read aloud to me. (SL.5.2) • I can determine a theme based on details in a literary text. (RL.5.2) • I can summarize a literary text. (RL.5.2) • I can determine the meaning of literal and figurative language (metaphors and similes) in text. (RL.5.4) • I can describe how a narrator's point of view influences the description of events. (RL.5.6)	• I can summarize the story of "The Wings of a Butterfly." • I can explain the message of "The Wings of a Butterfly." • I can determine the meaning of new words in "The Wings of a Butterfly." • I can compare and contrast examples of biodiversity from a story to what we have learned from informational text.	• Journal (Meg Lowman KWL chart, glossary) • Double-Bubble map
Lesson 10	Reading for Details: Taking an Inventory in the Rainforest (Pages 28–31)	• 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 explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) • I can use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) • I can draw on information to explore ideas in the discussion. (SL.5.1)	• I can explain the purpose of a column study in the rainforest. • I can identify the types and numbers of species counted during the column study done by Meg Lowman. • I can use my group members' ideas to help me determine the inventory count of the column study. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity chart, glossaries) • Inventory Count Note-catcher

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Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 11	Reading for Fluency: Readers Theater about the Rainforest (Page 33)	• I can read fifth-grade texts with purpose and understanding. (RF.5.4) • I can read fifth-grade texts with fluency. (RF.5.4) • I can write narrative texts about real or imagined experiences or events. (W.5.3) • I can show the actions, thoughts, and feelings of my characters through dialogue, description, and careful pacing. (W.5.3) • I can speak clearly and at an understandable pace. (SL.5.4) • I can adapt my speech for a variety of contexts and tasks, using formal English when appropriate. (SL.5.6)	• I can read my speaker's lines with fluency. • I can write lines for my character using the text from *The Most Beautiful Roof in the World*. • I can speak clearly and with appropriate emotion for my character.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity chart, glossaries) • Mini Readers Theater • Triad Feedback rubric
Lesson 12	Comparing Two Main Ideas in an Informational Text: Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)	• 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4)	• I can compare and contrast different research methods that Meg Lowman has used. • I can use quotes from the text as evidence in my answers to questions. • I can determine the meaning of new words in *The Most Beautiful Roof in the World*.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity chart, glossaries) • Text-dependent Questions • Four Corners exit ticket

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Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 13	Interviewing Meg Lowman: What Does It Mean to Be a Responsible Scientist? (Pages 37–39)	• I can make inferences 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 explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) • I can develop the topic with facts, definitions, details, and quotations. (W.5.2) • I can use precise, content-specific vocabulary to inform or explain about a topic. (W.5.2) • I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4	• I can explain what happened during the night walk. • I can write interview questions for Meg Lowman about the rainforest spider from the point of view of a scientist, using scientific vocabulary. • I can create answers to interview questions by inferring how Meg Lowman would answer them. • I can revise interview question and answers, given feedback from my peers.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity chart, glossaries) • Interview
Lesson 14	Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)	• 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) • I can determine the meaning of content words or phrases in an informational text. (RI.5.4)	• I can explain how Meg Lowman communicates her research. • I can explain biodiversity by using quotes from the text. • I can determine ways to explain biodiversity to others. • I can determine the meaning of new words in *The Most Beautiful Roof in the World*.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity anchor chart, glossaries)

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Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 15	• End of Unit Assessment: On-Demand Analysis of Meg Lowman's Research in the Rainforest	• I can write informative/explanatory texts. (W.5.2) • I can use precise, content-specific vocabulary to inform or explain about a topic. (W.5.2) • I can choose evidence from informational texts to support analysis, reflection, and research. (W.5.9) (W.5.4)	• I can analyze Meg Lowman's research in the rainforest. • I can justify my analysis by citing evidence from the text. • I can use academic and scientific vocabulary accurately in my writing. • I can reflect on my learning.	• End of Unit 2: On-Demand Analysis of Meg Lowman's Research in the Rainforest • Tracking My Progress, End of Unit 2 recording form

Optional: Experts, Fieldwork, And Service

Experts:
- Invite scientists (biologists, naturalists, environmentalists, etc.) to come speak to the class about their work.

Fieldwork:
- As a class, observe the natural world outdoors, at a nature center or in an arboretum.

Service:
- Design a campaign to promote biodiversity locally or internationally.

Optional: Extensions

- Research other women naturalists: Harriet Tubman (c. 1820–1913) and field naturalists such as Maria Sibylla Merian (1647–1717), Anna Botsford Comstock (1854–1930), Frances Hamerstrom (1907–1998), Rachel Carson (1907–1964), Miriam Rothschild (1908–2005), and Jane Goodall (b. 1934).

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EXPEDITIONARY LEARNING

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

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GRADE 5: MODULE 2A: UNIT 2: RECOMMENDED TEXTS

In Unit 2, students explore a specific scientific researcher who studies rainforest ecosystems. The list below includes a wide range of texts to read about rainforest flora and fauna, as well as about how scientists research the natural world. The list below includes texts with a range of Lexile® text measures on this topic. This provides appropriate independent reading for each student to help build content knowledge. 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 ranges 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)			
Rain Forest Plants	Pamela Dell (author)	Informational	640
Rain Forest Animals	Francine Galko (author)	Informational	660
Lexile text measures within band level (740–1010L)			
Morpha: A Rain Forest Story	Michael Tennyson (author), Jennifer H. Yoswa (illustrator)	Literature	750*
Encantado: Pink Dolphin of the Amazon	Sy Montgomery (author), Dianne Taylor-Snow (photographer)	Informational	870*
Up a Rainforest Tree	Carole Telford and Rod Theodorou (authors)	Informational	870
The Tarantula Scientist	Sy Montgomery (author), Nic Bishop (photographer)	Informational	890

*Lexile based on a conversion from Accelerated Reading level

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Title	Author And Illustrator	Text Type	Lexile Measure
Lexile text measures within band level (740–1010L)			
Rain Forest Animals	Carolyn Franklin (author)	Informational	960
Lexile text measures within Grade 6–8 band level (925–1185L)			
Young Charles Darwin and the Voyage of the BEAGLE	Ruth Ashby (author)	Informational	1020
The Search for Cures from the Rainforest	Carol Ballard (author)	Informational	1075*
How Monkeys Make Chocolate: Unlocking the Mysteries of the Rainforest	Adrian Forsyth (author)	Informational	1120
The Case of the Monkeys That Fell from the Trees: And Other Mysteries in Tropical Nature	Susan E. Quinlan (author)	Informational	1210

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*Lexile based on a conversion from Accelerated Reading level

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 2: Lesson 1

Introduction to *The Most Beautiful Roof in the World*: Why does Meg Lowman Research the Rainforest? (Pages 2–4)

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Introduction to *The Most Beautiful Roof in the World*:
Why does Meg Lowman Research the Rainforest? (Pages 2–4)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can make inferences 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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4) I can compare and contrast the organizational structure of different informational texts. (RI.5.5) I can follow our class norms when I participate in a conversation. (SL.5.1)	
Supporting Learning Targets	**Ongoing Assessment**
• I can make inferences about Meg Lowman, a rainforest scientist. • I can explain which features of *The Most Beautiful Roof in the World* make it an informational text. • I can determine what motivated Meg Lowman to become a rainforest scientist using details from the text as evidence. • I can determine the meaning of new words in *The Most Beautiful Roof in the World*. • I can actively listen to my group members during discussions.	• Journal (Meg Lowman KWL chart) • Meg Lowman Note-catcher

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Introduction to *The Most Beautiful Roof in the World*:
Why does Meg Lowman Research the Rainforest? (Pages 2–4)

Agenda	Teaching Notes
1. Opening A. Engaging the Reader: Interviewing Meg Lowman (10 minutes) B. Introduce Learning Targets (5 minutes) 2. Work Time A. Text Structure: Scanning The Most Beautiful Roof in the World (10 minutes) B. Group Read and Discussion: Who Is Meg Lowman? (15 minutes) C. Key Vocabulary to Deepen Understanding (15 minutes) 3. Closing and Assessment A. Debrief and Review Learning Targets (5 minutes) 4. Homework	• Because this lesson involves setting up so many routines for this unit, it may take more than 60 minutes. Consider building in time during the "slush" parts of the day. • In advance: Read and become familiar with the book *The Most Beautiful Roof in the World* by Kathryn Lasky. • This lesson opens with a quick activity about Meg Lowman and her research. This activity is intended to build students' background knowledge, but more importantly to pique their curiosity. Do not worry if their knowledge about Meg Lowman is quite limited during the initial KWL charting. They revisit the KWL many times throughout the unit, and rely on their KWL notes during their end of unit assessment. • Review: Concentric Circles protocol (see Appendix 1). • Students will be partnered with another student in the Concentric Circles protocol. If the class does not have an even number of students, have one group of three students work together and direct students in that triad to take turns playing each role. If the circles seem too complicated, consider simply having students stand and talk in pairs. • Throughout this unit, students will remain in the same groups of four for reading time. Group students heterogeneously, and be intentional about grouping students together who may benefit from extra support from peers. • *The Most Beautiful Roof in the World* does not have numbered pages. For ease of accessing the text during each lesson, ask students to number each page with a pencil or a sticky note with the number written on it. Begin with the number 1 on the page with the photograph of Meg Lowman and the first section titled "Pioneer in the Rainforest." Be sure students number every single page, including the pages with photos. Starting with this page (in other words, do not include the copyright pages and other "front matter"), there are 43 pages of text total, ending with the glossary. • Throughout this unit, students will participate in routine close reads and interactive vocabulary activities. Become familiar with passages and/or vocabulary addressed in each lesson in order to support students during Work Time.

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Introduction to *The Most Beautiful Roof in the World*:
Why does Meg Lowman Research the Rainforest? (Pages 2–4)

	Teaching Notes (continued)
	• In this unit, students regularly work with both scientific (domain-specific) vocabulary and more general academic vocabulary. Remember, students need to learn more than just the science terms; they also need to learn the general academic words that will help them make sense of the text as a whole. Each specific lesson prioritizes academic vocabulary from the specific section of the texts students are working with that day. Lessons prioritize specific academic vocabulary words that both will help students navigate the specific section of text and will transfer to when students encounter other complex texts. • In this lesson, these important concepts about the vocabulary work in this unit are presented during Part C of Work Time. Review this closely in advance. Students keep two separate glossaries, for science words and academic words. • It is very important that students realize they are not expected to learn or memorize every single word they are exposed to in these lessons. Rather, the vocabulary instruction in this unit is designed to heighten students' awareness of vocabulary in general, and to teach some high-leverage words. Do not quiz students on long lists of vocabulary words or do other "rote memorization" activities that might undermine the deeper intent of vocabulary work in this module.

Lesson Vocabulary	Materials
features, determine, inferences, gadgets, biodiversity, eureka, samples, canopy, relationships, herbivory, conservation (2); base, treetops, environmentalist, intrigued, fascinated (4)	• Meg Lowman Interview Questions and Answers (one per student; students read this text in partnerships) • Highlighters (two colors per student) • Meg Lowman, Rainforest Scientist KWL anchor chart (new; teacher-created; see supporting materials) • *The Most Beautiful Roof in the World* (book; one per student) • Features of Informational Text anchor chart (from Unit 1, Lesson 3) • Listening Criteria rubric (one per student) • Meg Lowman Note-catcher (one per student)

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Introduction to *The Most Beautiful Roof in the World*:
Why does Meg Lowman Research the Rainforest? (Pages 2–4)

Opening	Meeting Students' Needs

A. Engaging the Reader: Interviewing Meg Lowman (10 minutes)
• Launch the unit by revisiting key points from Unit 1: "We studied several rainforest scientists in Unit 1, and learned about the ways they communicate their research." Invite several students to share what they remember about who those scientists were, where they researched, and/or what they studied (e.g., Bryson Voirin in Panama studying sloths, Eve Nilson in Brazil studying frogs).
• Tell students that in this unit, they are going to go much more in-depth about one rainforest scientist, named Meg Lowman. Today, they will begin by reading two very short excerpts from interviews with Dr. Lowman. Distribute the **Meg Lowman Interview Questions and Answers** and **highlighters** to students.
• Review the Concentric Circles protocol with students (see supporting materials):
  * Place students in two concentric circles (an even number of students in an inner and an outer circle).
  * Be sure every student is facing a partner in the other circle.
  * Assign students in the outer circle to be the interviewer.
  * Assign students in the inner circle to be Meg Lowman.
• Ask students to focus just on questions and answers A and B.
• Give them 1 minute to preview the text, highlighting what they will read out loud.
• Then ask students to take 1 to 2 minutes to "interview" their partner, reading aloud A and B.
• Next, ask students to shift two places to the left to face a new partner.
• Ask students to repeat the same process for questions C and D. This time, they reverse roles:
  * Students in the outer circle are Meg Lowman.
  * Students in the inner circle are the interviewer.
• Ask students to share with their new partner:
  * "What do you now know about Meg Lowman?"
	• Consider providing smaller chunks of text (sometimes just a few sentences) for some students. Teachers can check in on students' thinking as they write or speak about their text.
	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.
	• Students needing additional supports may benefit from a partially filled-in Meg Lowman, Rainforest Scientist KWL chart.

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Introduction to *The Most Beautiful Roof in the World*:
Why does Meg Lowman Research the Rainforest? (Pages 2–4)

Opening (continued)	Meeting Students' Needs
• Ask students to return to their seats and open to three new pages in their journal. Display the Meg Lowman, Rainforest Scientist KWL anchor chart (see example in supporting materials). Ask students to create this chart in their journals: one page each for K, W, and L. • Say: "Now that you have read excerpts from two interviews with Meg Lowman, what do you know about her?" Invite several students to share out their ideas. Listen for responses such as: "She works in tree canopies; she invents gadgets to help her get to treetops; she studies insects; she won second place in a science fair when she was younger; she discovered half of biodiversity on earth lives in treetops," etc. Record students' responses in the K column of the KWL while they record ideas into their journals. • Then ask students: "What else do you want to know about Meg Lowman?" Record students' questions in the W column of the KWL, as students record questions in their journals. • Tell them that they will be learning a lot about Meg Lowman and her rainforest research in the coming weeks. They will keep adding to the KWL chart. It is important that students keep good notes, since they will get to use these during the end of unit assessment.	

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Introduction to *The Most Beautiful Roof in the World*:
Why does Meg Lowman Research the Rainforest? (Pages 2–4)

Opening (continued)	Meeting Students' Needs
B. Introduce Learning Targets (5 minutes) • Introduce the learning targets: "I can make inferences about Meg Lowman, a rainforest scientist," "I can explain which features of *The Most Beautiful Roof in the World* make it an informational text," and "I can determine what motivated Meg Lowman to become a rainforest scientist using details from the text as evidence." • Review the word *inferences* with students (which they should be very familiar with based on their study of *Esperanza Rising* in Module 1). Ask for suggestions about the meaning of this word. Listen for students to share ideas such as: "Coming to a conclusion based on evidence or reasoning; coming to a conclusion without the answer explicitly stated in the text," or similar ideas. Clarify the meaning of this term for students as necessary. Ask students to recall the meaning of the words *features* (specific parts, element, quality) and *determine* (decide, figure out, conclude). Ask students to show a thumbs-up if they completely understand the targets, a thumbs-sideways if they understand some of the targets, or a thumbs-down if they need a lot more explanation. Notice the number of students who show a thumbs-down and thumbs-sideways to determine whether or not another explanation of the targets is needed.	• Provide nonlinguistic symbols to assist struggling readers in making connections with vocabulary (e.g., a picture of a cluster of tall trees for *rainforest*, a picture of a person in a lab coat for *scientist*, a picture of a book or piece of writing for *text*). These symbols can be used throughout the year. Specifically, they can be used in directions and learning targets.

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Introduction to *The Most Beautiful Roof in the World*:
Why does Meg Lowman Research the Rainforest? (Pages 2–4)

Work Time	Meeting Students' Needs
A. Text Structure: Scanning The Most Beautiful Roof in the World (10 minutes) • Tell students: "Now we are going to read an informational book called *The Most Beautiful Roof in the World*, by Kathryn Lasky, to learn more about Meg Lowman's work in the rainforests." • Distribute ***The Most Beautiful Roof in the World***. Conduct a Book Walk with students. Focus on the front and back cover of the book, the text, and the photos. Ask: "What features in this book hint that this is an informational text?" After 3 to 4 minutes, cold call students to share out what *features* they notice in the book, listening for responses such as: "summary on the back cover; pictures of real people in the rainforest; chapter titles on the pictures; quotes," etc. • Bring students' attention back to the **Features of Informational Text anchor chart** from Unit 1, and write the word *book* in the Text column of the anchor chart (if it is not already listed). Add students' ideas to the anchor chart. • Point out to students that it is often helpful, when beginning a new text, to take time to get oriented to how the text is structured. This will make it easier for them to access information quickly and learn more deeply.	• When possible, provide text or materials in students' L1. This can help students understand materials presented in English. • Consider placing an ELL in a group 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.

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Introduction to *The Most Beautiful Roof in the World*:
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Work Time (continued)	Meeting Students' Needs
B. Group Read and Discussion: Who Is Meg Lowman? (15 minutes) • Place students in their reading groups. Tell students they will stay in these same groups throughout this unit. Introduce the learning target: "I can actively listen to my group members during discussions." Remind students of the listening criteria they used in Module 1, and then display the **Listening Criteria rubric**. Read through each of the four criteria. Invite several students to restate each criterion in their own words. Ask students if they would like to add other criterion; write these on the blank lines provided. • Distribute the **Meg Lowman Note-catcher** and display it on a document camera or as a chart on the board. • Tell students that they will hear the first few pages read aloud. They should follow along and look/listen for ideas that answer two questions: * "What does Meg Lowman study in the rainforests?" * "What were Meg Lowman's interests as a child?" • Read pages 2–4 aloud, beginning with "Meg Lowman climbs trees" and ending with the sentence, "Harriet Tubman ... one of the first women field naturalists in this country." • Remind students of the Listening Criteria rubric. Ask students to talk with their group members about what they heard/saw in the text that answers the question: "What does Meg Lowman study in the rainforests?" Ask several students to share their ideas aloud, listening for suggestions like: "plants and insects; herbivory; which insects eat which leaves," etc. Record students' ideas on the Meg Lowman Note-catcher, paraphrasing and/or using single words, in the first box under "Main Ideas," and ask students to record ideas onto their own Note-catchers. • Then ask students to work with their group members to look back in their books and find the specific details or evidence that supports each main idea. After a few minutes, ask students to share out. Listen for details such as: "The book says she studied plants and insects, because she wants to know about the relationships between plants and insects in the canopy; herbivory is leaf and plant eating by insects and other animals; studying which insects eat which leaves helps Meg Lowman understand how their feeding affects overall growth of the rainforest," etc. Record students' ideas in the first box under "Key Details from the Text," and ask students to record this information onto their own Note-catchers.	• Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows all students to participate in a meaningful way. • Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.

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Introduction to *The Most Beautiful Roof in the World*:
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Work Time (continued)	Meeting Students' Needs
• Repeat this process for the second question: "What were Meg Lowman's interests as a child?" Give students time to think, discuss in their groups, and then share out whole class. Listen for students to share ideas such as: * Main Idea: fascinated with nature since 6 years old. * Supporting Details: "As a child, collected birds' nests, rocks, shells, insects and butterflies, and buds; won second place in science fair; bedroom full of outdoor treasures." * Main Idea: Intrigued by two women. * Supporting Details: "Harriet Tubman was a pioneer field naturalist; Rachel Carlson was an environmentalist and created the Web of Life." • Assign one of the seven sections of text (listed below) to each group. Ask group members to read the passage silently, and then briefly discuss and record any new Main Ideas/Supporting Details on their Note-catchers. * Section 1: All of paragraph 1. * Section 2: Paragraph 2, sentences 1-3 ("During the past ten years ..." through "Meg wants to know about the relationship ...") * Section 3: Paragraph 2, sentences 4-7 ("She is especially interested in ..." through "Meg's Lab ...") * Section 4: Paragraph 3, sentences 1-3 ("Meg cannot remember ..." through "As a child ...") * Section 5: Paragraph 3, sentences 3-6 ("Her bedroom was stuffed ..." through "She made a wildflower collection ...") * Section 6: Paragraph 4, sentences 1-3 ("When Meg was ten ..." through "Meg read that she often ...") * Section 7: Paragraph 4, sentences 4-7 ("But it was not only moss ..." through "Harriet Tubman, says Meg, was a pioneer ...") • As students read, circulate to support as needed. After students have completed reading their sections and taking notes, invite each group to share out very briefly what they added to their Note-catchers. (Record students' ideas on the Meg Lowman Note-catcher.)	

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Introduction to *The Most Beautiful Roof in the World*:
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Work Time (continued)	Meeting Students' Needs
• Say to students: "Now that we have read and recorded information about what Meg Lowman studies and what her interests were as a child, what *inferences* can we make about why Meg Lowman conducts research in the rainforests? What details from the text support those *inferences*?" Allow students a moment to think about this question and return to their Note-catchers to review ideas and supporting text. Then ask group members to discuss their ideas. As students are talking, listen in on conversations for ideas such as: "I think she researches the rainforest she's interested in the relationship between plants and insects in the canopy and how insect feeding affects the growth of rainforests; she has been interested in nature since she was 6 years old; she had many collections of items from nature; she was inspired by Harriet Tubman and Rachel Carlson, pioneers in studying nature," etc. Do not have students share whole group; they revisit this question during the debrief.	

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Introduction to *The Most Beautiful Roof in the World*:
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Work Time (continued)	Meeting Students' Needs

C. Key Vocabulary to Deepen Understanding (15 minutes)
• Introduce the learning target: "I can determine the meaning of new words in *The Most Beautiful Roof in the World*." Ask a few students to share out what strategies they have learned to help them determine the meaning of unfamiliar words (e.g., use context clues, and break the word into familiar parts).
• Remind students of the glossary they began during Unit 1. During Unit 2, they will work with this in much more depth. They will focus on two different types of words, scientific (words about science) and academic (other words that help them understand concepts). Knowing which words are which types helps them to determine the importance of vocabulary and therefore helps them to understand texts better.
• Point out the glossary at the back of the book and ask students what types of words are listed. Invite a student to share his/her ideas, listening for: "about science; about the rainforest; scientific;" etc.
• Tell students: "For homework every night, you will choose what you think are the most important academic and scientific vocabulary from the lesson and add them to your glossaries."
• Say: "Now we are going to look back and work with some of the vocabulary from the readings today (interview excerpts and book.)"
• Introduce the Word Sort activity by asking students to turn to a new page in their journals, and split it into two columns. At the top of the left-hand column, ask students to write: Scientific Words and in the right-hand column, Academic Words.
• Display the following words from the text (without the definitions/synonyms):
  * canopy, base, samples, relationships, herbivory, conservation, treetops, biodiversity, environmentalist, intrigued, fascinated
• Tell students that they may not know what all of these words mean. That is fine for now. Give students 5 minutes in their groups to discuss:
  * Which words are "science" words?
  * Which words are "academic" words?
• Remind students that during their discussions with group members, they will need to justify why they believe a certain word should go in a certain category (e.g., "*Canopy* belongs in scientific words, because the canopy describes the tops of trees in the rainforest and the rainforest is the topic they are studying in science").
	• All students developing academic language will benefit from direct instruction of academic vocabulary.
	• Consider providing visuals for all identified vocabulary words and allowing students to categorize the pictures.

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Introduction to *The Most Beautiful Roof in the World*:
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Work Time (continued)	Meeting Students' Needs

• Circulate to listen in and ask probing questions: "Why do you think that word belongs in that category?"
• After students have categorized the vocabulary, focus them on the list of words. Remind them that it is fine if they do not know the meaning of every single word: The point is to start recognizing the two categories of words.
• Ask several students to share out the meaning of each word. As students share out, listen for:
  * *gadgets*: tools; equipment (scientific)
  * *eureka*: aha! discovery; understanding (academic)
  * *canopy*: tops of the trees in rainforests (scientific)
  * *base*: bottoms of trees in rainforests (scientific)
  * *samples*: pieces; examples (scientific)
  * *relationships*: how things work together; how they depend on each other (academic)
  * *herbivory*: leaf and plant eating by insects and other animals (scientific)
  * *conservation*: preservation of a species of plant or animal (scientific)
  * *treetops*: canopy; tops of trees (scientific)
  * *biodiversity*: all the living things on earth (scientific)
  * *environmentalist*: someone who cares about/researches/preserves nature (scientific)
  * *intrigued*: curious; interested (academic)
  * *fascinated*: mesmerized; completely focused on; intrigued (academic)
• Once all vocabulary has been defined, give groups 1 minute to discuss whether they now think a word belongs in the other category than where they had placed it.
• Invite several students to share out words they thought were difficult to categorize and how they worked with their group members to determine in which category to place the word.
Note: Be sure students know that they do not need to write down all these definitions at this point; they will choose a few words to focus on for their homework.	

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Introduction to *The Most Beautiful Roof in the World*:
Why does Meg Lowman Research the Rainforest? (Pages 2–4)

Closing and Assessment	Meeting Students' Needs
A. Debrief and Review Learning Targets (5 minutes) • Ask: "What have we learned about Meg Lowman as a scientist?" Remind students to think about their group discussion about what they think motivates Dr. Lowman to study the rainforest. • Invite students to share out ideas about what they learned about Meg Lowman. Add these ideas to the L column of the KWL anchor chart. Students should record these ideas in the L column of their journal KWL also. • Read the learning target: "I can actively listen to my group members during discussions" and display the Listening Criteria rubric. Ask students to use the Thumb-O-Meter protocol as each criterion is read aloud to show how they did with each criterion during the book read-aloud and their group discussions.	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required (e.g. "I learned that Meg Lowman ...").
Homework	**Meeting Students' Needs**
• Reread pages 2–4 of *The Most Beautiful Roof in the World* to someone (or yourself) at home. Be prepared to share something else you learned about Meg Lowman. • Choose three academic and two scientific vocabulary words to add to your glossaries. Choose from this list: features, determine, inferences, gadgets, biodiversity, eureka, samples, relationships, herbivory, conservation, canopy, base, treetops, environmentalist, intrigued, fascinated. *Note: Collect specimens from nature for the preserving activity in the next lesson (flowers, leaves, plant parts, etc.). (See Teaching Notes in Lesson 2.)* *Review pages 7–8 of* The Most Beautiful Roof in the World *in order to become familiar with Meg Lowman's preserving process.* *Gather newspaper for pressing specimens, boxes to represent "low-temperature ovens," cardboard, glue, and acid-free (or blank) paper for students to paste specimens on.*	• For students who may have difficulty determining the most important words to add to their glossaries, consider prioritizing the following words: *features, determine, inferences* (academic); *biodiversity, canopy* (scientific). • Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text.

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EXPEDITIONARY LEARNING

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

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Meg Lowman Interview Questions and Answers

A. Why spend time in trees?
Almost 50 percent of life on earth is estimated to live in tree canopies, yet this was an unexplored region until about 25 years ago. Much of my work has involved solving the challenge of just getting into the treetops: inventing gadgets, refining hot air balloon design, creating canopy walkways, working from cherry pickers and construction cranes. Once up there, I discovered that insects eat four times more leaf material than we imagined.

B. Is that important?
Lots of things stress forests. And with forests becoming warmer, drier, and more fragmented, insect outbreaks are predictably one of the first responses to climate change.

C. What was your first science project/experience as a child?
In fifth grade, I won second prize in the N.Y. State science fair, surrounded by boys. I was so shy that I did not even dare speak, due to the gender disparity, but it also made me determined to pursue what I loved.

D. What fascinates you the most about canopy ecology?
The amazing "eureka" element. Until recently, when a few of us climbed into the canopy, no human being knew that half of the biodiversity on our terrestrial earth lived in the treetops. For centuries, foresters had assessed forests by looking at the very bottom of the tree. It is almost as if we had been trying to gauge the health of people by just looking at someone's big toe but ignoring the rest. It is also humbling to realize that a kid can come from a small, underserved town (as I did) and make a cool discovery in science, because there is so much left that remains unknown.

Source:
Questions 1 and 2: "Interview: Margaret Lowman" by Marian Smith Holmes. Smithsonian (December, 2006).
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Meg Lowman, Rainforest Scientist KWL Anchor Chart

KNOW K	WANT W	LEARNED L

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Listening Criteria Rubric

I focused my attention on what the speaker/reader was saying.

I listened for main ideas.

I took notes about important ideas and details.

I waited until after the speaker was finished before asking questions or making comments.

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Meg Lowman Note-catcher

	Main Ideas (paraphrase or list)	Supporting Details for the Text
What does Meg Lowman study in the rainforests?		
What were Meg Lowman's interests as a child?		

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EXPEDITIONARY LEARNING

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

Reading and Writing About How to Perform a Process: How Meg Lowman Studies the Rainforest (Pages 4–8)

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
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 explain how authors use evidence and reasons to support their points in informational texts. (RI.5.8) I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4) I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) I can connect my questions and responses to what others say. (SL.5.1)

Supporting Learning Targets	Ongoing Assessment
• I can determine the process Meg Lowman uses to preserve specimens. • I can list the steps to preserving a specimen from the natural world. • I can contribute to my group's discussion by giving suggestions that are on topic. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can follow steps for collecting and preserving specimens.	• Steps to Preserve a Specimen Note-catcher • Preserved specimen

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (5 minutes) B. Introducing Learning Targets (5 minutes) 2. **Work Time** A. Read-aloud and Main Idea: How Meg Lowman Studies the Rainforest (10 minutes) B. Group Read: Rereading and Listing Details (10 minutes) C. Key Vocabulary to Deepen Understanding (10 minutes) D. Following Steps to Preserve a Specimen (15 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• This lesson involves students working with specimens from the natural world. • There are two options for preparation: * Option 1: Teacher collects specimens (e.g., leaves, flowers, plant parts) from nature for students to use during this lesson. * Option 2: As a class, find another time of the day (prior to the lesson) to take students outside to an area on/near school grounds where students may gather their own specimens from nature. • Review: Quiz-Quiz-Trade Protocol and Glass-Bugs-Mud Strategy (Appendix) • Prepare the Quiz-Quiz-Trade vocabulary (see supporting materials). Cut the words into strips, then fold each strip along the vertical line, so the word is visible on one side and the definition is visible on the opposite side. • For many lessons in Unit 2, students reread the passages from the lessons to someone at home for homework. This promotes students' reading fluency. • In this unit, vocabulary instruction occurs daily: It is routine and brief, and heavily emphasizes learning words from context. For those students who perhaps need more supports, see suggestions for teaching vocabulary strategies in Appendix 1.

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Lesson Vocabulary	Materials
process, pressing, list, determine, communicates, context, sorts, specimens, collections, permit (4), orchids, bromeliads (7), blossoms, preserve, solution, three-dimensional form, pickled (8), acid-free, herbarium, pluck, sailed aloft, trapezes, foliage, inflatable, ascent, marvelous	• The *Most Beautiful Roof in the World* (book; one per student) • Process for Pressing Specimens Note-catcher (one per group) • Quiz-Quiz-Trade vocabulary (cut into individual words/definitions; see Teaching Note) • Materials for preserving a speciman per group: – One box/other item to represent a "low-temperature oven" – Four sheets of newspaper – Four sheets of cardboard – Acid-free paper (one sheet per student) – Glue – Specimen from nature (one per student) • Meg Lowman, Rainforest Scientist KWL anchor chart (from Lesson 1)

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (5 minutes) • Ask students to take out their journals and share with a partner one more thing they learned about Meg Lowman from their rereading and the vocabulary they chose to add to their glossaries. • To generate excitement, focus students on the specimens that were gathered in advance (either by you or by the class during some other part of the day; see Teaching Notes). Explain that they will read about how Meg Lowman collects and preserves specimens in the rainforest and then will get to follow her process to do the same with their specimens. Collect all the specimens in one area of the classroom and ask students to identify each specimen (e.g., piece of grass, flower petal, leaf from a tree). • Set specimens aside for use in Work Time B.	•
B. Introducing Learning Targets (5 minutes) • Introduce the learning targets: "I can determine the process Meg Lowman uses to preserve specimens," and "I can outline the steps to preserving a specimen from the natural world." Ask students what *process* means, listening for responses such as: "steps to complete a project; a certain order for doing things." Then ask for suggestions about what a *list* is. Listen for students to share ideas like: "writing out steps in order; using short phrases or words." • Review the term *determine* by asking several students to share what they recall about its meaning: * *determine*: decide; conclude	• ELLs may be unfamiliar with Tier 2 vocabulary words (e.g., *preserve, specimens, natural world*). Clarify vocabulary with students as needed.

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Work Time	Meeting Students' Needs
A. Read-aloud and Main Idea: How Meg Lowman Studies the Rainforest (10 minutes) • Ask students to join their groups (from Lesson 1) with their journals and their texts: ***The Most Beautiful Roof in the World***. • Ask students to remind themselves what they pay attention to during a first read. Listen for students to say "gist" or "main idea." Remind them to do that again today. • Focus students on the paragraph on page 4 that begins with the phrase "When Meg is at Selby Gardens . . ." Read pages 4–8 aloud to students, as they read along silently. (End with "And it has been exciting . . . tops of trees in the tanks of bromeliads.") • Ask students to briefly discuss the gist of the read-aloud with their group members. Invite several students to share aloud, listening for: "how Meg Lowman prepares/preserves the samples she collects," or similar ideas.	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language. • When possible, provide text or materials in students' L1. This can help students understand materials presented in English.
B. Group Read: Rereading and Listing Details (10 minutes) • Read aloud the learning target: "I can contribute to my group's discussion by giving suggestions that are on topic." Ask students to give suggestions for ways they can contribute to their group's discussion. Listen for suggestions such as: "talking about the text; reading the text carefully; making sure everyone has a turn to speak," etc. • Distribute the **Process for Pressing Specimens Note-catcher**, one per group. Ask students to read the single paragraph on page 7 and the first paragraph on page 8 (ending with, "... the herbarium, a plant library") on their own. Say: "Pay close attention to the process Meg Lowman uses to preserve her specimens, specifically her process for *pressing*. Make sure to examine the photographs as well. Remember, these are valuable features of informational text that can help readers understand text. After you have finished reading, discuss with your group: 'What steps does Meg Lowman use for *pressing* specimens?'" Tell students that they will create an outline of those steps to use for pressing their own specimens. • Invite students to begin reading. As groups begin to create lists, circulate among students to support as necessary.	• Students needing additional supports may benefit from partially filled-in graphic organizers.

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Work Time (continued)	Meeting Students' Needs
C. Key Vocabulary to Deepen Understanding (10 minutes) • Introduce the learning target: "I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*." Ask students to recall the meaning of the word *context* (using the words/sentences around a word to help determine its meaning). • Students likely can figure out many of the Quiz-Quiz-Trade Vocabulary in context. The **Quiz-Quiz-Trade Vocabulary** is prepared in advance to save time in the lesson. Encourage students to find the meaning of the words themselves, in context, before reading the definition provided on the cards. • Tell students that now they will participate in an activity called Quiz-Quiz-Trade to help them review and/or learn definitions for some of the key vocabulary from the reading. • Explain Quiz-Quiz-Trade (and model if needed). * Students will need two materials: 1. A strip with a vocabulary word on one side and the definition folded over to the opposite side 2. Their copies of *The Most Beautiful Roof in the World* (to use for defining unknown words using context clues) * Each student finds a partner. * Partner A shows the side of the paper with the word on it. * Partner B says the definition (if he/she knows it), or finds the word in the text and tries to determine the definition, using context clues. * Partner A then reads the definition aloud to confirm or correct the definition that Partner B gave. * Partners switch roles and repeat the steps above. * Partners then trade vocabulary slips and find a new partner. • Begin Quiz-Quiz-Trade. Be sure all students meet with at least two partners. Circulate to listen in on students' definitions of vocabulary and use of context clues to help them define the word. Note which students may need more support/additional vocabulary strategies/practice in order to understand the text. •	• Increase interactions with vocabulary in context. This increases the rate of vocabulary acquisition for ELLs. • Consider writing and breaking down multistep directions into numbered elements. ELLs can return to these guidelines to make sure they are on track.

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Work Time (continued)	Meeting Students' Needs
• After approximately 5–7 minutes, ask students to return to their groups. Make sure to emphasize the following vocabulary to students, as these words will appear frequently throughout the text. Ask students to share the meaning of each word, listening for responses such as: * *ascent*: climb; a move upward (academic) * *sorts*: places into categories; arranges; classifies (academic) * *specimens*: examples; samples; a type of something (academic) * *collection*: a set of objects; a group of things (academic) * *foliage*: plant life (scientific) * *bromeliad*: a tropical plant with fleshy leaves; often grows on other plants (scientific) * *herbarium*: a plant library (scientific) • Offer groups the opportunity to revise any steps they listed and described on their Process for Pressing Specimens Note-catcher now that they are more familiar with some of the key vocabulary from the text.	•

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Work Time (continued)	Meeting Students' Needs

C. Following Steps to Preserve a Specimen (15 minutes)
• Distribute materials to each group:
  * **One box/other item to represent a "low-temperature oven"**
  * **Four sheets of newspaper**
  * **Four sheets of cardboard**
  * **Acid-free paper (one sheet per student)**
  * **Glue**
  * **Specimen from nature (one per student)**
• Read aloud the learning target: "I can follow steps for collecting and preserving specimens."
• Tell students that they will now "press" their own specimens. Ask each group to trade their Process for Pressing Specimens Note-catcher with another group.
• Each member of the group will follow the steps that the other group wrote on their Note-catcher.
• Give students 7 to 8 minutes to follow the steps listed on the Note-catcher and press their specimens. Circulate to support as needed.
• Next, ask groups to get back together with the group whose Note-catcher they used. Ask students to discuss:
  * "How well were you able to press your specimens based on the steps listed?"
• Remind students to share positive feedback with one another first, and then make one suggestion for improving their written steps for a process.
• As groups discuss, move among students to offer support and/or clarification as necessary.
• Optional: Collect students' pressed specimens and create a class "herbarium."
	• Consider providing extra time for tasks. Some students need more time to process and translate information.

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Reading and Writing About How to Perform a Process:
How Meg Lowman Studies the Rainforest (Pages 4–8)

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Bring students' attention back to **the Meg Lowman, Rainforest Scientist KWL anchor chart** from Lesson 1. Ask students to briefly share out what they learned about Meg Lowman from the reading today, and record students' ideas in the L column of the KWL. Remind students to add any new information to the chart in their journals. • Reread the first two learning targets aloud, one at a time. Ask students to use the Glass, Bugs, Mud strategy to show their understanding of each target. • *Note any students showing Mud for these learning targets, as they may require more support during activities with multiple steps and/or reading and following multistep instructions.*	• Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows all students to participate in a meaningful way.
Homework	**Meeting Students' Needs**
• This homework has three parts: 1. Reread pages 4–8 to someone (or yourself) at home. Be prepared to share something new you learned about Meg Lowman in class tomorrow. 2. Add to the Meg Lowman KWL chart in your journal. 3. Choose three academic and two scientific vocabulary words that were discussed in the lesson today to add to the glossary in your journal. Choose from this list: process, pressing, list, determine, communicates, context, sorts, specimens, collections, permit (4), orchids, bromeliads (7), blossoms, preserve, solution, three-dimensional form, pickled (8), acid-free, herbarium, pluck, sailed aloft, trapezes, foliage, inflatable, ascent, marvelous.	• Audio recordings of text can aid some students in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: =, *sorts, collections* (academic); *foliage, bromeliad* (scientific).

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EXPEDITIONARY LEARNING

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

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Process for Pressing Specimens Note-catcher

Group Member Names:

Date:

Step (one or two words to name the step)	**Description of Step** (define or describe the step using details in the text)

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Process for Pressing Specimens Note-catcher
(Answers for Teacher Reference)

Group Member Names:

Date:

Step (one or two words to name the step)	**Description of Step** (define or describe the step using details in the text)
Newspaper	Fold flowers/leaves carefully in newspaper.
Cardboard	Place the newspaper with flowers/leaves between two sheets of cardboard.
Dry	Place specimens in low-temperature oven.
Glue	Glue specimen onto acid-free paper.
Tag/Label	Write the name of the specimen; write information about the specimen on the acid-free paper (below, above, next to the specimen.)
Herbarium	Place specimen in the herbarium – plant library.

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Quiz-Quiz-Trade Vocabulary

orchid	a flowering plant; some types grow on other plants
bromeliad	a tropical plant with fleshy leaves; often grow on other plants
blossoms	flowering part of a plant
preserve	treat or store something to protect it; keep it from breaking apart
solution	two or more substances mixed together; used to preserve a specimen
three-dimensional form	an object that has height, width, and volume
acid-free	paper that doesn't use acid; helps specimens last longer
herbarium	a plant library
pluck	remove; pull; pick at; grasp
sailed	glided; floated; moved smoothly
aloft	high above; in the air; up
ascent	climb; move upward
trapeze	a bar attached to the ends of two ropes
foliage	plant life
inflatable	able to be filled with air
marvelous	amazing; spectacular; wonderful
sorts	places into categories; arranges; classifies
specimens	examples; samples; a type of something
collection	a set of objects; a group of things
permit	a license allowing something; giving permission

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EXPEDITIONARY LEARNING

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

Supporting an Opinion: Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

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Supporting an Opinion:
Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
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 explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) I can write an opinion piece that supports a point of view with reasons and information. (W.5.1) I can make inferences using quotes from the text. (RI.5.1)

Supporting Learning Targets	Ongoing Assessment
• I can explain why the canopy is a difficult place to research. • I can identify the skills needed by scientists in order to study the rainforest canopy. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can write an opinion about being a rainforest scientist that is supported by reasons from the text. • I can infer what skills Meg Lowman must have in order to be a rainforest scientist.	• Journal (Meg Lowman KWL chart, Close Read Note-catcher, glossaries)

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Supporting an Opinion:
Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (5 minutes) B. Introducing Learning Targets (5 minutes) 2. **Work Time** A. Read-aloud and Main Idea: What Skills Do Scientists in the Rainforest Need? (20 minutes) B. Key Vocabulary to Deepen Understanding (15 minutes) C. Synthesis Writing (10 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• In advance: Read pages 9–10 of *The Most Beautiful Roof in the World*. • During the Group Read (Work Time, Part A), students are assigned two sentences of the text to read alone. In advance, identify the sentences that each student will be assigned. • Review: Close Reading Note-catcher. • Most lessons in this unit include a portion of Work Time devoted to Key Vocabulary to Deepen Understanding. Students revisit their thinking about new words in various ways. This helps all students solidify their understanding of new concepts and of how to figure out words in context. • Throughout Unit 2, students attend carefully to the key excerpts from this beautifully written text. During this initial exposure, lessons focus more on comprehending the text and building content knowledge about Meg Lowman's research. There is some, though more limited, focus on considering author's craft. In Unit 3, students will revisit key passages from this text to consider word choice, nuance, and author's craft. This helps prepare students to write their own field journals.

Lesson Vocabulary	Materials
explain, identify, opinion, skills, supported, ascending, wonder, chatterings, "powerhouse," biomass (9), frontier, fearless, skillful, cliffs, pioneer (10)	• The *Most Beautiful Roof in the World* (book; one per student) • Close Reading Note-catcher (one per student) • Document camera • Meg Lowman, Rainforest Scientist KWL anchor chart (from Lesson 1)

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Supporting an Opinion:
Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (5 minutes) • Ask students to take out their homework from Lesson 2. • Invite them to share with a partner: one interesting detail they added to the L column of their Meg Lowman, Rainforest Scientist KWL in their journals and one new word (and its definition) that they added to one of their two glossaries. • Ask a few students to share out what they learned from their partners.	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.
B. Introducing Learning Targets (5 minutes) • Introduce the learning targets: "I can explain why the canopy is a difficult place to research," and "I can identify the skills needed by scientists in order to study the rainforest canopy." • Ask students to recall and share out the meaning of the words *explain* (describe; give details; clarify) and *identify* (name; discover; recognize). • Ask students to share out the meaning of *skills*. Listen for responses such as: "abilities; expertise; ability to do something well; gained through experience or training."	• Provide nonlinguistic symbols to assist struggling readers in making connections with vocabulary (e.g., cluster of trees with an arrow pointing to the very top for *canopy*, a person in a lab coat for *scientist*, a person looking through a magnifying glass for *study*). These symbols can be used throughout the year. Specifically, they can be used in directions and learning targets.

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Supporting an Opinion:
Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

Work Time	Meeting Students' Needs

A. Read Aloud and Main Idea: What Skills Do Scientists in the Rainforest Need? (20 minutes)
• As usual, ask students to locate their copies of ***The Most Beautiful Roof in the World*** and join their groups. Distribute the **Close Reading Note-catcher** and display using a document camera. Focus students on the first section "Immerse Yourself! First Read." Say to students: "As I read aloud, follow along silently and record any words or phrases from the text that stand out, or that you think are important, in the left column of your Note-catcher."
• Orient students to page 9, the phrase "For a human being...." Read pages 9–10 aloud as students follow along (through "These men and women are pioneers").
• Give students time to jot down key words/phrases in the left-hand column of their Note-catchers. Then ask them to share with their group.
• Then ask students to complete the right-hand column: Write a short statement about the meaning of pages 9–10.
• Ask several students to share out. Listen for comments such as: "how dangerous the canopy is to explore; the canopy holds the largest amount of rainforest life; technology has helped scientists explore the canopy; scientists need special skills to explore the canopy."
• Orient students to the second part of the Close Read Note-catcher, "Dive Deeper: Second Read." Focus students' attention on the text in the box: the learning targets and the Strategy Focus. Remind students that pictures are a text feature that can offer valuable clues about the information in the text and help them figure out difficult words and/or phrases.
• Within each small group, assign each student a different section of text to read:
  * Section 1: page 9, sentences 1–3 ("For a human being ..." through "... chatterings of monkeys.")
  * Section 2: page 9, sentences 4–7 ("They knew that the canopy ..." through "... exploration was easier.")
  * Section 3: page 10, sentences 1–2 ("The rainforest canopy ..." through "... gravity, ants, and thorns.")
  * Section 4: Paragraph 10, sentences 3–5 ("Such scientists, however ..." through "... feel their way up to the brightly lit canopy.")
	• 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.
	• Students needing additional supports may benefit from a partially filled-in Close Reading Note-catcher.
	• Consider providing smaller chunks of text (sometimes just a sentence) for struggling readers. Teachers can check in on students' thinking as they write or speak about their text.
	• Provide anchor charts for processes, such as: How to Share with My Group Members. This would include question words with nonlinguistic representations (e.g., a person reading a book for *read*, two people talking for *share*, a person writing for *write*) and a sentence frame (e.g., "Some words that seemed important to me were ...")

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Supporting an Opinion:
Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

Work Time (continued)	Meeting Students' Needs
• Give directions: 1. In the left-hand column of your Note-catcher, record any specific evidence from the text that addresses the two learning targets. 2. In the right column, write a brief explanation about why you think each piece of evidence helps you meet the target. • Clarify any instructions and model if necessary. • Give students approximately 5 minutes to read their short section of the text and fill in their Note-catchers. • Focus students' attention whole group. Remind students of the Listening Criteria rubric (from Lesson 1), focusing on the following: * Taking notes about important ideas and details that help to answer the questions * Waiting until the speaker is finished before making comments or asking questions • Ask students to share with their group members about what evidence they each found to answer the question(s), and explain why they chose each piece of text. Circulate to offer feedback to individuals and groups about how well group members are meeting these two listening criteria. • As time allows, ask several students to share out the evidence (text and/or visual features) that helped them meet the targets.	•

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Supporting an Opinion:
Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

Work Time (continued)	Meeting Students' Needs
B. Key Vocabulary to Deepen Understanding (15 minutes) • Introduce the learning target: "I can determine the meaning of new words in *The Most Beautiful Roof in the World*." Ask a few students to remind the class what they have been doing toward this target in the past few lessons. • Remind the class of the Word Sort activity completed in Lesson 1 and ask a couple of students to share out what a Word Sort is. • Ask students to turn to a new page in their journals, and draw a line down the middle to split it into a left- and right-hand column. At the top of the left column, ask students to write: Words That Describe the Canopy. At the top of the right-hand column, they should write: Words That Describe Rainforest Scientists. • Display the following words (without the definitions/synonyms*): ascending, chatterings, wonder, "powerhouse," pioneer, frontier, skillful, cliffs, biomass, fearless*. • Give students 5 minutes to work with their group to determine which words should go into each category. Encourage students to look back on pages 9–10 of their books for context clues, and/or to use the visual features on these pages to help them determine what difficult/unknown words may mean. Remind students to justify to their group why they believe a specific word should go in a certain category. • Circulate to support and/or clarify as needed. • After about 5 minutes, ask several students to share out the meaning of each word, listening for ideas like: * *ascending*: climbing upward (academic) * *chatterings*: sounds that monkeys make; animal noises (scientific) * *wonder*: curiosity; desire to learn about the unknown (academic) * *"powerhouse"*: where most things happen; central; important (academic) * *pioneer*: the first person to explore a place; leading the way (academic) * *frontier*: edge; border; unexplored land (academic) * *skillful*: expert; practiced; clever (academic) * *cliffs*: steep drop-offs; overhangs (scientific)	• Consider giving fewer words to struggling readers to work with (just 4 or 5 words). • Provide visual representations of the words for students to sort along with the vocabulary words themselves. • Increase interactions with vocabulary in context. This increases rate of vocabulary acquisition for students.

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Supporting an Opinion:
Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

Work Time (continued)	Meeting Students' Needs
* *biomass*: the living things of the rainforest (scientific) * *fearless*: unafraid; not scared; brave (academic) • Give students a few minutes to work with group members to move words into a different category, based on new understanding(s). • If time permits, ask students to take 1 minute to look back at pages 9–10 and choose 1 or 2 more words from the text to add to either category. Ask a few students to share out new words they chose to add to a category, and to explain why they think the word should be added.	•
C. Synthesis Writing (10 minutes) • Introduce the learning target: "I can write an opinion about being a rainforest scientist that is supported by reasons from the text." • Ask several students to share out what they remember about the word *opinion* (personal belief; judgment; view; perspective). Then ask students what it means to *support* an opinion with "reasons from the text." Listen for students to say: "Use specific words/phrases from the book that provide evidence for my opinion," or similar ideas. • Ask students to begin a new page in their journals and independently respond to the following prompt: * "Share your opinion about whether or not you think it would be difficult to be a rainforest scientist. Support your opinion with at least two details from the text." • Give students 5 minutes to write, and then ask them to Pair-Share what they wrote. Invite several students to share out whole class.	• Consider allowing students who struggle with language to dictate their writing to a partner or teacher. • Consider allowing students to draw their observations, ideas, or notes when appropriate. This allows all students to participate in a meaningful way.

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Supporting an Opinion:
Why is the Rainforest Canopy a Difficult Place to Research? (Pages 9–10)

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Focus students' attention on the **Meg Lowman, Rainforest Scientist KWL anchor chart**, and say: "Even though pages 9 and 10 do not mention Meg Lowman specifically, what can you infer about her based on what we read about the canopy and rainforest scientists today? What in the text makes you think so?" • Invite students to share out ideas, listening for inferences such as: "She is a pioneer; she must be strong/fearless/physically fit/smart/hardworking," etc. Record students' thinking in the L column of the KWL. Students should record ideas on the KWL in their journals as well. • Read through each of the learning targets, pausing after each for students to show a thumbs-up if they feel they mastered the target, a thumbs-sideways if they feel they've partially mastered the target, or a thumbs-down if they're still working on mastering the target.	• For students needing additional supports producing language, consider offering a sentence frame or starter or a cloze sentence to assist with language production and provide the structure required.

Homework	Meeting Students' Needs
• This homework has three parts: 1. Reread pages 9–10 to someone (or yourself) at home. Be prepared to share about Meg Lowman as a scientist with a partner tomorrow. 2. Read your synthesis statement to that same person (or yourself). 3. Choose three academic and two scientific vocabulary words discussed in today's lesson to add to your glossaries in your journal. Choose from this list: explain, identify, opinion, skills, supported; ascending, wonder, chatterings, "powerhouse," biomass (9), frontier, fearless, skillful, cliffs, pioneer (10).	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *explain*, *identify*, *opinion* (academic); *cliffs*, *biomass* (scientific).

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

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Close Reading Note-catcher

Immerse Yourself! First Read Note-catcher

Words or phrases that stand out or seem important	Based on the words and phrases... My initial thoughts about the meaning of this section of the text

Dive Deeper Second Read Note-catcher

Learning Targets:
I can explain why the canopy is a difficult place to research.
I can identify the skills needed by scientists in order to study the rainforest canopy.
Strategy Focus: I can use visual features to contribute to my understanding of the text.

Evidence from the text	My thinking

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EXPEDITIONARY LEARNING

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

Close Reading: Blue Creek, a Rainforest in Belize (Page 12)

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Close Reading:
Blue Creek, a Rainforest in Belize (Page 12)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4) I can explain how authors use evidence and reasons to support their points in informational texts. (RI.5.8)	
Supporting Learning Targets	**Ongoing Assessment**
• I can explain how the Blue Creek rainforest is biodiverse. • I can explain how Kathryn Lasky uses language to paint a picture for the reader about biodiversity in the Blue Creek rainforest. • I can determine the meaning of new words in *The Most Beautiful Roof in the World*.	• Journal (AQUA Biodiversity anchor chart, glossaries) • Text-dependent questions

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Close Reading:
Blue Creek, a Rainforest in Belize (Page 12)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (5 minutes) B. Introducing Learning Targets (5 minutes) 2. **Work Time** A. First Read: The Biodiversity of the Blue Creek Rainforest (15 minutes) B. Creating an AQUA Biodiversity Anchor Chart (5 minutes) C. Second Read: Answering Text-Dependent Questions (20 minutes) 3. **Closing and Assessment** A. Debrief and Review Learning Targets (10 minutes) 4. **Homework**	• In advance: Read and become familiar with page 12 of The Most Beautiful Roof in the World and the text-dependent questions for this text selection (see supporting materials). • Consider writing the vocabulary words on a large piece of chart paper ahead of time to save time during the lesson. • Review: Chalk Talk Protocol and Thumb-O-Meter strategy (see Appendix). • Students begin an AQUA anchor chart in this lesson. This is similar to a KWL, with the added component of thinking about the actions students would take now that they have a new understanding. It will be used to capture students' thinking about biodiversity of rainforests throughout the unit. As with the KWL notes students began in Lesson 1, students will rely on their AQUA notes for their end of unit assessment. Throughout the unit, reinforce the importance of taking good notes. • Following this lesson, students will have several tasks to do for homework. Call students' attention to this and remind them that these tasks are routine and not time-intensive.

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Close Reading:
Blue Creek, a Rainforest in Belize (Page 12)

Lesson Vocabulary	Materials
explain, determine, paint a picture, biodiverse; considered, varieties, upward, species, timeless, uncharted, teems, ceaseless, vipers, salamander, bromeliads, decaying, vegetation, thrive, opportunistic, altered habitats (12)	• Map of North and South America (one to display) • *The Most Beautiful Roof in the World* (book; one per student) • Chart paper for Chalk Talk (one per team) • Markers (one per student) • AQUA Biodiversity anchor chart (new; teacher-created; see supporting materials) • Text-Dependent Questions, The Most Beautiful Roof in the World, page 12 (one per student) • Homework: Close Reading Note-catcher for pages 13-16 of The Most Beautiful Roof in the World (one per student)

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Close Reading:
Blue Creek, a Rainforest in Belize (Page 12)

Opening	Meeting Students' Needs

A. Reviewing Homework and Engaging the Reader (5 minutes)
• Invite students to share with a partner one new scientific vocabulary word that they chose to add to their glossary for homework and how it relates to Meg Lowman as a scientist.
• Display the **Map of North and South America**, highlighting where Belize is located. Ask students to Think-Pair-Share:
  * "Where is Belize in relation to other rainforests we have learned about?"
• Cold call several students to share out with the whole group. Look for answers such as: "It is close to Panama."
• Ask students again to Think-Pair-Share:
  * "Is Belize located in an area of the world where you think a rainforest would be? What makes you think so?" Ask students to share out their thoughts. Listen for ideas, such as: "It is near the equator. It is in the area of the world known as the tropics."
	• ELLs may be unfamiliar with Tier 2 vocabulary words (e.g., *relation, located, area*). Clarify vocabulary with students as needed.

B. Introducing Learning Targets (5 minutes) • Introduce the learning targets: "I can explain how the Blue Creek rainforest is biodiverse," and "I can explain how Kathryn Lasky uses language to paint a picture for the reader about biodiversity in the Blue Creek rainforest." Ask several students to share the meaning of the word *explain* (describe; give details; clarify). (Note students work with the word *biodiverse* during Part B of Work Time.) • Introduce the expression *paint a picture* to students. Ask them to think about what it means for an author to use language to paint a picture for the reader. Invite several students to share ideas, listening for suggestions such as: "uses descriptive words that help me make a picture in my mind; uses interesting words that describe specific plants, animals, colors, shapes, light," etc. • Make a distinction for students that this book has many beautiful and informative photographs that can help them better understand the text. For this lesson, they will be focusing on the words the author uses, not the pictures.	• Provide nonlinguistic symbols (e.g., a paintbrush for *paint*, a photograph for *picture*) 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.

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Close Reading:
Blue Creek, a Rainforest in Belize (Page 12)

Work Time	Meeting Students' Needs

A. First Read: The Biodiversity of the Blue Creek Rainforest (20 minutes)
• Ask students to join their group members, and turn to page 12 of ***The Most Beautiful Roof in the World***. Remind students that when they first read, they will be focusing on the main ideas of the text. As they have other opportunities to reread the text, they will focus on the descriptive words that Kathryn Lasky uses to tell readers about biodiversity. Read page 12 aloud while students follow along silently.
• Ask students to briefly discuss what this page is mostly about, with their group members. Listen in on student conversations for comments such as: "It's about the animals and plants that live in the Blue Creek rainforest" or "There is a lot of plant and animal diversity/*biodiversity* in the Blue Creek rainforest." Invite a few students to share out whole group.
• Tell students they will now reread a portion of the text on their own. Ask them to consider this question as they reread: "How is Blue Creek *biodiverse*?"
• Ask students to reread starting in the first paragraph with the sentence that starts with: "In this shadowed world . . ." through to the end of the second paragraph, "... in the tanks of bromeliads."
• After 2 to 3 minutes, distribute a piece of **chart paper** and **markers** to each group. Ask one student in the group to write the question: "How is Blue Creek biodiverse?" in the center of the sheet and draw a circle around that question.
• Explain to students that a Chalk Talk is a "silent conversation." Review the instructions:
  * No talking.
  * Each student writes a response to the question.
  * After approximately 30 seconds, walk around the chart paper to view other group members' comments.
  * If you connect to or want to expand on an idea that someone in your group wrote, then write the idea near the original comment and draw a line to connect the two ideas.
  * Cite evidence directly from the text when writing and/or responding to comments.
• Address any clarifying questions and model briefly if necessary.
• Give students 5 minutes to do the Chalk Talk.
•
	• 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; they can also write their thoughts in their L1 during the Chalk Talk. This can let students have more meaningful discussions and clarify points in their L1.

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Close Reading:
Blue Creek, a Rainforest in Belize (Page 12)

Work Time (continued)	Meeting Students' Needs
• Then ask students to read through all comments and search for patterns and/or themes (e.g., names of animals that live in Blue Creek, 200 types of plants, varieties, etc.). • Ask each group to share one pattern and/or theme they noticed from their Chalk Talk.	
B. Creating an AQUA Biodiversity Anchor Chart (5 minutes) • Display the **AQUA Biodiversity anchor chart** (see example in supporting materials). Ask students to turn to four new pages in their journals. Ask them to lay out the four pages as follows: 1. Already Know (A) 2. Questions (Q) 3. Understandings (U) 4. Action (A) • Explain to students that an AQUA chart is similar to a KWL, except it has the added component of an "Action." Tell students they will be coming back to this fourth column later in the module. • Remind students that the meaning of the word *biodiverse* can be figured out by thinking about its parts (*bio*, meaning "life," and *diverse*, meaning "different"). Ask several students to share out what they already know (A) about biodiversity in Blue Creek and other rainforests they have read about. Listen for suggestions such as: "There are a lot of plants and animals in rainforests. There are many different types of plants and animals in the rainforest." Record student ideas. (Students should record ideas in their journals.) • Then invite several students to share questions (Q) they have about biodiversity in Blue Creek and/or other rainforests they have studied. Record student responses. (Students should record ideas in their journals.) • Students will have an opportunity to fill in the understandings (U) and action (A) columns in future lessons. • Keep the AQUA Biodiversity anchor chart posted for ongoing student reference and to add to in subsequent lessons. Remind students that just like with their KWL chart, it is important that they keep good notes on their AQUA chart, since they will get to use these during the end of unit assessment.	• Students needing additional supports may benefit from a partially filled-in AQUA Biodiversity anchor chart. • Use vocabulary learning strategies to support all learners: prefixes, root words, suffixes, cognates, and context.

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Close Reading:
Blue Creek, a Rainforest in Belize (Page 12)

Work Time (continued)	Meeting Students' Needs

C. Second Read: Answering Text-Dependent Questions (20 minutes)
• Distribute the **Text-Dependent Questions, *The Most Beautiful Roof in the World*, page 12** (one per student).
• Ask students to read through each of the questions on their own. Then ask students to work with their group for 7 to 8 minutes to go back into the text on page 12 and discuss their responses to each question.
• Move throughout the room to offer support and/or clarification as needed.
• Then give students 5 minutes to record answers on their individual text-dependent questions sheets.
• Next, focus students' attention on key vocabulary from the text. Post the following vocabulary words on the board and ask students to suggest definitions and/or synonyms:
  * *varieties*: many different kinds; many types (academic)
  * *upward*: going up; toward the sky/tops of trees (academic)
  * *species*: a group of similar types of plant and/or animal (scientific)
  * *viper*: a type of snake (scientific)
  * *salamander*: a small animal/reptile that looks like a lizard (scientific)
  * *bromeliad*: a tropical plant with fleshy leaves (scientific)
  * *decaying*: rotting; crumbling; falling apart (academic)
  * *vegetation*: plants; plant life; foliage (scientific)
  * *thrive*: succeed; prosper; grow well (academic)
  * *opportunistic*: describes a species that fills a gap in the ecosystem (academic)
• Once the above terms have been discussed/defined, allow students another 1 or 2 minutes to work with group members. This will allow them to revise their answers to the text-dependent questions, based on new understandings.
• Invite several students to share out questions/answers their group revised and how they applied any new understandings about vocabulary to improve/correct their responses.
	• Consider giving some students fewer text-dependent questions (one or two). This allows all students to participate in a meaningful way.
	• Consider giving students who struggle with language fewer vocabulary words to focus on.

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Close Reading:
Blue Creek, a Rainforest in Belize (Page 12)

Closing and Assessment	Meeting Students' Needs
A. Debrief and Review Learning Targets (10 minutes) • Ask students to consider the following question: * "How does the author use language to paint a picture of the biodiversity of the rainforest?" • Give students several minutes to look back at page 12 of *The Most Beautiful Roof in the World* to identify three to five words that really stood out for them. • Ask students to begin a new page in their journals and write a response to the above question about Kathryn Lasky's word choice. • Ask a few volunteers to share out. • 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. • Distribute **Homework: Close Reading Note-catcher for pages 13-16 of *The Most Beautiful Roof in the World*.**	• Consider allowing students who struggle with written language to dictate their answer to the Debrief question to a partner or teacher.

Homework	Meeting Students' Needs
• Reread page 12 to someone (or yourself) at home. Be prepared to share with a partner how Blue Creek is biodiverse. • Choose three academic and two scientific vocabulary words discussed in the lesson to add to your glossaries in your journal. Choose from the following words: explain, determine, paint a picture, biodiverse; considered, varieties, upward, species, timeless, uncharted, teems, ceaseless, vipers, salamander, bromeliads, decaying, vegetation, thrive, opportunistic, altered habitats (12) • Do a first read of pages 13–16. Complete the Close Read Note-catcher. *Note: Read and become familiar with pages 13–16 of The Most Beautiful Roof in the World.*	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *determine, paint a picture, upward* (academic); *species, vegetation* (scientific).

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EXPEDITIONARY LEARNING

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

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Map of North and South America

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AQUA Biodiversity Anchor Chart
(Sample for Teacher Reference)

Already Know A	Questions Q	Understandings U	Action A

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Text-Dependent Questions, *The Most Beautiful Roof in the World*, page 12
("Deep in Belize…")

Name:

Date:

1. The text says that in Blue Creek there "are more *varieties* of living things than perhaps any other place on earth." What does the word *varieties* mean in this text? What details from the first paragraph on page 12 support this statement?

2. According to the second paragraph, what types of animals live in the Blue Creek rainforest? Support your answer with evidence from the text.

3. The third paragraph describes how "When a tree falls ... new creatures move in and take over the *altered habitats*." What does the phrase *altered habitats* mean in this sentence? Support your answer with evidence from the text.

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Teacher Resource: Text-Dependent Questions, *The Most Beautiful Roof in the World*, page 12

("Deep in Belize…")

1. The text says that in Blue Creek there "are more *varieties* of living things than perhaps any other place on earth." What does the word *varieties* mean in this text? What details from the first paragraph on page 12 support this statement?

   The word *varieties* means many types. The details in Paragraph 1 that support this statement are, "Within a 16-foot (five-meter) square there can be upward of two hundred different species of plants."

4. According to the second paragraph, what types of animals live in the Blue Creek rainforest? Support your answer with evidence from the text.

   Bats – "swoop through the canopy"; vipers – "coil in roots"; tree salamanders – "in petals of an orchid"; poison dart frog tadpoles – "in tanks of bromeliads."

5. The third paragraph describes how "When a tree falls ... new creatures move in and take over the *altered habitats*." What does the phrase *altered habitats* mean in this sentence? Support your answer with evidence from the text.

   It means a place where animals live that has been changed in some way; the text describes how the tree changes by falling; then the trunk rots and bark loosens before new animals move in.

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Homework: Close Reading Note-catcher for Pages 13–16 of *The Most Beautiful Roof in the World*

Directions:

1. Read pages 13-16.
2. Complete the Note-catcher below.

Immerse Yourself!
First Read

Words or phrases that stand out or seem important	Based on the words and phrases… My initial thoughts about the meaning of this section of the text

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EXPEDITIONARY LEARNING

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

Close Reading in Expert Groups: What is it Like in the Rainforest Canopy? (Pages 13–16)

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
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 use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) I can summarize information that is presented in pictures. (SL.5.2)	
Supporting Learning Targets	**Ongoing Assessment**
• I can write a gist statement for a chunk of texts from *The Most Beautiful Roof in the World*. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can sketch the gist of a chunk of text from *The Most Beautiful Roof in the World*. • I can match a gist statement to a picture of the same chunk of text.	• Journal (Meg Lowman KWL chart, Biodiversity AQUA chart, glossaries) • Gist statements • Gist sketches

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (5 minutes) 2. **Work Time** A. Group Read: Determining the Gist of Pages 13–16 (25 minutes) B. Jigsaw, Part 1: Sketching the Gist (10 minutes) C. Jigsaw, Part 2: Matching Gist Statements and Sketches (15 minutes) 3. **Closing and Assessment** A. Debrief and Review Learning Targets (5 minutes) 4. **Homework**	• In advance: Read and become familiar with pages 13–16 of *The Most Beautiful Roof in the World*. • Review: Fist to Five strategy (see Appendix). • This lesson follows a basic Jigsaw structure, in which students first become experts on a chunk of text and then share their expertise with others. Review the Jigsaw protocol (see Appendix). • Read through each of the seven chunks of text (listed on the task cards) to predetermine which sections of text will be most appropriate for each student group, based on level of vocabulary, length, etc. • Refer to Key Vocabulary and Definitions, Pages 13–16 (for Teacher Reference; see Supporting Materials) when working with groups on reading for gist. • As in Module 1, students are asked to sketch their understanding of the main idea of a small chunk of text during the Work Time of this lesson. Sketching is one way to help students solidify their understanding of complex text and links to CCLS RI.5.2. Using art is one way to provide students with multiple means of engagement and representation (based on Universal Design for Learning principles).

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Lesson Vocabulary	Materials
sketch, match, chunk, gist statement, justify Chunk 1: functions, impact, recently, invincible, track, previous Chunk 2: viewed, emergent growth, crowns, pavilion, floor, walkway Chunk 3: gear, Mayan, vary, jumars, ascenders, device, descend, manually Chunk 4: base, accompanied, tag, explore Chunk 5: Ormosia, fixed, project, unpracticed, securely, mosaic, negotiating Chunk 6: spans, bank, diverge, observation platform, junction, provide Chunk 7: maze, tangled, horizontally, influences, lianas, commuting	• *The Most Beautiful Roof in the World* (book; one per student) • The Rainforest Canopy task cards (1–7) • Key Vocabulary and Definitions, Pages 13–16 (for Teacher Reference) • Expert Groups Gist Note-catcher (one per student) • Index cards (two per student)

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (5 minutes) • Ask students to take out their journals. • Invite students to think about one key detail that seemed important from last night's reading about how difficult it is to study the canopy of a rainforest (pages 13–16). Use a Go-Around to have each student share.	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Work Time	Meeting Students' Needs
A. Group Read: Determining the Gist of Pages 13–16 (25 minutes) • As usual, ask students to join their groups (from Lessons 1–4). Students need their text ***The Most Beautiful Roof in the World***. • Introduce the learning targets: "I can write a gist statement for a chunk of text from *The Most Beautiful Roof in the World*," and "I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*." • Ask students to remember and share out the meaning of the words *chunk* (a piece; a section of the whole) and *gist statement* (main idea; what text is mainly about). • Ask students to open their books to page 13 and follow along silently. Read pages 13–16 aloud (start with "Meg Lowman believes that science is the machinery ..." and read through "... a web for commuting life." • Ask students to turn and talk to a partner about what they think this part of the text is mostly about. • Distribute one of the **Rainforest Canopy task cards** to each group. • Give students 5 minutes to read (independently) the chunk of text named on their task card. • Then ask students to briefly discuss with their groups: "What was this chunk of text mostly about?" • Ask students to keep in mind their initial thinking about the gist of their chunk of text. Tell them that they are going to focus on some important vocabulary terms that may help them be even clearer about the gist. • Ask students to reread the text and look for the key vocabulary words listed on their task cards. Say: "As you reread your chunk of text, make sure to use *context* clues to help you figure out the meaning of key words listed on your task card. Understanding the meaning of these words will help you get even clearer about the gist of your text." • Allow students approximately 10 minutes to work with their groups. • Circulate, looking for groups to identify and define the words. Use the **Key Vocabulary and Definitions, Pages 13–16 (for Teacher Reference)** to support groups with vocabulary as needed. • Once they have reread their chunk of text and determined the meaning of key words from their task cards, ask them to recall their initial thinking about the gist. Then ask groups to discuss what they think the gist of the text is now that they have focused on key vocabulary (2 minutes).	• Provide anchor charts for processes such as How to Write a Gist Statement. This would include steps: 1. Read the text. 2. Think about what it is mostly about. 3. Write one sentence about the main idea of the text. • Consider prioritizing vocabulary words for students who may need fewer words to choose from on task cards. • ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Work Time (continued)	Meeting Students' Needs
• Distribute the **Expert Groups Gist Note-catcher**, one per student. • Ask students to write a gist statement on their Expert Groups Gist Note-catcher, next to the number of their chunk of text.	•
B. Jigsaw, Part 1: Sketching the Gist (10 minutes) • Read aloud the learning target: "I can sketch the gist of a chunk of text from *The Most Beautiful Roof in the World*." • Ask students what they think it means to *sketch* the gist of their text. Listen for students to respond: "make a picture that shows what the chunk was mostly about; no words, just images," or similar ideas. • Give each student two **index cards** and explain: "In a few minutes we are going to do a matching activity. You will be given two index cards each. On one index card, write the number of the chunk of text you read (1–7) and the gist statement about that chunk that you wrote on the Note-catcher. On the second index card, sketch a picture of your gist statement; *do not* write the chunk number or any words on this card. Only pictures that show the ideas and details of your gist statement. Remember, other students will need to be able to match up your two cards, so think about which details are most important to include in your drawing."	• For students who struggle producing written language, consider providing extra time for tasks and answering questions in class discussions. These students often need more time to process and translate information.

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Work Time (continued)	Meeting Students' Needs

C. Jigsaw, Part 2: Matching Gist Statements and Sketches (15 minutes)
• Introduce the learning target: "I can match a gist statement to a picture of the same chunk of text."
• Ask students for suggestions about the meaning of the word *match*, listening for ideas like: "go together; pair up," etc.
• Ask students to gather their book, Expert Groups Gist Note-catcher, and two index cards. Regroup students into groups of seven, with one student to read each chunk of the text.
• Give directions:
  * Each student place your two index cards on the table (total of 14 cards).
  * Mix the cards up.
  * Match gist statements with drawings.
  * Be sure to read gist statements aloud and *justify* (give reasons) why you think a drawing matches the statement with evidence from the drawing.
• Circulate to support as needed.
• Once students have matched each gist statement with each drawing, ask them to fill in the remaining rows of their Expert Groups Gist Note-catcher for the other six chunks of text they did not read closely today. Remind students to use the gist statements on the index cards, as well as allow each student the opportunity to share the key vocabulary they used to write their gist statement with the other group members as they write them on their Note-catchers.
• As time permits, invite several students to share out gist statements from their Note-catchers.
	• Consider providing a protocol to require students to share speaking and listening "air time" during the matching activity.

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Closing and Assessment	Meeting Students' Needs

A. Debrief and Review Learning Targets (5 minutes)
• Ask students to Pair-Share their response to the following:
  * "Which helped you understand the gist of someone else's chunk of text better, the *written* gist statement or the *drawing* of the gist? Why?"
• Ask a few students to share out whole group.
• Review the first learning target, and ask students to use the Fist to Five strategy to show how well they think they are able to use context to determine the meaning of unfamiliar words:
  * Five: I can figure out most words from the context.
  * Three: I can figure out some words from the context.
  * Fist: I can't figure out very many/any words from context.
• Be sure to note which students assess themselves a fist; they will need additional strategies and/or support with vocabulary acquisition.
	• 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.

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Homework	Meeting Students' Needs
• Reread aloud pages 13–16 to someone (or yourself) at home. • Add to the Meg Lowman KWL chart in your journal. Be prepared to share with a partner tomorrow. • Choose two new academic and two new scientific vocabulary words, from pages 13–16 and/or your Note-catcher, to add to the glossaries in your journal. Choose from this list: sketch, match, chunk, gist statement, justify; functions, impact, recently, invincible, track, previous (Chunk 1); viewed, emergent growth, crowns, pavilion, floor, walkway (Chunk 2); gear, Mayan, vary, jumars, ascenders, device, descend, manually (Chunk 3); base, accompanied, tag, explore (Chunk 4); Ormosia, fixed, project, unpracticed, securely, mosaic, negotiating (Chunk 5); spans, bank, diverge, observation platform, junction, provide (Chunk 6); maze, tangled, horizontally, influences, lianas, commuting (Chunk 7). *Note: Prepare the Quiz-Quiz-Trade vocabulary slips for Lesson 6 (cut apart and fold).* *Preview and become familiar with the following video (used in Lesson 6): "Climate Change Experiment Tracks Lizards and Butterflies" (1:49) www.youtube.com/watch?v=bgVG6wmFCEE&feature=relmfu*	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *sketch, match, gist statement* (academic), *base, floor* (scientific).

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EXPEDITIONARY LEARNING

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

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The Rainforest Canopy, Task Cards (Chunks 1–7)

TASK CARD: Chunk #1
READ p. 13, paragraphs 1 and 2 Start with the phrase, "Meg Lowman believes ..." and read through "How many species can be removed ..." KEY VOCABULARY, p. 13 *functions* (academic) *impact* (academic) *recently* (academic) *invincible* (academic) *track* (academic) *previous* (academic)

TASK CARD: Chunk #2
READ p. 13, paragraph 3 Start with the phrase, " Viewed from an airplane ..." and read through "At Blue Creek a canopy walkway ..." **KEY VOCABULARY**, p. 13 *viewed* (academic) *emergent growth* (scientific) *crowns* (scientific) *pavilion* (scientific) *floor* (scientific) *walkway* (academic)

TASK CARD: Chunk #3
READ p. 14, paragraph 1 Start with the phrase "Meg is up at first light" and read through "To descend, the climber must ..." **KEY VOCABULARY**, p. 14 *gear* (academic) *Mayan* (scientific) *vary* (academic) *Jumars* (scientific) *ascenders* (scientific) *descend* (academic) *manually* (academic)

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The Rainforest Canopy, Task Cards (Chunks 1–7)

TASK CARD: Chunk #4
READ p. 14, last two sentences and p. 15, paragraph 1 Start with the phrase "Bye Mom" and read through "In the meantime, they can swim." **KEY VOCABULARY**, pp. 14–15 *base* (scientific) *accompanied* (academic) *tag* (academic) *explore* (academic)

TASK CARD: Chunk #5
READ p. 15, paragraph 2 Start with the phrase "Meg is fast" and read through "Now she is at the beginning of the walkway." **KEY VOCABULARY**, p. 15 *Ormosia* (scientific) *fixed* (academic) *project* (academic) *unpracticed* (academic) *securely* (academic) *mosaic* (academic) *negotiating* (academic)

TASK CARD: Chunk #6
READ p. 15, last sentence and continue to p. 16, first paragraph Start with the phrase "The walkway itself ..." and read through "There is a major observation platform." **KEY VOCABULARY**, pp. 15–16 *spans* (academic) *bank* (scientific) *diverge* (academic) *observation platform* (scientific) *junction* (academic) *provide* (academic)

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The Rainforest Canopy, Task Cards (Chunks 1–7)

TASK CARD: Chunk #7
READ p. 16, paragraph 2 Start with the phrase "When viewed from below..." and read through "For those creatures that swing or glide or climb..." **KEY VOCABULARY**, pp. 16 *maze* (academic) *tangled* (academic) *horizontally* (academic) *influences* (academic) *lianas* (scientific) *commuting* (academic)

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Teacher Resource: Key Vocabulary and Definitions, Pages 13–16

Chunk 1, page 13:
functions: works; performs (academic)
impact: influence; effect (academic)
recently: just a while ago; lately (academic)
invincible: too difficult to overcome; unbeatable; indestructible (academic)
track: follow; pursue (academic)
previous: before; prior; earlier (academic)

Chunk 2, page 13:
viewed: seen; observed (academic)
emergent growth: very tall trees with a "crown" that extends above the canopy (scientific)
crowns: topmost foliage and branches on a tree (scientific)
pavilion: highest layer of growth in the rainforests; the crowns of trees above the canopy (scientific)
floor : ground level (scientific)
walkway: path; route (academic)

Chunk 3, page 14:
gear: equipment; tools (academic)
Mayan: member of the Maya people (scientific)
vary: differ; contrast (academic)
jumars: "ascenders"; metal U-shaped device with hinges, used for climbing (scientific)
ascenders: climbing equipment to help a person go up (scientific)
descend: go down (academic)
manually: by hand; physically (academic)

Chunk 4, page 14, last sentence, and page 15:
base: bottom of a tree (scientific)
accompanied: went with; joined (academic)
tag: label; mark (academic)
explore: discover; look around; investigate (academic)

Chunk 5, page 15:
Ormosia: a type of tree found in the Blue Creek rainforest (scientific)
fixed: attached permanently to one spot/area (academic)
project: stick out; extend (academic)
unpracticed : inexperienced; untrained; lacking the know-how (academic)
securely: firmly; strongly (academic)
mosaic: mixture; variety (academic)
negotiating: navigating; going around; getting past (academic)

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Teacher Resource: Key Vocabulary and Definitions, Pages 13–16

Chunk 6, page 15, last sentence, and page 16:
spans: distances; lengths (academic)
bank: shore; edge (scientific)
diverge: separate; split (academic)
observation platform: raised area where a scientist can view/make observations of the rainforest (scientific)
junction: connection; intersection; place where things join (academic)
provide: supply; give (academic)

Chunk 7, page 16:
maze: confusing network of paths; web (academic)
tangled: scrambled; knotted; jumbled (academic)
horizontally: on the same level; straight across (academic)
influences: affects; changes (academic)
lianas: high climbing vines seen throughout the rainforest (scientific)
commuting: traveling; going back and forth (academic)

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Close Reading in Expert Groups:
What is it Like in the Rainforest Canopy? (Pages 13–16)

Expert Groups Gist Note-catcher

Chunk of Text	GIST What is the main idea of what you read?
1	
2	
3	
4	
5	
6	
7	

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EXPEDITIONARY LEARNING

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

Reading Informational Text for Details: Meg's Rainforest Experiment (Pages 17–20)

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Reading Informational Text for Details:
Meg's Rainforest Experiment (Pages 17–20)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
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 use context (e.g., cause/effect relationships, comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) I can summarize text that is read aloud to me. (SL.5.2)	
Supporting Learning Targets	**Ongoing Assessment**
• I can explain Meg Lowman's process for conducting experiments in the rainforest. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*.	• Journal (Meg Lowman KWL chart, glossaries) • Experiment Note-catcher

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Reading Informational Text for Details:
Meg's Rainforest Experiment (Pages 17–20)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (10 minutes) 2. **Work Time** A. Read-aloud and Taking Notes: Meg Lowman Experiments in the Rainforest (15 minutes) B. Group Read: Rereading, Revising, and Sharing to Music (20 minutes) C. Key Vocabulary to Deepen Understanding (10 minutes) 3. **Closing and Assessment** A. Debrief and Review Learning Targets (5 minutes) 4. **Homework**	• In advance: View and become familiar with the video used in the Engaging the Reader segment of this lesson. Prepare technology in advance to play the video for students. • 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. • The video is about French researchers studying the rainforest. It is shown for two purposes: to continue to build students' background knowledge and interest about the rainforest, and also to help students think about how rainforest scientists conduct experiments. • Read and become familiar with Meg Lowman's process for conducting an experiment (pages 17–20). • Have music ready for the Milling to Music activity in Work Time B. • Review: Quiz-Quiz-Trade Protocol and Milling to Music strategy (see Appendix). • Students likely can figure out many of the Quiz-Quiz-Trade vocabulary words in context. Encourage this. The Quiz-Quiz-Trade cards are prepared in advance to save time in the lesson.

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Reading Informational Text for Details:
Meg's Rainforest Experiment (Pages 17–20)

Lesson Vocabulary	Materials
experiment, conducted, process; platform, balances, snapshots (17), minings, surface, acquires, notations, populations, synchronized, theory, mesh, ongoing processes, exclusion (19), variable, control, barrier, consume, stimulate (20)	• "Climate Change Experiment Tracks Lizards and Butterflies" video: • http://www.youtube.com/watch?v=bgVG6wmFCEE&feature=relmfu • Experiment Note-catcher (one per student and one for display) • Experiment Note-catcher (Example, for Teacher Reference) • *The Most Beautiful Roof in the World* (book; one per student) • Quiz-Quiz-Trade strips (see Teaching Note)

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Reading Informational Text for Details:
Meg's Rainforest Experiment (Pages 17–20)

Opening	Meeting Students' Needs

A. Reviewing Homework and Engaging the Reader (10 minutes)
• Ask students to take out their journals. Invite students to share information that has been added to the Meg Lowman KWL chart and one new vocabulary word in each glossary with a partner.
• Tell students they will watch a short video about scientists in France tracking lizards and butterflies. The French scientists are conducting an experiment in the natural world. Explain that all scientists follow a typical process when conducting experiments. They will learn something about that process as they watch the video. After they watch the video, they will get to read about some experiments that Meg Lowman conducts as a part of her work.
• Set a clear purpose before students watch the video:
  * "Listen to how these scientists conducted experiments on lizards and butterflies."
• Play the video:
  * **"Climate Change Experiment Tracks Lizards and Butterflies"** (1:49) www.youtube.com/watch?v=bgVG6wmFCEE&feature=relmfu
• After viewing the video, ask students to Think-Pair-Share:
• * "What did you see and hear about how these scientists conducted experiments on lizards and butterflies?"
• Invite several students to share out ideas with the whole group.
	• When playing videos, use the English subtitles if available. Providing a visual can assist struggling learners in understanding the content of the video.

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Reading Informational Text for Details:
Meg's Rainforest Experiment (Pages 17–20)

Work Time	Meeting Students' Needs

A. Read-aloud and Taking Notes: Meg Lowman Experiments in the Rainforest (15 minutes)
• Ask students to join their groups (from Lessons 1–5).
• Introduce the learning target: "I can explain Meg Lowman's process for conducting experiments in the rainforest."
• Review key vocabulary:
  * Ask students to share their ideas about the meaning of the words *conducting* (to do something; perform) and *experiments* (tests; research).
  * Ask students to share what they remember about the word *process* (steps; method; procedure).
• Display and distribute the **Experiment Note-catcher**. Say: "As I read aloud, follow along silently and pay attention to what the text tells us about Meg Lowman's process for conducting experiments in the rainforest. I will stop after each chunk of text and let you fill in your Note-catcher."
• Review the Note-catcher. Explain that in the left column, they will list the process or "steps" Meg followed in just one or two words. Then in the right column, they will write a brief description of the purpose of each step: Why does Meg do this step? Answer any clarifying questions about the Note-catcher.
• Note: Students will have the opportunity to reread a section of this text and refine their Note-catchers during Work Time B. So, it is fine at this point if students are not clear on the steps of the experiment process.
• Invite students to open their copies of ***The Most Beautiful Roof in the World*** to page 17. Read aloud starting with the first sentence: "Meg has now crossed the creek," and pause after reading the last sentence on page 17: "She now checks to see how much of each leaf has been eaten."
• Ask students: "What was the first step of Meg Lowman's process?" Listen for: "snapshots." Model writing the term snapshots in the first left-side box of the Note-catcher (and students can record on their own Note-catchers).
• Then ask: "What was Meg Lowman's purpose? Why did she follow this step?" Listen for students to respond: "to observe leaves; look at leaves to see how much has been eaten," or similar ideas. Model writing the "purpose" for the step in the first right-side box of the Note-catcher (with students recording it in their own Note-catchers).
• Continue reading aloud. Pause after reading the first two sentences on page 19: "Leaf number five . . ." through "... who writes the figures down in a notebook." Ask students to record the next step of Meg Lowman's process and the purpose for the step.
	• Students needing additional supports may benefit from a partially filled-in Note-catcher.
	• 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.

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Reading Informational Text for Details:
Meg's Rainforest Experiment (Pages 17–20)

Work Time (continued)	Meeting Students' Needs
• Continue to read aloud and pause at the following points for students to record each step and its purpose: * Page 19—paragraph 1, sentences 3–5: "Mining occurs ..." through "... about the hatching periods of certain insect populations." * Page 19—remainder of paragraph 1 and paragraph 2, sentences 1–3: "She has a hunch ..." through "... the often interrupt natural processes." * Page 19—remainder of last paragraph, and all of page 20: "With the mesh bags ..." through "... stimulate the tree to produce more?"	•
B. Group Read: Rereading, Revising, and Sharing to Music (20 minutes) • Tell students they will reread a portion of the text. Their purpose is still to focus on determining what Meg Lowman's process is for conducting experiments in the rainforest. Then they will be able to discuss their thoughts and revise their Note-catchers with their group members after they read. • Give students 7 to 8 minutes to reread independently from the last paragraph on page 17 ("Meg begins taking 'snapshots' . . .") through to the last full sentence on page 19 ("With the mesh bags Meg is going to begin an exclusion experiment"). • After students have finished reading, ask them to talk with their group members about the process/steps Meg Lowman uses to conduct her experiments. Prompt students to pay close attention to any information they listed initially in their Note-catchers that they now want to revise based on new understandings gained through rereading and peer discussions. • Give students several minutes to revise their Experiment Note-catchers. Circulate to support students as needed. • Use the Milling to Music strategy to allow students to share their Note-catchers with other students in the class. Students should share the steps they wrote, as well as any revisions they made and why. Start and stop the music at least twice to allow students the opportunity to talk with at least two other peers about their Note-catchers.	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language. • Consider writing and breaking down multistep directions into numbered elements. Students can return to these guidelines to make sure they are on track.

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Reading Informational Text for Details:
Meg's Rainforest Experiment (Pages 17–20)

Work Time (continued)	Meeting Students' Needs

C. Key Vocabulary to Deepen Understanding (10 minutes)
• Distribute the **Quiz-Quiz-Trade strips** and briefly remind students of the process for participation:
  * Each student finds a partner.
  * Partner A shows the side of the paper with the word on it.
  * Partner B says the definition or uses *context* clues to determine meaning.
  * Partner A then reads the definition aloud to confirm or correct the definition that Partner B gave.
  * Partners switch roles and repeat the steps above.
  * Partners then trade vocabulary slips and find a new partner.
• Clarify any instructions and then distribute one vocabulary strip per student.
• Begin Quiz-Quiz-Trade. Be sure all students meet with at least two partners. Circulate to listen in on students' definitions of vocabulary and use of context clues to help them define the word. Note which students may need more support/additional vocabulary strategies/practice in order to understand the text.
• After approximately 5 minutes, ask students to return to their groups. Emphasize the following vocabulary (which may have been difficult to define from context and/or appear frequently in the text). Ask students to share the meaning of these words. Listen for responses such as:
  * *acquires*: gets; gains; obtains
  * *theory*: idea or belief about something based on knowledge; experience
  * *ongoing processes*: constant/unending experiments and/or steps in an experiment
  * *exclusion*: leave something out
  * *barrier*: obstacle that blocks access to something
  * *consume*: eat; chomp through
  * *stimulate*: increase; speed up
• Ask students to add any new/unfamiliar words from this list to their Academic Words Glossary in their journals.
	• Provide anchor charts for vocabulary activities such as How to Play Quiz-Quiz-Trade. This would include question words with nonlinguistic representations (e.g., pair of people for *partner*, double-sided arrow for *switch*).
	• Consider narrowing the list of vocabulary words for students who struggle with language by providing only half of the Quiz-Quiz-Trade cards.

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Reading Informational Text for Details:
Meg's Rainforest Experiment (Pages 17–20)

Closing and Assessment	Meeting Students' Needs
A. Debrief and Review Learning Targets (5 minutes) • Pose the following question to students: "What have we learned about Meg Lowman as a scientist?" • Ask students to add to their Meg Lowman KWL chart and choose a few to share out ideas. • Review the learning targets, pausing after each to ask students to show a thumbs-up if they feel they mastered the target, a thumbs-sideways if they feel they haven't completely mastered the target, or a thumbs-down to show they're still working on it.	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.

Homework	Meeting Students' Needs
• Reread pages 17–20 to someone (or yourself) at home. • Add to the Meg Lowman KWL chart in your journal. Be prepared to share with a partner tomorrow. • Choose three new academic and two new scientific words discussed today to add a definition, synonym, and/or picture for in your glossaries. Choose from this list: experiment, conducted, process; platform, balances, snapshots (17), minings, surface, acquires, notations, populations, synchronized, theory, mesh, ongoing processes, exclusion (19), variable, control, barrier, consume, stimulate (20).	• Audio recordings of text can aid ELLs in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *experiment*, *conducted*, *process* (academic); *snapshots*, *barrier* (scientific).

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EXPEDITIONARY LEARNING

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

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Experiment Note-catcher

Group Member Names:

Date:

PROCESS/STEP (Short phrases that name the step)	**PURPOSE** (Why does Meg do this step?)

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Experiment Note-catcher
(Example, for Teacher Reference)

PROCESS/STEP (Short phrases that name the step)	**PURPOSE** (Why does Meg do this step?)
take a "snapshot"	observe/look at leaves to see how much has been eaten
record figures	keep track of how much/percentage of leaf that has been eaten; minings
compare figures	to compare the figures to what she already knows about the times that insects hatch
ask new questions	to learn more about insects/leaves; set up new experiments
begin new experiment	"Exclusion Experiment"—using mesh bags

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Quiz-Quiz-Trade Vocabulary

surface	outside; face
acquires	gets; gains; obtains
notations	notes about ideas and important information
populations	inhabitants; groups of living things in an area
synchronized	made things work at the same time; coordinated
theory	idea or belief about something based on knowledge, experience
ongoing processes	constant/unending experiments and/or steps in an experiment
exclusion	something left out
variable	something that can change and/or be changed
control	a standard or unchanging part of an experiment that results are compared to
barrier	obstacle that blocks access to something
consume	eat; chomp through
stimulate	increase; speed up

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Quiz-Quiz-Trade Vocabulary

surface	outside; face
acquires	gets; gains; obtains
notations	notes about ideas and important information
populations	inhabitants; groups of living things in an area
synchronized	made things work at the same time; coordinated
theory	idea or belief about something based on knowledge, experience
ongoing processes	constant/unending experiments and/or steps in an experiment
exclusion	something left out
variable	something that can change and/or be changed
control	a standard or unchanging part of an experiment that results are compared to
barrier	obstacle that blocks access to something
consume	eat; chomp through
stimulate	increase; speed up

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EXPEDITIONARY LEARNING

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

Mid-Unit Assessment: Text-Dependent Multiple-Choice and Short Answer Assessment

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Mid-Unit Assessment:
Text-Dependent Multiple-Choice and Short Answer Assessment

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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4) I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4)	
Supporting Learning Targets	**Ongoing Assessment**
• I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can determine the main ideas of a selection of text from *The Most Beautiful Roof in the World*. • I can justify my answers using quotes and evidence from the text.	• Mid-Unit 2 Assessment • Tracking My Progress, Mid-Unit 2 recording form

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Mid-Unit Assessment:
Text-Dependent Multiple-Choice and Short Answer Assessment

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (10 minutes) 2. **Work Time** A. Mid-Unit Assessment: Text-Dependent Short-Answer Quiz (30 minutes) B. Learning Target Reflection (10 minutes) 3. **Closing and Assessment** A. Debrief (10 minutes) 4. **Homework**	• Use the 2-Point Rubric: Writing from Sources/Short Response (see Supporting Materials) to score students responses on their assessments.

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Mid-Unit Assessment:
Text-Dependent Multiple-Choice and Short Answer Assessment

Lesson Vocabulary	Materials
determine, context, gist, selection, justify, quotes, evidence	• Meg Lowman, Rainforest Scientist KWL anchor chart (from Lesson 1) • *The Most Beautiful Roof in the World* (book; one per student) • Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World* Quiz (one per student) • Tracking My Progress, Mid-Unit 2 recording form (one per student) • AQUA Biodiversity anchor chart (from Lesson 4) • Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World Quiz* (Answers, for Teacher Reference) • 2-Point Rubric: Writing from Sources/Short Response (for teacher reference)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (10 minutes) • Ask students to take out their journals. • Direct students to first look at the **Meg Lowman, Rainforest Scientist KWL anchor chart**. Ask students to Pair-Share: one new thing they learned about Meg Lowman and one new vocabulary word that is related to what they learned from their homework. • Invite a few students to share out whole group.	• For students needing additional support producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.

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Mid-Unit Assessment:
Text-Dependent Multiple-Choice and Short Answer Assessment

Work Time	Meeting Students' Needs
A. Mid-Unit Assessment: Text-Dependent Short-Answer Quiz (30 minutes) • Review the learning targets: "I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*," "I can determine the main ideas of a selection of text from *The Most Beautiful Roof in the World*," and "I can justify my answers using quotes and evidence from the text." • Remind students they have been working on all of these targets throughout this unit. Ask several students to restate each target in their own words. • Ask students to take out ***The Most Beautiful Roof in the World***. Distribute the **Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World* Quiz**. Invite students to quickly scan the assessment. Address any clarifying questions. • Tell students they will have 30 minutes to read pages 22–23 and complete the questions on the mid-unit assessment. Prompt students to open their books to page 22. ("Meg climbs higher into the canopy.") Clarify any instructions as necessary. • Give students 30 minutes to work independently. Circulate to supervise; since this is a formal on-demand assessment, do not provide support other than formally approved accommodations. • If students finish the assessment early, ask them to add to the U column of their AQUA anchor charts, with new information they learned from pages 22–23 of *The Most Beautiful Roof in the World*. And/or invite students to work on the glossaries in their journals adding any new words they believe are important that they may not have had a chance to add yet. Remind students to add synonyms, phrases, and/or pictures to any words they have not had time to complete.	• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information. ELLs receive extended time as an accommodation on New York State assessments. • Consider providing smaller chunks of text (sometimes just a few sentences) and a modified assessment with fewer questions for struggling students.

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Mid-Unit Assessment:
Text-Dependent Multiple-Choice and Short Answer Assessment

Work Time (continued)	Meeting Students' Needs
B. Learning Target Reflection (10 minutes) • Introduce the learning target: "I can reflect on my learning." Remind students of the reflection they did during the last unit on their learning targets. Ask a few students to remind the class of that process. • Focus on the word *reflect*, and ask students for suggestions about what this means. Listen for students to share ideas like: "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 the **Tracking My Progress, Mid-Unit 2 recording form** to students. Explain that this is a self-assessment, exactly like the progress trackers they completed at the end of the Unit 1 mid-unit and end of unit assessments. They will reflect on their progress toward the learning targets. Read through the tracker and provide clarification as necessary for students. • Ask students to independently complete their recording form. Ask them to hold on to this sheet to refer to during the lesson debrief.	• Consider allowing students who struggle with written language to dictate their reflections to a partner or teacher.

Closing and Assessment	Meeting Students' Needs
A. Debrief (10 minutes) • Pair students up. Ask them to share the reflections on their Mid-Unit Tracking My Progress. • Invite several students to share out with the whole group. • Collect students' forms to review. • As time allows, invite students to share out any new "learning" from the reading today they want to add to the L column of the Meg Lowman, Rainforest Scientist KWL anchor chart or the U column of the **AQUA Biodiversity anchor chart**. Record students' ideas. Remind students to add to the KWL in their journals.	• 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.

Homework	Meeting Students' Needs
• None	•

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EXPEDITIONARY LEARNING

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

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Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World Quiz*

Name:

Date:

Instructions:
Read pages 22–23 of The Most Beautiful Roof in the World.
Consider the gist of these pages—what they are mostly about.
Skim the assessment questions below.
Reread the pages, thinking about the assessment questions.
Answer the questions in complete sentences.
Be sure to cite evidence from the text to support your answers.

1. Circle the letter next to the name of the tree or plant that is not found in the area Meg Lowman is studying.
   A. lianas
   B. Nargusta tree
   C. Christmas cactus
   D. bromeliads
   E. Kapok tree

2. In the sentence, "From this platform she has a good view of four ant gardens she is *monitoring*," what does the word *monitoring* mean? Support your answer with evidence from the text.

3. Fill in the blank: Epiphytes are _____ vines and lianas because they usually start growing from the canopy down.

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Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World Quiz*

4. The text tells us that *epiphytes* root on the bark or soil found on a tree. Number each step (1–6) to show the order of epiphyte growth.

   _____ Seeds sprout

   _____ Plants deposit sugars.

   _____ The plant takes root.

   _____ A bird excretes a seed from overhead, or ants drag in bits of plant material.

   _____ Ants feed off the glucose proteins of the plants' succaries.

   _____ Ant farmers tend the sprouts.

5. The author states: "Scientists think that the ant gardens themselves may be of *benefit* to more than just the ants." What does the word *benefit* mean in this sentence? In what way(s) do the ant gardens *benefit* more than just the ants? Quote the text in your answer.

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Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World Quiz*

(Answers, for Teacher Reference)

1. Circle the letter next to the name of the tree or plant that is not found in the area Meg Lowman is studying. (RI.5.2)

   A. lianas

   B. Nargusta tree

   C. **Christmas cactus**

   D. bromeliads

   E. Kapok tree

2. In the sentence, "From this platform she has a good view of four ant gardens she is *monitoring*," what does the word *monitoring* mean? Support your answer with evidence from the text. (RI.5.1, RI.5.4, and L.5.4)

Monitoring means keeping a watch over/looking/observing; because it says "she has a good view of the four ant gardens she is monitoring, as well as two very special bromeliads" and 'view' means to see/it describes two things she sees.

3. Fill in the blank: Epiphytes are _____**unlike**_____ vines and lianas because they usually start growing from the canopy down. (RI.5.4 and L.5.4)

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Mid-Unit 2 Assessment: *The Most Beautiful Roof in the World Quiz*
(Answers, for Teacher Reference)

4. The text tells us that *epiphytes* root on the bark or soil found on a tree. Number each step (1–6) to show the order of epiphyte growth. (RI.5.2)

3 Seeds sprout

5 Plants deposit sugars.

2 The plant takes root.

1 A bird excretes a seed from overhead, or ants drag in bits of plant material.

6 Ants feed off the glucose proteins of the plants' succaries.

4 Ant farmers tend the sprouts.

5. The author states: "Scientists think that the ant gardens themselves may be of *benefit* to more than just the ants." What does the word *benefit* mean in this sentence? In what way(s) do the ant gardens *benefit* more than just the ants? Quote the text in your answer. (RI.5.1, L.5.4)

Benefit means help. It says the "gardens help the tree capture more solar energy," and "trap the atmospheric nutrients that might slip off a bare trunk."

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Tracking My Progress, Mid-Unit 2

Name:

Date:

Learning Target: I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*.

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:

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Tracking My Progress, Mid-Unit 2

Name:

Date:

Learning Target: I can determine the main ideas of a selection of text from *The Most Beautiful Roof in the World*.

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:

_____

_____

_____

_____

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Tracking My Progress, Mid-Unit 2

Name:

Date:

Learning Target: I can justify my answers using quotes and evidence from the text.

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:

_____

_____

_____

_____

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2-Point Rubric: Writing from Sources/Short Response1

(for Teacher Reference)

Use the below rubric for determining scores on short answers in this assessment.

2-point Response	The features of a 2-point response are:
	• Valid inferences and/or claims from the text where required by the prompt • Evidence of analysis of the text where required by the prompt • Relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt • Sufficient number of facts, definitions, concrete details, and/or other information from the text as required by the prompt • Complete sentences where errors do not impact readability

1-point Response	The features of a 1-point response are:
	• A mostly literal recounting of events or details from the text as required by the prompt • Some relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt • Incomplete sentences or bullets

0-point Response	The features of a 0-point response are:
	• A response that does not address any of the requirements of the prompt or is totally inaccurate • No response (blank answer) • A response that is not written in English • A response that is unintelligible or indecipherable

[1]From New York State Department of Education, October 6, 2012.

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EXPEDITIONARY LEARNING

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

Close Read: Epiphytes of the Rainforest and the Creatures That Call Them Home (Pages 24–26)

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Close Read:

Epiphytes of the Rainforest and the Creatures That Call Them Home (Pages 24–26)

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 explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4)	
Supporting Learning Targets	**Ongoing Assessment**
• I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*. • I can explain the relationship between animals and plants in the rainforest using evidence from the text. • I can synthesize what I read in *The Most Beautiful Roof in the World*.	• Journal (Close Read Note-catcher, AQUA Biodiversity chart, synthesis statement)

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Close Read:
Epiphytes of the Rainforest and the Creatures That Call Them Home (Pages 24–26)

Agenda	Teaching Notes
1. Opening A. Reviewing Homework and Engaging the Reader (8 minutes) 2. Work Time A. Read-aloud: Relationships between Plants and Animals of the Rainforest (12 minutes) B. Group Read and Discussion: Plant and Animal Interdependence (15 minutes) C. Key Vocabulary to Deepen Understanding (10 minutes) D. Synthesis Writing (10 minutes) 3. Closing and Assessment A. Debrief and Review of Learning Targets (5 minutes) 4. Homework	• In advance: Become familiar with pages 24–26 of *The Most Beautiful Roof in the World*. • The Opening of this lesson involves a review strategy called Hot Seat (see Appendix). In Hot Seat, students find a question or card underneath or on their seats. They then respond to a question or define a vocabulary word by either sketching it or acting it out. • Review Fist to Five strategy (see Appendix). • Prepare the Hot Seat questions (cut apart, one question per square) and place squares facedown on students' seats. • Some Hot Seat questions ask students to draw or act out their answers. Provide white boards or blank paper for drawing. • Answers to Hot Seat questions are provided for Teacher Reference (see supporting materials). • The vocabulary section of this lesson is intentionally only 10 minutes. The focus is more on using context clues and word roots than on defining every single word. Be sure students understand this intent; otherwise, they may feel quite anxious about this long list of words. • In advance: Write the vocabulary words on a large piece of chart paper to save time during the lesson.

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Close Read:
Epiphytes of the Rainforest and the Creatures That Call Them Home (Pages 24–26)

Lesson Vocabulary	Materials
relationship, synthesize; disturbed, fungus, trudging, hoist, fraction, discarded (24), bromeliad, hovering, larvae, lurk, overlapping, venomous, disturbance (25), rare, lungless, inaccessibility, inhabitants (26)	• Hot Seat questions (cut apart into squares) • White boards and markers or blank paper • AQUA Biodiversity anchor chart (from Lesson 4) • *The Most Beautiful Roof in the World* (book; one per student) • Bromeliads and Rainforest Creatures Note-catcher (one per student)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (8 minutes) *Note: Be sure that the **Hot Seat questions** are already placed under or on student seats (see Teaching Note).* • Have students join their groups (from previous lessons). • Tell students they are going to review their understandings about biodiversity by playing Hot Seat. Explain to the class that in Hot Seat, some students (about half of the class) will be asked to answer a question or define a vocabulary word by either sketching it using the **white boards and markers or blank paper** provided, or by acting it out. Remind students of work they did in Module 1 acting out and sketching the articles of the UDHR. Tell them that they may refer to the **AQUA Biodiversity anchor chart**, their copies of ***The Most Beautiful Roof in the World***, and their journals during this activity. Say: "Take the paper out from under your seats and answer the questions or define the vocabulary word aloud one at a time with your group members. Students in your group who do not have a Hot Seat question must say if they agree or disagree with a response and explain their thinking." • Circulate to support as needed. • After groups finish answering the Hot Seat questions, invite several students to define or give examples of rainforest biodiversity.	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Close Read:
Epiphytes of the Rainforest and the Creatures That Call Them Home (Pages 24–26)

Work Time	Meeting Students' Needs
A. Read-aloud: Relationships between Plants and Animals of the Rainforest (12 minutes) • Ask students to remain in their groups. • Introduce the learning target: "I can explain the relationship between animals and plants in the rainforest using evidence from the text." Ask students to define *relationship*. Listen for responses such as: "connection; link; similarity between two or more things," etc. Briefly point out the word root *relation*, which means "connection." • Ask students to open their books to page 24 and locate the sentence that begins: "There are many such interlocking relationships." Read aloud pages 24–26 as students read along silently. Stop at the sentence on page 26: "This is the surprise she has been looking for to show her boys." • Invite several students to share out the gist of pages 24–26. Listen for: "how creatures of the rainforest and plants/trees depend on each other; there are many types of living things in/on plants and trees of the rainforest; the relationship between plants and animals in the rainforest," or similar ideas. Ask: * "What is the relationship between the animals and the plants of the rainforest?" • Give students 5–7 minutes to reread page 24 independently with this question in mind. Have them read from "There are many such interlocking relationships ..." through "... the right kind of leaf." • Invite group members to take 3 minutes to discuss the question. Circulate to listen in on students' conversations for details such as: "Ants protect the tree; the tree provides sugar/fungus for the ants," etc. • Ask several students to share out whole group.	• Provide nonlinguistic symbols (e.g., a rainforest animal for animal, a rainforest plant for *plant*, a book for *text*, etc.) to assist ELLs and other 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. • When possible, provide text or materials in students' L1. This can help students understand materials presented in English.

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Close Read:
Epiphytes of the Rainforest and the Creatures That Call Them Home (Pages 24–26)

Work Time (continued)	Meeting Students' Needs
B. Group Read and Discussion: Plant and Animal Interdependence (15 minutes) • Remind students they are still working on the first learning target. • Distribute the **Bromeliads and Rainforest Creatures Note-catcher**, one per student. • Say: "Now you will reread pages 25 and 26 independently to think more about how animals and plants depend on each other in the rainforest. You will use your Note-catcher to record your thinking. Make sure to use evidence from the text that shows how these creatures depend on bromeliads." Clarify any instructions as necessary. • Orient students to page 25, starting with "Meg carefully edges her way toward a bromeliad ..." through page 26: "This is the surprise she has been looking for to show her boys." • Give students 8 to 10 minutes to read and complete their Note-catchers. Circulate to support as needed. • Then ask students to discuss the information they found and recorded with their group members. • Offer students a moment to revise their Note-catchers, based on new evidence or understandings from their group conversations. • As time allows, invite several students to share out what they learned about how creatures of the rainforest depend on bromeliads. Remind students that studying the interdependence of animals and plants in areas that have a lot of biodiversity is what Meg Lowman does because it is important to know how everything works together.	• Consider providing smaller chunks of text (sometimes just a few sentences) for students who struggle with language. Teachers can check in on students' thinking as they write or speak about their text. • Students needing additional supports may benefit from a partially filled-in Note-catcher.

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Work Time (continued)	Meeting Students' Needs

C. Key Vocabulary to Deepen Understanding (10 minutes)
• Introduce the learning target: "I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*." Remind students that they have been working on this target a lot, particularly since this scientific text has so many challenging words, and they should continue to think about what they already know, look at the parts of words, or read on to help them determine the meaning of new words.
• List the following vocabulary on the board:
  * disturbed, fungus, trudging, hoist, fraction, discarded (24), bromeliad, hovering, larvae, lurk, overlapping, venomous, disturbance (25), rare, lungless, inaccessibility, inhabitants (26)
• Ask students to take 5 minutes on their own or with a partner to look back at pages 24–26 and try to determine the meaning of some of these words from context. Remind them that it is not as important that they understand every single word as it is that they are learning how to figure out words in context or using word roots (which they focused on in Module 1). Tell students that they do not need to write down every word on this list.
• As time permits, ask students to share definitions and, more importantly, how they figured out the words. It is fine if you do not make it through the entire list. As students share out, listen for:
  * *disturbed*: bothered; annoyed (academic)
  * *fungus*: mold; mildew
  * *trudging*: marching; hiking; moving slowly (academic)
  * *hoist*: lift; raise; pull (academic)
  * *fraction*: very small part/portion/piece (academic)
  * *discarded*: threw away; tossed out (academic)
  * *bromeliad*: a plant found in the rainforest; an epiphytic plant
  * *hovering*: floating in air; balancing; perching (academic)
  * *larvae*: immature insects; insects in an early stage of their lives
  * *lurk*: lie in wait (academic)
	• All students developing academic language will benefit from direct instruction of academic vocabulary.
	• Consider providing fewer vocabulary words (sometimes just 4 or 5) for students who struggle with language. Teachers can check in on students' thinking as they write or speak about their text.

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Close Read:
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Work Time (continued)	Meeting Students' Needs
* *overlapping*: partly covering; lying on top of (academic) * *venomous*: poisonous; toxic * *disturbance*: trouble; commotion; annoyance (academic) * *rare*: unusual; uncommon (academic) * *lungless*: without lungs * *inaccessibility*: the state of not being easy to get to; the condition of being hard to reach (academic) * *inhabitants*: the creatures that live in a place; occupants • After sharing out, allow students a few minutes to revise the evidence on their Bromeliads and Rainforest Creatures Note-catchers based on new understandings of vocabulary. Remind students that they are continuing to work on key vocabulary to help them learn more as readers about the rainforest. Ask groups to pair up and share what they learned about the relationship between bromeliads and creatures of the rainforest.	•

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Work Time (continued)	Meeting Students' Needs
D. Synthesis Writing (10 minutes) • Ask students to return to their seats for independent writing. • Introduce the learning target: "I can synthesize what I read in *The Most Beautiful Roof in the World*." Ask several students to share the meaning of the word *synthesize*. (Responses might include: "combine ideas," or "summarize using details.") • Ask students to turn to a new page in their journals and write a synthesis statement in response to the following prompt: "Describe the relationship between the animals and the plants of the rainforest and why that relationship is important." Remind students that they wrote a synthesis statement about biodiversity for the End of Unit 1 Assessment. Say to students: "Remember to think about all of the things you have read and learned about plants and animals of the rainforest and how they interact with each other. A strong synthesis statement will combine all of those ideas in a brief summary with details." • Give students 5 to 7 minutes to write their synthesis statements. • Ask students to Pair-Share their synthesis statements. Invite several students to share out whole group. • *Note: Do not collect students' synthesis statements; they need them for their homework.*	• Consider allowing students who struggle with written language to dictate their synthesis statement to a partner or teacher.

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Close Read:
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Closing and Assessment	Meeting Students' Needs
A. Debrief and Review of Learning Targets (5 minutes) • Focus students' attention back on the AQUA Biodiversity anchor chart. Use a Go-Around for students to share new understandings about biodiversity in the rainforests. Record responses in the U column of the chart. • Read through the learning targets, pausing after each to ask students to use the Fist to Five strategy to show their level of mastery toward the target (fist for 0 or no mastery; 1 to 5 fingers for higher levels of confidence or agreement). *Note students who show a fist, or only 1 to 2 fingers, as they may need additional support.*	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.
Homework	**Meeting Students' Needs**
• Read your synthesis statement to someone (or yourself) at home. • Choose three new academic and two new scientific vocabulary words from pages 24 to 26 to add to the glossaries in your journal. Choose from this list: relationship, synthesize; disturbed, fungus, trudging, hoist, fraction, discarded (24), bromeliad, hovering, larvae, lurk, overlapping, venomous, disturbance (25), rare, lungless, inaccessibility, inhabitants (26). *Note: Read the short story "The Wings of the Butterfly".*	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who struggle with determining the importance of vocabulary words, consider prioritizing for them the following words*: relationship, synthesize, rare* (academic), *larvae* (scientific)

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EXPEDITIONARY LEARNING

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

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Hot Seat Questions

1 **What is biodiversity?**	**2** **Give an example of biodiversity.**	**3** **What is the highest level of growth in the rainforest called?**
4 **What are bromeliads?**	**5** **What layer of growth is just above the canopy?**	**6** **ACT IT OUT!** **ascend**
7 **ACT IT OUT!** **descend**	**8** **What is a conservationist?**	**9** **What country is the Blue Creek rainforest in?**

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Hot Seat Questions

10 **Give an example of biodiversity.**	**11** **DRAW IT!** **epiphyte**	**12** **DRAW IT!** **walkway**
13 **DRAW IT!** **bromeliad**	**14** **DRAW IT!** **diverge**	**15** **DRAW IT!** **observation platform**
16 **ACT IT OUT!** **synchronized**	**17** **ACT IT OUT!** **Macaws "*foraging* for food to bring to their young."**	**18** **Give an example of biodiversity.**

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Teacher Resource: Answers to Hot Seat Questions

1. The number of living things in an area; all living things
2. Answers vary (plants and animals found in the rainforest)
3. Pavilion (the crowns of emergent growth)
4. A type of epiphytic plant; a plant in the rainforest
5. Emergent growth
6. Move upward; imitate climbing
7. Move downward
8. Someone who works to preserve/save/study the rainforests/nature.
9. Belize
10. Answers vary (plants and animals found in the rainforest)
11. Drawing should have leaves/vines growing from canopy down (p. 23 picture)
12. Drawing should look similar to a bridge (pictures throughout p. 18 on)
13. Drawing should include some type of flowering and leaves
14. Drawing should show a pathway/line splitting
15. Drawing should show a stage/stand in a fixed position (in canopy/trees)
16. Two or more students should move in the same way at the same time
17. Move about pretending to pick up things (seeds)
18. Answers vary (plants and animals found in the rainforest)

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Bromeliads and Rainforest Creatures Note-catcher

	Rainforest Creature What lives in this part of the bromeliad?	**Creature Relationship to Bromeliad** How does the creature depend on the bromeliad?
Inner levels of bromeliads		
Overlapping leaves of bromeliads		

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Bromeliads and Rainforest Creatures Note-catcher
(Answers for Teacher Reference)

	Rainforest Creature What lives in this part of the bromeliad?	**Creature Relationship to Bromeliad** How does the creature depend on the bromeliad?
Inner levels of bromeliads	**Larvae of mosquitoes** **Frog tadpoles**	**Both use the inner ponds of the bromeliad as a nursery.**
Overlapping leaves of bromeliads	**Venomous snakes** **Tarantula** **(Rare lungless) tree salamander**	**Snakes find food (tadpoles and frogs) on bromeliads.** **Tarantulas and tree salamanders live in the leaves of the bromeliad (home/shelter).**

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EXPEDITIONARY LEARNING

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

A Rainforest Folktale: Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can summarize text that is read aloud to me. (SL.5.2) I can determine a theme based on details in a literary text. (RL.5.2) I can summarize a literary text. (RL.5.2) I can determine the meaning of literal and figurative language (metaphors and similes) in text. (RL.5.4) I can describe how a narrator's point of view influences the description of events. (RL.5.6)	
Supporting Learning Targets	**Ongoing Assessment**
• I can summarize "The Wings of the Butterfly." • I can explain the message of "The Wings of the Butterfly." • I can determine the meaning of new words in "The Wings of the Butterfly." • I can compare and contrast examples of biodiversity from a story to what we have learned from informational text.	• Journal (AQUA Biodiversity chart, glossaries) • Double-Bubble map

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (15 minutes) 2. **Work Time** A. Read-aloud: What Is the Message of "The Wings of the Butterfly"? (15 minutes) B. Key Vocabulary to Deepen Understanding (10 minutes) C. Taking Notes: Comparing Biodiversity in "The Wings of the Butterfly" and *The Most Beautiful Roof in the World* (15 minutes) 3. **Closing and Assessment** A. Debrief and Review of Learning Targets (5 minutes) 4. **Homework**	• In advance: Read the folktale "The Wings of the Butterfly: A Tale of the Amazon Rainforest" (see supporting materials). • The folktale is read aloud in order for students to enjoy the flow of the story. This lesson purposefully does not involve an in-depth analysis of the folktale, given that the overall focus of the unit is much more on informational text. • Prepare 2 copies of the Tea Party protocol cards (cut into strips); prepare an extra strip if you have an odd number of students and have to give out 3 of the same strip. • Review: Tea Party protocol and Thumb-o-Meter strategy (see Appendix). • Prepare Tea Party protocol cards (in supporting materials). • The vocabulary in Part B of Work Time comes from the quotes and phrases on students' Tea Party protocol cards. Encourage students to refer back to these cards for context clues to determine word meanings. Again, remember that the goal is not for students to learn or memorize all these terms; rather, it is to heighten their awareness of academic vocabulary and give them an opportunity to practice strategies to help them build their vocabulary over time.

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Lesson Vocabulary	Materials
summarize, message, compare, contrast, literature; fierce, indignantly, conceited, sorrowfully, uninvited, wonder, behave, understand, within	• Tea Party protocol cards (one per student, with at least two students each receiving the same card) • "The Wings of the Butterfly: A Tale of the Amazon Rainforest" (one per student) • Double Bubble map (one per student and one for display) • AQUA Biodiversity anchor chart (from Lesson 4)

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Opening	Meeting Students' Needs

A. Reviewing Homework and Engaging the Reader (15 minutes)
• Ask students to take out their journals. Have students share with a partner their synthesis statement and two of the words they added to their glossaries for homework.
• Say: "We have been learning a lot about the importance of biodiversity through informational texts. Today we will read a short story about the Tukuna people from the Amazon rainforest called 'The Wings of the Butterfly,' to help us think about what we can learn about biodiversity from literature as well."
• Ask students to share with a partner the meaning of the word *message*, as in the "message of a story" (moral; main idea; point).
• Tell students they will now participate in a Tea Party protocol. Explain that each student will receive a card with a quote or phrase from the story "The Wings of the Butterfly."
• Distribute the **Tea Party protocol cards**. (Make sure at least two students each receive the same card.)
• Give directions:
  * On your own, read the quote or phrase on your card.
  * Then make a prediction about what the *message* of the story might be.
  * Write your prediction on the back of your card.
• Give students 3 to 4 minutes to read their cards and write predictions.
• Next students mingle around the room, reading to one another and discussing predictions. Direct students to first find the individual who has the same quote or phrase, and compare and contrast predictions. Then meet with at least one other peer who has a different quote or phrase. (2 to 3 minutes)
• Ask students to return to their groups and discuss what they predict the *message* of "The Wings of the Butterfly" will be.
• Ask several students to share out their predictions.
• Ask students to hold on to their Tea Party protocol cards for use in Part A of Work Time.
	• Consider writing and breaking down multistep directions for the Tea party protocol into numbered elements. Students can return to these guidelines to make sure they are on track.
	• Consider reading aloud the text on the Tea Party protocol cards to students who struggle to allow them to fully participate in the protocol.
	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Work Time	Meeting Students' Needs

A. Read-aloud: What Is the Message of "The Wings of the Butterfly"? (15 minutes)
• Ask students to sit with their groups.
• Introduce the learning targets: "I can summarize the story of 'The Wings of the Butterfly'" and "I can explain the message of 'The Wings of the Butterfly.'"
• Ask students what it means to *summarize*. Listen for definitions such as: "state the main points; review what the story is mainly about," and similar ideas.
• Explain to students that as they listen to "The Wings of the Butterfly" read aloud, they should think about:
  * "What is this story mostly about?" (summary)
  * "What is the author's message?"
• Distribute students' texts **"The Wings of the Butterfly: A Tale of the Amazon Rainforest"**. Ask students to follow along silently as the story is read aloud. Read the entire story aloud, beginning with "On the banks of the Amazon River . . ." and reading until the end.
• Allow students to briefly discuss:
  * "What is this story mostly about?" (summarize).
• Then ask students to consider:
  * "What is the author's message? What message is the author trying to convey about biodiversity?"
• As students discuss the message of the story, listen for comments such as: "People haven't respected animals in the rainforest; the animals in the rainforest are angry about how people have treated them/their land; people and animals need to respect one another/work together," or similar ideas.
• Cold call several students to share out whole group.
• Invite students to reread the quote or phrase on their Tea Party protocol card and then to review the prediction each wrote on the back of her or his card. Ask:
  * "How was your prediction about the *message* of this story accurate or inaccurate?"
• As students discuss in groups, circulate to support as needed.
	• When possible, provide text or materials in students' L1. This can help students understand materials presented in English.
	• Visuals can help ELLs and other students comprehend questions and discussions. Chart main points in answers and post all questions asked to students.

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Work Time (continued)	Meeting Students' Needs
• Cold call several students to share out.	

B. Key Vocabulary to Deepen Understanding (10 minutes)
• Introduce the learning target: "I can determine the meaning of new words in 'The Wings of the Butterfly.'"
• Point out to students that the more they understand key vocabulary about a topic, the better they are able to understand the topic in general.
• Remind students that they have been practicing how to figure out words from context, or based on word roots. Remind students it is less important that they memorize every word than it is that they are learning how to figure out new words in the context of what they read. Ask students to discuss with their groups possible definitions or synonyms for the following key words from the story (also located on their Tea Party protocol cards):
  * *fierce*: violent; furious; vicious
  * *indignantly*: angrily; furiously
  * *conceited*: self-important; proud; arrogant; vain
  * *sorrowfully*: sadly, unhappily
  * *maloca*: a big pavilion-house where a family lives
  * *uninvited*: not welcome; not wanted
  * *wonder*: be in awe; marvel
  * *behave*: act; perform
  * *understand*: know; comprehend; be aware of
  * *within*: a part of; inside mind/body
• Briefly discuss some of these words as a whole group.
• Then ask students to consider the following questions:
  * "What words in the story helped you better determine the message of the story?"
  * "How did those words help you determine the message of the story?"
	• All students developing academic language will benefit from direct instruction of academic vocabulary..

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Work Time (continued)	Meeting Students' Needs
• Invite several students to share out their answer.	
C. Taking Notes: Comparing Biodiversity in "The Wings of a Butterfly" and *The Most Beautiful Roof in the World* (15 minutes) • Introduce the learning target: "I can compare and contrast examples of biodiversity from the story and what we have learned from informational text." • Ask a few students to share out the meaning of the words *compare* (identify similarities) and *contrast* (identify differences). • Say: "In this unit, we have been closely reading the informational text *The Most Beautiful Roof in the World*. Now we have also read a short story called 'The Wings of the Butterfly.'" • Remind the class that even though short stories are fiction, they can still teach readers a lot about real-life places, events, and things. Ask students to take 5 minutes in their groups to look back through "The Wings of the Butterfly." Ask them to locate examples of biodiversity (plants and animals) mentioned in the story. Students should circle the words or phrases they find. • Gather the attention of the entire class. Display the **Double Bubble map** and distribute one per student. Explain that a Double Bubble map is similar to a Venn diagram. It is used to compare and contrast two things. • Say: "The Double Bubble map is another way, besides a Venn diagram, to organize your thinking about how things are similar and different. You will use the Double Bubble map today to help you focus on identifying a specific number of similarities and differences between the examples of biodiversity mentioned in the story versus what you have learned about biodiversity from informational texts." • Draw students' attention to the **AQUA Biodiversity anchor chart** (from Lesson 4). Tell students that they will use the Double Bubble map to compare and contrast examples of biodiversity listed on the AQUA chart to the examples of biodiversity they identified in the story "The Wings of the Butterfly."	• Students needing additional supports may benefit from partially filled-in Double Bubble maps. • Consider allowing students who struggle with written language the opportunity to dictate their ideas to a partner or teacher. • Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Work Time (continued)	Meeting Students' Needs
• Model for students how to fill in the Double Bubble map. Orient students to the bubble with "The Wings of the Butterfly" typed in the center. Ask: "What examples of biodiversity are in the story, but are not on our AQUA chart?" Listen for suggestions such as: "woodpecker; tinamou bird; sorva fruit," etc. Write students' responses in the three leftmost bubbles on the map (connected by lines to the bubble with "The Wings of the Butterfly" typed in the center). Allow students a moment to record examples in the same bubbles of their own maps. • Then orient students to the bubble with *The Most Beautiful Roof in the World* typed in the center. Ask: "What examples of biodiversity were in the story that are similar to ones we have listed on our AQUA chart about *The Most Beautiful Roof in the World*?" Listen for responses such as: "butterflies; monkeys; (fierce) animals; people (native peoples)," etc. • Write students' responses in the three bubbles that are vertically in the center of the map (between the two bubbles with the names of the texts). Allow students a moment to record examples in the same bubbles on their own maps. • Prompt students to complete their maps working with their group members. • Direct students to write their ideas in the last three empty circles on their map (rightmost side, connected by lines to the title of the book). • After students have completed filling in their maps, ask several individuals to share out examples of biodiversity with the whole group.	

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A Rainforest Folktale:
Determining the Message of "The Wings of the Butterfly," a Tukuna People Tale

Closing and Assessment	Meeting Students' Needs
A. Debrief and Review of Learning Targets (5 minutes) • Ask students to consider: "How does Kathryn Lasky try to convey the same message in her writing as the message of the Takuna tale?" Ask students to Pair-Share their ideas. • Invite several students to share with the whole group something their partner said. • Read through each of the learning targets, pausing after each to have students show their level of mastery of the target using the Thumb-O-Meter strategy. *Note students who point thumbs-sideways or thumbs-down, because they may need additional support with understanding the text and/or new vocabulary.*	• 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.
Homework	**Meeting Students' Needs**
• Reread "The Wings of the Butterfly" to someone (or yourself) at home. Think about what new things you are learning about biodiversity as you read. • Choose four new academic vocabulary words from the story "The Wings of the Butterfly" to add to the Academic Word Glossary in your journal. Choose from this list: summarize, message, compare, contrast, literature; fierce, indignantly, conceited, sorrowfully, uninvited, wonder, behave, understand, within. *Note: Read and become familiar with the Red Light, Green Light strategy (Appendix). Prepare popsicle sticks (red, yellow, green) or other material for students to use during the debrief in Lesson 10.*	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *compare, contrast, understand, within*.

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EXPEDITIONARY LEARNING

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

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"The Wings of the Butterfly: A Tale of the Amazon Rainforest" (short story)
By Aaron Shepard

The *mind* sees this forest better than the eye. The mind is not deceived by what merely shows.
—H.M. Tomlinson

On the banks of the Amazon River, in a clearing in the forest, there once lived a girl named Chimidyue. She dwelt with her family and relatives in a big pavilion-house called a maloca.

While the boys of the maloca fished and hunted with the men, Chimidyue and the other girls helped the women with household chores or in the farm plots nearby. Like the other girls, Chimidyue never stepped far into the forest. She knew how full it was of fierce animals and harmful spirits, and how easy it was to get lost in.

Still, she would listen wide-eyed when the elders told stories about that other world. And sometimes she would go just a little way in, gazing among the giant trees and wondering what she might find farther on.

One day as Chimidyue was making a basket, she looked up and saw a big morpho butterfly hovering right before her. Sunlight danced on its shimmering blue wings.

"You are the most magical creature in the world," Chimidyue said dreamily. "I wish I could be like you."

The butterfly dipped as if in answer, then flew toward the edge of the clearing.

Chimidyue set down her basket and started after it, imitating its lazy flight. Among the trees she followed, swooping and circling and flapping her arms.

She played like this for a long time, until the butterfly passed between some vines and disappeared. Suddenly Chimidyue realized she had gone too far into the forest. There was no path, and the leaves of the tall trees made a canopy that hid the sun. She could not tell which way she had come.

"Mother! Father! Anyone!" she shouted. But no one came.

"Oh no," she said softly. "How will I find my way back?"

Chimidyue wandered anxiously about, hoping to find a path. After a while she heard a tap-tap-tapping. "Someone must be working in the forest," she said hopefully, and she followed the sound. But when she got close, she saw it was just a woodpecker.

Chimidyue sadly shook her head. "If only you were human," she said, "you could show me the way home."

"Why would I have to be human?" asked the woodpecker indignantly. "I could show you just as I am!"

Startled but glad to hear it talk, Chimidyue said eagerly, "Oh, would you?"

"Can't you see I'm busy?" said the woodpecker. "You humans are so conceited, you think everyone else is here to serve you. But in the forest, a woodpecker is just as important as a human." And it flew off.

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"The Wings of the Butterfly: A Tale of the Amazon Rainforest" (short story)
By Aaron Shepard

"I didn't mean anything bad," said Chimidyue to herself. "I just want to go home."

More uneasy than ever, Chimidyue walked farther. All at once she came upon a maloca, and sitting within it was a woman weaving a hammock.

"Oh, grandmother!" cried Chimidyue joyfully, addressing the woman with the term proper for an elder. "I'm so glad to find someone here. I was afraid I would die in the forest!"

But just as she stepped into the maloca, the roof began to flap, and the maloca and the woman together rose into the air. Then Chimidyue saw it was really a tinamou bird that had taken a magical form. It flew to a branch above.

"Don't you 'grandmother' me!" screeched the bird. "How many of my people have your relatives hunted and killed? How many have you cooked and eaten? Don't you dare ask for my help." And it too flew away.

"The animals here all seem to hate me," said Chimidyue sorrowfully. "But I can't help being a human!"

Chimidyue wandered on, feeling more and more hopeless, and hungry now as well. Suddenly, a sorva fruit dropped to the ground. She picked it up and ate it greedily. Then another dropped nearby.

Chimidyue looked up and saw why. A band of spider monkeys was feeding in the forest canopy high above, and now and then a fruit would slip from their hands.

"I'll just follow the monkeys," Chimidyue told herself. "Then at least I won't starve." And for the rest of that day she walked along beneath them, eating any fruit they dropped. But her fears grew fresh as daylight faded and night came to the forest.

In the deepening darkness, Chimidyue saw the monkeys start to climb down, and she hid herself to watch. To her amazement, as the monkeys reached the ground, each one changed to the form of a human.

Chimidyue could not help but gasp, and within a moment the monkey people had surrounded her.

"Why, it's Chimidyue!" said a monkey man with a friendly voice. "What are you doing here?"

Chimidyue stammered, "I followed a butterfly into the forest, and I can't find my way home."

"You poor girl!" said a monkey woman. "Don't worry. We'll bring you there tomorrow."

"Oh, thank you!" cried Chimidyue. "But where will I stay tonight?"

"Why don't you come with us to the festival?" asked the monkey man. "We've been invited by the Lord of Monkeys."

They soon arrived at a big maloca. When the Monkey Lord saw Chimidyue, he demanded, "Human, why have you come uninvited?"

"We found her and brought her along," the monkey woman told him.

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"The Wings of the Butterfly: A Tale of the Amazon Rainforest" (short story), By Aaron Shepard

The Monkey Lord grunted and said nothing more. But he eyed the girl in a way that made her shiver.

Many more monkey people had arrived, all in human form. Some wore animal costumes of bark cloth with wooden masks. Others had designs painted on their faces with black genipa dye. Everyone drank from gourds full of manioc beer.

Then some of the monkey people rose to begin the dance. With the Monkey Lord at their head, they marched in torchlight around the inside of the maloca, beating drums and shaking rattle sticks. Others sang softly or played bone flutes.

Chimidyue watched it all in wonder. She told her friend the monkey woman, "This is just like the festivals of my own people!"

Late that night, when all had retired to their hammocks, Chimidyue was kept awake by the snoring of the Monkey Lord. After a while, something about it caught her ear. "That's strange," she told herself. "It sounds almost like words."

The girl listened carefully and heard, "I will devour Chimidyue. I will devour Chimidyue."

"Grandfather!" she cried in terror.

"What? Who's that?" said the Monkey Lord, starting from his sleep.

"It's Chimidyue," said the girl. "You said in your sleep you would devour me!"

"How could I say that?" he demanded. "Monkeys don't eat people. No, that was just foolish talk of this mouth of mine. Pay no attention!" He took a long swig of manioc beer and went back to sleep.

Soon the girl heard again, "I will devour Chimidyue. I will devour Chimidyue." But this time the snores were more like growls. Chimidyue looked over at the Monkey Lord's hammock. To her horror, she saw not a human form but a powerful animal with black spots.

The Lord of Monkeys was not a monkey at all. He was a jaguar!

Chimidyue's heart beat wildly. As quietly as she could, she slipped from her hammock and grabbed a torch. Then she ran headlong through the night.

When Chimidyue stopped at last to rest, daylight had begun to filter through the forest canopy. She sat down among the root buttresses of a kapok tree and began to cry.

"I hate this forest!" she said fiercely. "Nothing here makes any sense!"

"Are you sure?" asked a tiny voice.

Quickly wiping her eyes, Chimidyue looked up. On a branch of the kapok was a morpho butterfly, the largest she had ever seen. It waved at her with brilliant blue wings.

"Oh, grandmother," said Chimidyue, "nothing here is what it seems. Everything changes into something else!"

"Dear Chimidyue," said the butterfly gently, "that is the way of the forest. Among your own people, things change slowly and are mostly what they seem. But your human world is a tiny one. All around it lies a much larger world, and you can't expect it to behave the same.

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"The Wings of the Butterfly: A Tale of the Amazon Rainforest" (short story)
By Aaron Shepard

"But if I can't understand the forest," cried Chimidyue, "how will I ever get home?"

"I will lead you there myself," said the butterfly.

"Oh, grandmother, will you?" said Chimidyue.

"Certainly," said the butterfly. "Just follow me."

It wasn't long till they came to the banks of the Amazon. Then Chimidyue saw with astonishment that the boat landing of her people was on the other side.

"I crossed the river without knowing it!" she cried. "But that's impossible!"

"Impossible?" said the butterfly.

"I mean," said Chimidyue carefully, "I don't understand how it happened. But now, how will I get back across?"

"That's simple," said the morpho. "I'll change you to a butterfly." And it began to chant over and over,

Wings of blue, drinks the dew.
Wings of blue, drinks the dew.
Wings of blue, drinks the dew.

Chimidyue felt herself grow smaller, while her arms grew wide and thin. Soon she was fluttering and hovering beside the other.

"I'm a butterfly!" she cried.

They started across the wide water, their wings glistening in the sun. "I feel so light and graceful," said Chimidyue. "I wish this would never end."

Before long they reached the landing, where a path to the maloca led into the forest. The instant Chimidyue touched the ground, she was changed back to human form.

"I will leave you here," said the butterfly. "Farewell, Chimidyue."

"Oh, grandmother," cried the girl, "take me with you. I want to be a butterfly forever!"

"That would not be right," said the butterfly. "You belong with your people, who love you and care for you. But never mind, Chimidyue. Now that you have been one of us, you will always have something of the forest within you."

The girl waved as the butterfly flew off. "Good-bye, grandmother!"

Then Chimidyue turned home, with a heart that had wings of a butterfly.

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Tea Party Protocol Cards

Teacher directions:
Make two copies of these pages with quotes from the story.
Then cut the pages into strips, so each quote is on its own strip.
Two students will receive strips with the same quote.

Chimidyue never stepped far into the forest. She knew how full it was of fierce animals and harmful spirits, and how easy it was to get lost in.
One day as Chimidyue was making a basket, she looked up and saw a big morpho butterfly hovering right before her. Sunlight danced on its shimmering blue wings.
Chimidyue sadly shook her head. “If only you were human,” she said, “you could show me the way home.”
“Can’t you see I’m busy?” said the woodpecker. “You humans are so conceited, you think everyone else is here to serve you. But in the forest, a woodpecker is just as important as a human.”
“Oh, grandmother!” cried Chimidyue joyfully, addressing the woman with the term proper for an elder. “I’m so glad to find someone here. I was afraid I would die in the forest!”

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Tea Party Protocol Cards

"Don't you 'grandmother' me!" screeched the bird. "How many of my people have your relatives hunted and killed? How many have you cooked and eaten? Don't you dare ask for my help."
"The animals here all seem to hate me," said Chimidyue sorrowfully. "But I can't help being a human!"
"I'll just follow the monkeys," Chimidyue told herself. "Then at least I won't starve." And for the rest of that day she walked along beneath them, eating any fruit they dropped. But her fears grew fresh as daylight faded and night came to the forest.
Chimidyue stammered, "I followed a butterfly into the forest, and I can't find my way home."
They soon arrived at a big maloca. When the Monkey Lord saw Chimidyue, he demanded, "Human, why have you come uninvited?"

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Tea Party Protocol Cards

Chimidyue watched it all in wonder. She told her friend the monkey woman, “This is just like the festivals of my own people!”
“I hate this forest!” she said fiercely. “Nothing here makes any sense!” “Are you sure?” asked a tiny voice.
“Dear Chimidyue,” said the butterfly gently, “that is the way of the forest. Among your own people, things change slowly and are mostly what they seem. But your human world is a tiny one. All around it lies a much larger world, and you can’t expect it to behave the same.”
“But if I can’t understand the forest,” cried Chimidyue, “how will I ever get home?” “I will lead you there myself,” said the butterfly.
“That would not be right,” said the butterfly. “You belong with your people, who love you and care for you. But never mind, Chimidyue. Now that you have been one of us, you will always have something of the forest within you.”

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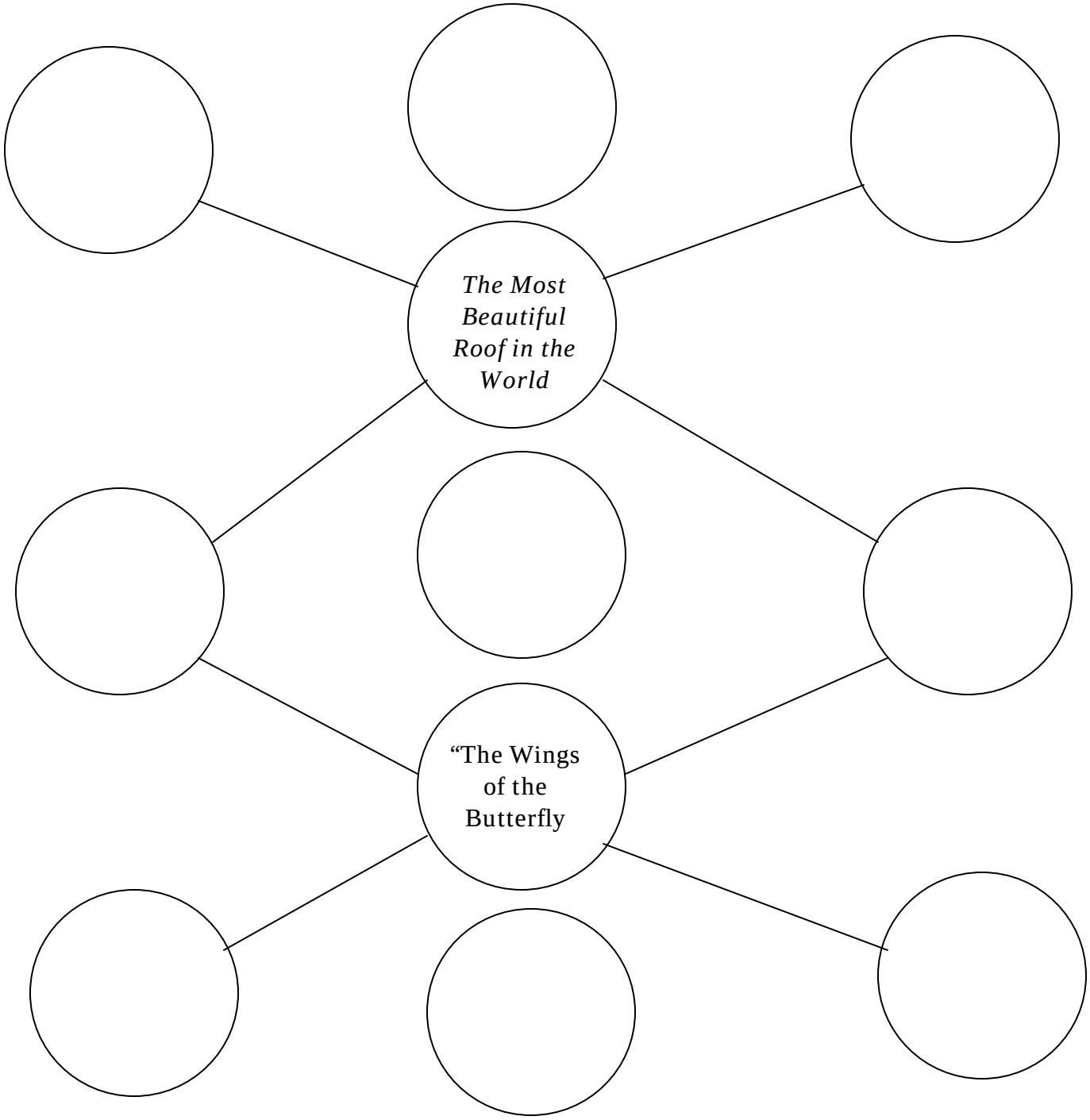
Double Bubble Map (for Comparing Similarities and Contrasting Differences)

Name:

Date:



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EXPEDITIONARY LEARNING

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

Reading for Details: Taking an Inventory in the Rainforest (Pages 28–31)

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
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 explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) I can use context (e.g., cause/effect relationships and comparisons in text) to help me understand the meaning of a word or phrase. (L.5.4) I can draw on information to explore ideas in the discussion. (SL.5.1)

Supporting Learning Targets	Ongoing Assessment
• I can explain the purpose of a column study in the rainforest. • I can identify the types and numbers of species counted during the column study done by Meg Lowman. • I can use my group members' ideas to help me determine the inventory count of the column study. • I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity chart, glossaries, answers to the questions) • Inventory Count Note-catcher

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (5 minutes) 2. **Work Time** A. Guided Practice and Discussion: What Is a Column Study? (15 minutes) B. Rereading and Taking Notes: Taking an Inventory (20 minutes) C. Key Vocabulary to Deepen Understanding (10 minutes) 3. **Closing and Assessment** A. Debrief (10 minutes) 4. **Homework**	• Review Red Light, Green Light and Word Sort (see Appendix). • Consider writing the vocabulary words on a large piece of chart paper before the lesson to save time during the lesson.

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Lesson Vocabulary	Materials
purpose, identify, justify; column, biological diversity, situated (28), inventory, portion, emerge (29), estimates (30), sweeps (31)	• AQUA Biodiversity anchor chart (from Lesson 4 and onward) • *The Most Beautiful Roof in the World* (book; one per student) • Inventory Count Note-catcher (one per student) • Meg Lowman, Rainforest Scientist KWL anchor chart (from Lesson 1) • Red, yellow and green popsicle sticks (one of each per student)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (5 minutes) • Ask students to take out their journals. Invite students to join their group and share one new thing they learned from reading "The Wings of the Butterfly" that they can add to their **AQUA Biodiversity anchor chart**. Ask a few students to share aloud their suggestions and add them to the U column of the anchor chart. • Ask students to choose one example of biodiversity from their charts to perform or act out silently for their group members to guess. • Invite a few students to act out their example of biodiversity for the whole class to guess.	• 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.

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Work Time	Meeting Students' Needs
A. Guided Practice and Discussion: What Is a Column Study? (15 minutes) • Introduce the learning target: "I can explain the purpose of a column study in the rainforest." Ask several students to share what they recall about the meaning of the word *purpose* (reason). • Orient students to page 28 in ***The Most Beautiful Roof in the World***, with the sentence that begins: "Meg and her sons..." Ask students to follow along as you read aloud. Continue through the sentence that ends: "... plants and insects, starting from the ground up." Ask students what they think it means to *inventory* something. Listen for students to figure out it means to count. Point out that the word "inventory" can be used as a verb ("to count") or as a noun (a list of things that have been counted). It is used in both ways in the text students read during this lesson. • Prompt students to briefly talk in their groups about the gist of this page. Listen for thoughts such as: "Meg Lowman setting up a column study," or similar ideas. • Ask students to share out what they think a *column* is. Listen for definitions such as: "something that goes from top to bottom or bottom to top; like a post or a pillar," or similar ideas. • Direct students' attention to the third (last) paragraph on page 28, beginning: "The boys help their mom ferry equipment . . ." • Ask students to take 5 minutes to reread this last paragraph on their own to determine: * "What is a *column* study?" * "Why does Meg Lowman do column studies?" • Circulate to support as needed. • After students have finished reading, ask groups to briefly discuss. • Ask several students to share out whole group. For the first question, listen for ideas such as: "A column study is specific areas marked off to study biological diversity or different species of plants and animals; columns of areas from ground up that Meg Lowman studies," etc. • Ask several students to share out whole group. For the second question, listen for ideas such as: "She wants to count different species of plant and insects in the rainforest from the ground up," etc. • Tell students to turn to a new page in their journals to write their response to the two questions.	• ELLs may be unfamiliar with Tier 2 vocabulary words (e.g., *purpose, column, study*). Clarify vocabulary with students as needed. • Visuals can help students comprehend questions and discussions. Chart main points in answers and post all questions asked to students.

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Work Time (continued)	Meeting Students' Needs
B. Rereading and Taking Notes: Taking an Inventory (20 minutes) • Introduce the learning target: "I can identify the types and numbers of species counted during the column study done by Meg Lowman." Ask a few students to share what they remember about the meaning of the word *identify* (name; determine). • Reread page 31, paragraph 3 to students ("The sweeps, the beating trays . . .") as students follow along silently. Ask students to pay close attention to: *what* Meg Lowman did during her column study and *why*. • Display the **Inventory Count Note-catcher**, and distribute one per student. Explain to students they will work in their groups to read page 29, starting with: "There have been many methods devised . . ." through the end of the third paragraph on page 31 ("... snapshots of diverse rainforest life.") They will then work with their group to determine the inventory count of the column study. • Point out to students that in this section of the text, the word *inventory* is used as a noun. Ask students to explain the word's meaning (explained earlier): list; what is being counted. Explain to students that they will read to *identify* what inventory Meg Lowman counted in different parts of the column study area. Then they will record the inventory they identify on their Inventory Count Note-catchers. Clarify any instructions as necessary. • Ask students to take 2 to 3 minutes to skim the text again for information about the column study. • Then prompt students to reread more closely to identify the species and counts of inventory to record on their Note-catchers. (10 to 15 minutes) • Circulate to support as needed.	• Students needing additional supports may benefit from a partially filled-in Note-catcher. • ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Work Time (continued)	Meeting Students' Needs
C. Key Vocabulary to Deepen Understanding (10 minutes) • Introduce the learning target: "I can determine the meaning of new words from context in *The Most Beautiful Roof in the World*." Invite a few students to restate this target in their own words. • Remind students of the Word Sort activity they have done in previous lessons. Ask students to share what they do during a Word Sort. Listen for answers such as: "place words into categories; be able to justify why we put words into certain categories," and similar statements. • List the following words on the board: * column, biological diversity, situated, inventory, portion, emerge, estimates, sweeps • Ask students to turn to a new page in their journals and divide the page into two columns. Ask them to label the left-hand column: What Meg Lowman Studies in the Rainforest. Ask them to label the right-hand column: How Meg Lowman Studies in the Rainforest. Clarify the distinction between these two columns if needed. • Tell students that they will work with their group to think about how to sort the words into the two categories. This will provide students a way to reflect upon and process the key vocabulary related to what they read about the column study. • Remind students that they need to *justify* their choice: This means that they need to explain to their group members why they think a word belongs in one category or the other. This means they will have to explain to their group what the word means. Model with one word as needed • Give students 3 to 4 minutes to work in their groups. Circulate to support as needed. • Invite a few groups to share with the entire class their categories and their reasons for sorting words into each category.	• Consider giving students who struggle with language fewer vocabulary words to sort. • Provide a visual with each word to be sorted to allow students who struggle with vocabulary to fully participate.

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Work Time (continued)	Meeting Students' Needs
• After students have shared out, ask for them to suggest meanings for each word. Again remind students that what is most important is that they are practicing figuring out hard words in context. They do not need to memorize every single word on this list: * *column*: a post; pillar; pole; or a shape like a post, pillar, or pole * *biological diversity*: various and different living things that are found within a community or a particular area of land * *situated*: positioned; placed * *to inventory* (v): to list; to count; to record * *inventory* (n): supply; account; record * *portion*: piece; select area * *emerge*: appear; come out * *estimates*: close guesses; educated guesses * *set of sweeps*: a technique for sampling insects; using a net to capture insects in the air • Let students briefly revise their Word Sorts based on new understandings about vocabulary.	• Consider giving students who struggle with language fewer vocabulary words to sort. • Provide a visual with each word to be sorted to allow students who struggle with vocabulary to fully participate.

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Closing and Assessment	Meeting Students' Needs

A. Debrief (5 minutes)
• Direct students to the **Meg Lowman, Rainforest Scientist KWL anchor chart**. Ask: "What have we learned about Meg Lowman that we can add to our KWL?" Record students' responses in the L column of the chart. (Students add to the KWL in their journals.)
• Explain to students that they will participate in a new activity called Red Light, Green Light to show how close they got to mastering today's learning targets.
  * Red: Didn't get it
  * Yellow: Got some of it
  * Green: I got it!
• Distribute one **red, yellow, and green popsicle stick** to each student. Read each learning target aloud, pausing after each to allow students to show red, yellow, or green.
 	
Note students who display red or yellow, because they may need more support or additional strategies to understand the text and/or new vocabulary.
	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.

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Reading for Details:
Taking an Inventory in the Rainforest (Pages 28–31)

Homework	Meeting Students' Needs
• Reread pages 28–31 and the Inventory Count Note-catcher to someone (or yourself) at home. • Choose two new academic and two new scientific vocabulary words from pages 28–31 to add to the glossaries in your journal. Choose from this list: purpose, identify, justify, column, biological diversity, situated (28), inventory, portion, emerge (29), estimates (30), sweeps (31). • Do a first draft read of pages 31–33. Think about Meg Lowman's sons' reaction to their first canopy ascent, and be ready to share your thoughts with a partner tomorrow.	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *purpose*, *identify* (academic); *inventory* (scientific)

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 2: Lesson 10
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Inventory Count Note-catcher

Name:

Date:

Visualize how Meg Lowman starts at the tops of trees, in the understory, and works her way down the column to the air just above the forest floor. What does she see?

Part of Column	List the Species and Counts of the Inventory

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Teacher Resource: Inventory Count Note-catcher

Name:

Date:

Visualize how Meg Lowman starts at the tops of trees, in the understory, and works her way down the column to the air just above the forest floor. What does she see?

Part of Column	List the Species and Counts of the Inventory
Understory	**4 kinds of Trees: 1 grias, 1 palm, 1 acacia, 1 "unknown"**
Layer down from the understory	**41 saplings/5 species** **197 seedlings** **10 ferns/3 species** **41 lycopods (mosses)/5 species** **lichens/3 kinds** **37 epiphytes**
Shrubbery	**a leaf hopper** **ants** **cockroaches** **springtails** **spiders** **a caterpillar**
Air above the ground (floor)	**a leaf hopper** **3 diptera (flies)** **3 beetles**

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EXPEDITIONARY LEARNING

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

Reading for Fluency: Readers Theater about the Rainforest (Page 33)

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Reading for Fluency:
Readers Theater about the Rainforest (Page 33)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can read fifth-grade texts with purpose and understanding. (RF.5.4) I can read fifth-grade texts with fluency. (RF.5.4) I can write narrative texts about real or imagined experiences or events. (W.5.3) I can show the actions, thoughts, and feelings of my characters through dialogue, description, and careful pacing. (W.5.3) I can speak clearly and at an understandable pace. (SL.5.4) I can adapt my speech for a variety of contexts and tasks, using formal English when appropriate. (SL.5.6)	
Supporting Learning Targets	**Ongoing Assessment**
• I can read my speaker's lines with fluency. • I can write lines for my character using the text from *The Most Beautiful Roof in the World*. • I can speak clearly and with appropriate emotion for my character.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity chart, glossaries) • Mini Readers Theater • Triad Feedback rubric

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Reading for Fluency:
Readers Theater about the Rainforest (Page 33)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (10 minutes) 2. **Work Time** A. Review Readers Theater (10 minutes) B. Create Mini Readers Theater Scripts (20 minutes) C. Performance and Feedback (15 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• In the Opening of this lesson, students are introduced to a poem about being a rainforest researcher. The purpose is to briefly expose students to another form of literature and engage them in an opportunity to practice fluency as a warm-up for their Readers Theater. Students work with this poem again as part of their homework. • In this lesson, students create a mini Readers Theater about one event described in *The Most Beautiful Roof in the World*. Students will be familiar with Readers Theater based on their Module 1 performance task, in which they created Readers Theater scenes based on Esperanza Rising. • Students create their mini Readers Theater in triads. Use intentional grouping to allow students who struggle with language the opportunity to fully participate.

Lesson Vocabulary	Materials
lines, speaker, fluency, clearly, components, appropriate, emotion	• "I Want to Be a Rainforest Scientist" poem (one per student) • *The Most Beautiful Roof in the World* (book; one per student) • Readers Theater rubric (one per student) • Sticky notes (small or tab-sized) • Highlighters (three different colors per group) • AQUA Biodiversity anchor chart (from Lesson 4) • Red, yellow, and green light sticks (or, alternatively, sticks with three different shapes; see note in Debrief)

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Reading for Fluency:
Readers Theater about the Rainforest (Page 33)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (10 minutes) • Ask students to take out their journals. Invite students to share with a new partner their thoughts on Meg Lowman's sons' first ascent to the canopy. Remind them to also share one new added vocabulary word from pages 28–31 in glossaries. • Say to students: "Now you are going to read a poem aloud with a partner. This poem will help you think more about what Meg Lowman's life as a rainforest scientist is like. It also allows you the opportunity to practice reading aloud with a partner, as you will do with interview questions you create later in the lesson." • Place students in pairs. Display the **"I Want to Be a Rainforest Scientist"** poem and distribute one per student. • Explain the directions to students: * Partners assign alternating stanzas. * Each partner reads his/her stanzas silently, to become familiar with the text. * As a pair, read the poem aloud, alternating stanzas. * Pay attention to how you read with fluency. • Briefly review the learning target: "I can read my speaker's lines with fluency." • Remind students of all the great work they did fluently reading their Readers Theater scripts for *Esperanza Rising*. Ask a few students to share out elements of reading with fluency (tone, facial expression, pace, etc.). • Give students 2 minutes to read their stanzas silently. • Then ask students to begin. • After students read the poem aloud once, ask them to talk with their partners about one way they could improve their fluency. Ask several students to share out whole group. Listen for statements such as: "Read more slowly; pronounce all words clearly; add expression to my voice; increase or decrease the volume of my voice," etc. • Invite students to read the poem aloud in pairs for a second time, focusing on fluency.	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language. • Consider pre-chunking the text for students who may have difficulty dividing the text.

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Reading for Fluency:
Readers Theater about the Rainforest (Page 33)

Work Time	Meeting Students' Needs
A. Review Readers Theater (10 minutes) • Remind students of the Readers Theater they participated in during Unit 3 of Module 1 about *Esperanza Rising*. Ask students to briefly talk in their groups about what a Readers Theater script needs to include and what its components are. • Invite several students to share out whole group. Listen for suggestions such as: "speaking parts; narrator; dialogue; lines," etc. List students' ideas on the board for reference during Part B of Work Time. • Next prompt students to talk briefly in groups again: * "What is the process for writing a Readers Theater script?" • Invite several students to share out whole group. Listen for statements such as: "narrow the dialogue or choose only a few lines and quotes from the text; the script has a narrator introduction that tells where the scene takes place; the lines clearly name each character; the lines are in an order that makes sense; there are several character and narrator lines in the script," etc. • List students' ideas on the board (as well as any of the above that students did not mention) for reference in Part B of Work Time. Explain to students that today they will create a mini Readers Theater script from page 33 of ***The Most Beautiful Roof in the World.***	• Visuals can help students comprehend processes. Chart main points in what students share about the components of and steps to create a Readers Theater.

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Reading for Fluency:
Readers Theater about the Rainforest (Page 33)

Work Time (continued)	Meeting Students' Needs

B. Create Mini Readers Theater Scripts (20 minutes)
• Place students in triads. Introduce the learning target: "I can write lines for my speaker using the text from *The Most Beautiful Roof in the World*."
• Ask several students to share out what they recall about the words *speaker* (a character with a speaking part in a book or play) and *lines* (words the characters say).
• Prompt students to turn to page 33 of *The Most Beautiful Roof in the World*. Encourage students to pay attention to who is speaking on this page. Invite students to follow along silently as page 33 is read aloud. (Start from "Oh man, oh man!" through "His mom saw one once when she was working in Cameroon, West Africa.")
• After reading the page aloud, ask students to talk in their triads:
  * "Who was speaking on this page? How could you tell?"
• Invite several students to share out whole group. Listen for students to identify quotes from James and Meg Lowman.
• Tell students they will now work in their triad to write a short Readers Theater script from page 33 of their books. Tell them that they will have to work quickly, and it is fine if their scripts are not as perfect as the ones from *Esperanza Rising*. The main purpose is to take a closer look at what it's like to research in the rainforest.
• Their scripts will have three characters. Ask students to choose who will play each part:
  * Meg Lowman
  * James (one of Meg Lowman's sons)
  * Narrator
• Display the **Readers Theater rubric**. Remind students they used all these criteria during Module 1. Today, focus them on Cooperation with Group and On-Task Participation as they work in their triads.
• Distribute **sticky notes** to triads. Ask students to do the following:
1. Read through page 33 on your own.
2. Put a sticky note to mark your individual lines of dialogue or narration.
3. Work together to write one script using the lines of text you identified.
	• Consider intentionally assigning one of the characters for the Readers Theater to each triad member instead of letting them choose.
	• Consider writing and breaking down multistep directions into numbered elements. Students can return to these guidelines to make sure that they are on track.
	• Consider providing ELLs extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.

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Reading for Fluency:
Readers Theater about the Rainforest (Page 33)

Work Time (continued)	Meeting Students' Needs
• Distribute different color **highlighters** to each group for highlighting individual character lines. • As students work, circulate to offer feedback about how well they are cooperating and staying on task.	•

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Reading for Fluency:
Readers Theater about the Rainforest (Page 33)

Work Time (continued)	Meeting Students' Needs

C. Performance and Feedback (15 minutes)
• Review the learning targets: "I can read my speaker's lines with fluency," and "I can speak clearly and with appropriate emotion for my character."
• Ask several students to share out the meaning of the words:
  * *speaking clearly*: the audience can understand what I am saying; each word is pronounced correctly
  * *appropriate emotion*: my facial expressions, hand gestures, body movements match what my character is saying
• Allow students a few minutes to practice in triads reading their scripts. Tell group members to give one another feedback as they practice, based on:
  * How clearly their group members speak
  * Use of facial expressions that match what the speaker says
• Focus students' attention whole group. Explain to students that triads will perform their scripts for one another.
• After a triad performs, the other triads will give feedback based on:
  * Speaking clearly
  * Using appropriate facial expressions
• Clarify any instructions as necessary. Pair up triads to perform their scripts for each other. Give students 7 to 10 minutes to perform and give feedback. Circulate to support as needed.
• Once triads have performed their scripts, bring the entire class back for a whole group discussion. Ask:
  * "How did creating a Readers Theater script of page 33 in *The Most Beautiful Roof in the World* help us learn more about the rainforest?"
• Invite several students to share out. Listen for statements such as: "could 'feel' the height of the canopy when James says, 'Oh man, oh man!'; James's description of the beetle helped me 'see' it more clearly; how dangerous the rainforest can be, because Meg tells James not to touch things or keep climbing," or similar ideas.
	• Consider providing hand mirrors for students to practice reading their portions of text before doing so with a partner.

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Reading for Fluency:
Readers Theater about the Rainforest (Page 33)

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Direct students' attention to the **AQUA Biodiversity anchor chart**. Ask: "What did you read about on page 33 about the rainforest that can be added to our AQUA chart?" • Record students' ideas in the U column of the chart and remind students to add ideas to the AQUA chart in their journals. • Ask students to take out (or distribute) their **red, yellow, and green light sticks** to use during the review of learning targets. Read through each of the learning targets. Pause after each for students to show a red, yellow, or green light, indicating their self-assessed level of mastery of the target. *Note students indicating red or yellow, because they may need more support or additional strategies to aid with comprehension of the text or new vocabulary.*	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required. • Be mindful of the possibility that some students may have red-green color blindness. Consider using three different shapes, rather than colors, for the sticks.
Homework	**Meeting Students' Needs**
• Reread the poem at home with someone (or to yourself). Answer the following in your journal: * List at least six examples of biodiversity that the author writes about in the poem. Be sure to quote directly from the poem. • Reread page 33 of the text. • Identify at least three vocabulary words on page 33 that are either new to you or important to the gist of the text. Add these words to the appropriate glossary, either Science words or Academic words.	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *fluency*, *clearly*, *appropriate*

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

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I Want to Be a Rainforest Scientist

I want to be a rainforest scientist.
Descending the columns, from
canopy to floor
Floating high above pavilion crowns
And sweeping through the air
Spying into the depths of foliage
To see what is there.

I want to be a rainforest scientist.
Within the branches of the canopy
Dangling from coiled rafts' ropes
Tracing the lace where lines entwine
To discover the connections
To this mysterious vine.

I want to be a rainforest scientist.
Spying on looping spider monkeys,
As macaws flash brilliantly through
the air
To forage in the nearby kapok tree.
As I stare in amazement
At the teeming life before me.

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I Want to Be a Rainforest Scientist

I want to be a rainforest scientist.
Digging deep into the earth,
Sifting through the shrubbery,
And capturing insects in my net
To study these strange inhabitants
I haven't counted yet.

I want to be a rainforest scientist.
Peeking into the petals of orchids,
And fiery red bromeliad leaves
To see what lurks inside
And catch rare glimpses of the
creatures
Who only want to hide!

I want to be a rainforest scientist.
Exploring the unknown
And balancing my curiosity
With what I know is best.
To help preserve the world I study
Will be my greatest test.

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Readers Theater Rubric

Name:

Individual Scores	1 – Needs Improvement	2 - Fair	3 – Good	4 - Excellent
Delivery	Student had difficulty reading the script and consistently did not use expression, eye contact, or props appropriately	Student read the script but had little expression, few gestures, little eye contact, or did not use props appropriately	Student read the script with some expression, gestures, eye contact, and use of props	Student read the script with confidence and expression, made gestures and good eye contact, and used props to add to the performance
Cooperation with group	Student did not work cooperatively together with group and could not agree on what to do. Student did not share responsibilities or ideas and wasted time	Student worked cooperatively with group in some aspects of the project but sometimes could not agree on what to do and wasted time	Student worked cooperatively with group in most aspects of the project and shared most responsibilities and ideas	Student worked cooperatively with the group in all aspects of the project and shared all responsibilities and ideas well

Group Members:

Group Scores	1 – Needs Improvement	2 - Fair	3 – Good	4 - Excellent
On-task Participation	Low level of active participation from majority of group members	Moderate level of on-task work or few of the group members actively participating	Majority of group members on-task and actively participating	High level of active, on-task participation from all group members

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 2: Lesson 12

Comparing Two Main Ideas in an Informational Text: Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

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Comparing Two Main Ideas in an Informational Text:
Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4)	
Supporting Learning Targets	**Ongoing Assessment**
• I can compare and contrast different research methods that Meg Lowman has used. • I can use quotes from the text as evidence in my answers to questions. • I can determine the meaning of new words in *The Most Beautiful Roof in the World*.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity chart, glossaries) • Text-dependent questions • Four Corners exit ticket

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Comparing Two Main Ideas in an Informational Text:
Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

Agenda	Teaching Notes
1. Opening A. Reviewing Homework and Engaging the Reader (10 minutes) 2. Work Time A. Guided Practice and Discussion: Comparing and Contrasting Research Methods (20 minutes) B. Group Read: Answering Text-Dependent Questions (15 minutes) C. New Vocabulary Work: Key Vocabulary to Deepen Understanding (10 minutes) 3. Closing and Assessment A. Debrief: Four Corners (5 minutes) 4. Homework	• In this lesson, students again work with their regular group of four. • Review: Four Corners strategy (see Appendix). • In advance, prepare four sheets of paper for the Four Corners sheets (see materials note, below).

Lesson Vocabulary	Materials
compare, contrast, methods, quotes, evidence, immense, inflatable, dirigible, pontoons, numerous, qualities, consumed, grueling, lurked (35), gondola, steer, linked, thorough (36)	• World Map: Cameroon (one to display) • AQUA Biodiversity anchor chart (from Lesson 4) • *The Most Beautiful Roof in the World* (book; one per student) • Researching in the Rainforest three-column Note-catcher (one per student and one per group) • Researching in the Rainforest Three-Column Note-catcher (sample answers, for Teacher Reference) • Text-Dependent Questions: Researching in the Rainforest, Pages 35–36 (one per student) • Four Corners sheets: Walkways, Staples, Floating Raft, Crane (to display; see Teaching Note)

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Comparing Two Main Ideas in an Informational Text:
Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (10 minutes) *Note: Prominently display the* ***World Map: Cameroon****.* • Ask students to take out their journals. Ask students to share with a partner their homework from Lesson 11: examples of biodiversity they noted in the poem, the vocabulary words they chose, with what they think the words mean and the context clues used to make these determinations. • Cold call a few students to share out with the class some of their examples of biodiversity and add them to the **AQUA Biodiversity anchor chart**. • Say: "We have read a great deal about Meg Lowman's research in the Blue Creek rainforest of Belize. But that is not the only place Meg Lowman conducts her studies. She also travels to different rainforests, found in other parts of the world. Today we're going to read about how she conducts her research in two other locations, Cameroon and Panama." • Display the world map. Point out Cameroon (in red). Ask the class: "Is Cameroon a place you would expect to find a rainforest? Why or why not?" Listen for suggestions such as: "Cameroon is located close to the equator, where many other rainforests are located in the world. The areas around the equator are warm and humid, with a lot of moisture (water)." • Remind students where Panama is located on the map. Ask students to turn and talk with a partner about what they remember reading about rainforests in Panama. • Ask a few students to share out whole group.	• Visuals can help students comprehend questions and discussions. Chart main points in answers and post all questions asked to students.

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Comparing Two Main Ideas in an Informational Text:
Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

Work Time	Meeting Students' Needs

A. Guided Practice and Discussion: Comparing and Contrasting Research Methods (20 minutes)
• Ask students to join in their usual (for much of this unit) groups of four. Introduce the learning target: "I can compare and contrast different research methods that Meg Lowman has used."
• Ask several students to share out the meaning of the words *compare* (identify similarities) and *contrast* (identify differences).
• Bring students' attention to the word *methods*. Ask for suggestions about the meaning of this word. Listen for definitions such as: "ways to do things; process; techniques; system," etc.
• Direct students to turn to page 35 of ***The Most Beautiful Roof in the World***. It begins with, "In Cameroon there ..." Say: "As I read these pages aloud, think about the following question: How does Meg Lowman's research in Cameroon and Panama *compare* or *contrast* to her work in Blue Creek?"
• Read aloud pages 35–36 as students follow along silently.
• Give students 2 minutes to think on their own, and then briefly discuss the question with their group.
• Invite several students to share out whole group. Listen for statements such as: "She uses an inflatable raft or construction crane instead of walkways; she researched the emergent tops of trees instead of columns from the floor to the understory; she is studying leaves and plants in these places too," or similar ideas.
• Explain to students that they now will reread small chunks of the text on their own. Their purpose is to look for the details that describe the research methods Meg Lowman uses in Cameroon and Panama.
• Give students 3 to 4 minutes to first read paragraph 1 on page 35 ("In Cameroon there were no walkways..." through "... leaves in the middle of the crowns or within the canopy itself.")
• Then discuss:
  * "How did Meg Lowman conduct her research in Cameroon?"
• Next, allow students 3 to 4 minutes to read the last paragraph on page 36. (This runs from "In Panama, at another site ...." through "... she found a single vine could lace together sixty-four different canopy trees.")
• Then discuss:
  * "How did Meg Lowman conduct her research in Panama?"
	• When possible, provide text or materials in students' L1. This can help students understand materials presented in English.
	• Students needing additional supports may benefit from partially filled-in graphic organizers.
	• ELL language acquisition is facilitated by interacting with native speakers of English who provide models of language.

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Comparing Two Main Ideas in an Informational Text:
Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

Work Time (continued)	Meeting Students' Needs
• Display the **Researching in the Rainforest three-column Note-catcher** and distribute one per student plus one sheet per group to fill out collectively. • Explain to students that they will work with their group members to fill out their own Note-catchers and then work together to gather the information onto one form. Students will have to look back at pages 14–15 to remind themselves of how Meg gets to the canopy in Belize (8–10 minutes). • Let students review the Note-catchers. Clarify any directions as necessary. • Circulate to support as needed. • After students have completed their charts, invite several students to share out the details they recorded whole group. • Now that students have examined the text more closely, once again pose the question: "How is Meg Lowman's research in Cameroon and Panama different or similar to her work in the Blue Creek rainforest of Belize?" • Invite several students to share new ideas whole group.	•
B. Group Read: Text-Dependent Questions (15 minutes) • Introduce the learning target: "I can use quotes from the text as evidence in my answers to questions." • Ask several students to remind the class of the meaning of the words *quotes* (dialogue or speaking parts in a book, surrounded by quotation marks) and *evidence* (facts; details from the book; proof). • Distribute the **Text-Dependent Questions: Researching the Rainforest, Pages 35–36** (one per student). • Ask students to read through the questions as a group and then work together to go back to pages 35–36 to find answers. After they have talked as a group, remind students to record answers on their individual Text-Dependent Questions: Researching the Rainforest, Pages 35–36. • Move throughout the room to offer support or clarification. Continue to remind students to go back into the text to find evidence. • Once students have completed their answers, cold call a few to share their responses with the whole group. • Ask students to hold on to their sheets; they will revise them during the next part of the lesson.	• ELLs may be unfamiliar with Tier 2 vocabulary words (e.g., *use, text, answers, questions*). Clarify vocabulary with students as needed. • Consider giving students who struggle with language fewer questions. • Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.

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Comparing Two Main Ideas in an Informational Text:
Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

Work Time (continued)	Meeting Students' Needs

C. New Vocabulary Work: Key Vocabulary to Deepen Understanding (10 minutes)
• Students remain in groups. Introduce the learning target: "I can determine the meaning of new words in *The Most Beautiful Roof in the World*."
• Ask students to share out a few strategies that they use to determine the meaning of new words. Listen for strategies such as: "use context clues; break the word into familiar parts; look at pictures on the page for clues," etc.
• List the following words on the board:
  * immense, inflatable, dirigible, pontoons, numerous, qualities, consumed, grueling, lurked, gondola, steer, linked, thorough
• Remind students of the game Charades (from Module 1). Explain that each member of the group will choose a word from this list to silently perform for their group members to guess. Each member of the group should get a turn to act out at least one word. Clarify instructions as necessary.
• Give the class 2 to 3 minutes to play Charades. Circulate to support as needed.
• After students have acted out their words, review the following terms whole group. Ask several students to share out the meaning of the following words:
  * *immense*: huge; enormous
  * *inflatable*: can be filled with air
  * *dirigible*: blimp; airship
  * *pontoons*: floating supports
  * *numerous*: many; a large number of
  * *qualities*: characteristics; traits
  * *consumed*: eaten; used up
  * *grueling*: difficult; terrible; hard
  * *lurked*: lay in wait; prowled
  * *gondola*: cable car; wide-mouthed traveling container
	• Students needing additional supports may benefit from partially filled-in Double Bubble maps.
	• Consider allowing students who struggle with written language the opportunity to dictate their ideas to a partner or teacher.
	• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.

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Comparing Two Main Ideas in an Informational Text:
Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

Work Time (continued)	Meeting Students' Needs
* *steer*: guide; turn; maneuver * *linked*: connected; joined * *thorough*: careful; systematic; detailed • Then give students 1 to 2 minutes to work with group members to revise their answers to the text-dependent questions, based on new understandings. • As time allows, invite several students to share out answers their group revised and how they applied any new understandings about vocabulary to improve their responses. • Collect students' text-dependent questions sheets. Read over to informally assess students' ability to respond to the questions using key words and details from the text.	•

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Comparing Two Main Ideas in an Informational Text:
Meg Lowman's Methods for Researching the Rainforest (Pages 35–36)

Closing and Assessment	Meeting Students' Needs
A. Debrief: Four Corners (5 minutes) • Post the **Four Corners sheets** in different corners or areas of the room: Walkways, Staples, Floating Raft, Crane (see Teaching Note). • Bring the entire class together. Say: "You have read about the ways that Meg Lowman conducts research in the rainforest. Now you are going to 'vote' for your favorite method by participating in Four Corners. The four choices are: walkways, staples, floating raft, or crane." • Direct students' attention to the four categories listed around the room. Ask students to move to the corner for the method they choose. • Once students are in corners, ask them to talk with other students in that corner: * "Why did you choose this as your favorite method of research?" • Encourage students to refer to specific details (text or pictures) from the book to justify their method selection. Invite a few students to share out.	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.

Homework	Meeting Students' Needs
• Reread pages 35–36 to someone (or yourself) at home. • Add any new learning about Meg Lowman to the Meg Lowman KWL chart in your journal. • Add any new understandings about biodiversity to the AQUA Biodiversity chart in your journal. • Add three words reviewed in class today to one of your glossaries. Choose from this list: compare, contrast, methods, quotes, evidence; immense, inflatable, dirigible, pontoons, numerous, qualities, consumed, grueling, lurked (35), gondola, steer, linked, thorough (36).	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along in the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *methods, evidence, numerous.*

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

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World Map: Cameroon

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Researching in the Rainforest Three-Column Note-catcher
(Focus on pages 35-36 of *The Most Beautiful Roof in the World*)

Country	Research Method	Text That Describes the Research Method
Cameroon		
Panama		
Belize		

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Researching in the Rainforest Three-Column Note-catcher
(Focus on pages 35-36 of *The Most Beautiful Roof in the World*)
(For Teacher Reference)

Country	Research Method	Text That Describes the Research Method
Cameroon	Inflatable raft (with dirigible)	Dirigible floats raft over canopy Raft settles on emergent crowns of canopy Hang over sides of raft on pontoons held by ropes Walk along pontoons
Panama	Construction crane (gondola)	Swings through the canopy on the crane Stands in gondola next to radio crane operator so he could steer her where she wanted to go
Belize	Walkways	Puts on a safety harness Climbs the metal ladders Climbs the staples (footholds) Clips the safety lines to the wires with each step Swings onto the platform

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Text-Dependent Questions: Researching the Rainforest, Pages 35–36

1. According to the text, what is a *dirigible*? Support your answer with evidence from the text.

2. The author states, "As fun as this giant trampoline in the sky was, working from it was also *grueling*." What does the word *grueling* mean in this sentence? Support your answer with evidence from the text.

3. On page 36, the author describes how when Meg Lowman stepped into a battalion of army ants, she *screamed bloody murder*. What does the expression *screamed bloody murder* mean? Why did Meg do this? Support your answer with evidence from the text.

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Text-Dependent Questions: Researching the Rainforest, Pages 35–36

1. According to the text, what is a *dirigible*? Support your answer with evidence from the text.

A dirigible is like a blimp and is used to carry the inflatable raft to the canopy; the text says, "There was an immense inflatable raft that a dirigible floated over the rainforest canopy." In the photograph above the paragraph, there is a picture of a blimp above the trees.

2. The author states, "As fun as this giant trampoline in the sky was, working from it was also *grueling*." What does the word *grueling* mean in this sentence? Support your answer with evidence from the text.

Very hard or difficult; the text states it was grueling, then goes on to say the "sun slammed down on scientists like a sledgehammer," and that temperatures reached 120 degrees every day.

3. On page 36, the author describes how when Meg Lowman stepped into a battalion of army ants, she *screamed bloody murder*. What does the expression *screamed bloody murder* mean? Why did Meg do this? Support your answer with evidence from the text.

It means to scream loudly; text says she "woke the entire camp" and that everybody thought that she had been bitten by the poisonous Gabon viper.

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Four Corners Sheets

Walkways
Staples

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Four Corners Sheets

Floating Raft
Crane

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

Interviewing Meg Lowman: What Does it Mean to be a Responsible Scientist? (Pages 37–39)

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Interviewing Meg Lowman:
What Does it Mean to be a Responsible Scientist? (Pages 37–39)

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
I can make inferences 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 explain important relationships between people, events, and ideas in a historical, scientific, or technical text using specific details in the text. (RI.5.3) I can develop the topic with facts, definitions, details, and quotations. (W.5.2) I can use precise, content-specific vocabulary to inform or explain about a topic. (W.5.2) I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)

Supporting Learning Targets	Ongoing Assessment
• I can explain what happened during the night walk. • I can write interview questions for Meg Lowman about the rainforest spider from the point of view of a scientist, using scientific vocabulary. • I can create answers to interview questions by inferring how Meg Lowman would answer them. • I can revise interview question and answers, given feedback from my peers.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity chart, glossaries) • Interview

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Interviewing Meg Lowman:
What Does it Mean to be a Responsible Scientist? (Pages 37–39)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (5 minutes) 2. **Work Time** A. Read-aloud and Rereading: The Night Walk (15 minutes) B. Writing a Short Interview with Meg Lowman (20 minutes) C. Critique and Feedback (15 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• In advance: Consider writing the vocabulary words on a large piece of chart paper beforehand to save time during the lesson. • In this lesson, students write interview questions that they would like to ask Meg Lowman about her research. This activity serves as an engaging way for them to reread and look back into text for the purpose of promoting deeper understanding of the topic. It also gives students the chance to revisit and enhance their understanding of both the structure and the purpose of interviews, and of how interviews are used to communicate scientific research. • Review: Praise-Question-Suggest protocol and Fist to Five strategy (see Appendix).

Lesson Vocabulary	Materials
explain, point of view, scientific vocabulary, inferring; winching (37); identical, inhabitant, “the ends justify the means” (39)	• *The Most Beautiful Roof in the World* (book; one per student) • Meg Lowman, Rainforest Scientist KWL anchor chart (from Lesson 1)

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Interviewing Meg Lowman:
What Does it Mean to be a Responsible Scientist? (Pages 37–39)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (5 minutes) • Ask students to take out their journals and share with a partner their homework from Lesson 12: one thing each they added to the Meg Lowman KWL and AQUA charts, and an academic word and a scientific word from pages 35–36 that they selected for their glossaries, and why they chose those words. • Say: "Today you are going to write interview questions and answers from the perspective of scientists. Let's think about the interviews with scientists we have read during this module." • Ask several students to share out what they recall about the interviews (i.e., Bryson Voirin, sloth canopy researcher; Eve Nilson, studying frogs in the Amazon; four interview questions with Meg Lowman, rainforest scientist). • Ask students to consider: "What is the purpose of interviewing a scientist?" Invite students to share their ideas with a partner. • Allow several students to share out whole group. Listen for answers such as: "to learn about their research; learn about why they conduct research; how they research; where they research; communicate new discoveries," or similar ideas.	• Visuals can help students comprehend questions and discussions. Chart main points in answers and post all questions asked to students.

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Interviewing Meg Lowman:
What Does it Mean to be a Responsible Scientist? (Pages 37–39)

Work Time	Meeting Students' Needs

A. Read-aloud and Rereading: The Night Walk (15 minutes)
• Ask students to join their groups of four.
• Introduce the learning target: "I can explain what happened during the night walk." Ask a few students to share out the meaning of *explain* (give details; describe).
• Say: "To learn more about Meg Lowman's research in the rainforest, we are going to read about a night walk Meg Lowman went on with her sons James and Edward."
• Orient students to page 37 of ***The Most Beautiful Roof in the World***. Ask them to follow along silently as page 37 to the middle of page 39 is read aloud. Beginning with "That night after supper . . ." through "What is permissible, or justifiable, is always a concern—do the ends justify the means?"
• Then give students 3 to 5 minutes to reread the same text, independently, considering this question: "What happened during the night walk?"
• After students have reread the pages, invite them to talk in their groups about what happened during the night walk.
• Allow several students to share out whole group. Listen for answers such as: "They found a new species of spider—a slingshot spider; Meg Lowman collected the spider for study; her sons were worried she had killed the last spider of its kind," or similar details.
• Briefly review key vocabulary from these pages. Ask students to suggest definitions and share the strategies that they use to determine the meaning of:
  * *winching*: pulling in; cranking
  * *identical*: exactly the same
  * *inhabitant*: one who lives there; occupant
  * *the ends justify the means*: expression meaning: "If you do something bad to accomplish something good, then it is okay."
	• Provide nonlinguistic symbols (e.g., a moon for *night*, a stick figure walking for *walk*) 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.
	• 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.
	• All students developing academic language will benefit from direct instruction of academic vocabulary.

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Interviewing Meg Lowman:
What Does it Mean to be a Responsible Scientist? (Pages 37–39)

Work Time (continued)	Meeting Students' Needs

B. Writing a Short Interview with Meg Lowman (20 minutes)
• Place students in pairs.
• Introduce the learning targets: "I can write interview questions for Meg Lowman about the rainforest spider from the point of view of a scientist, using scientific vocabulary," and "I can create answers to interview questions by inferring how Meg Lowman would answer them."
• Ask several students to share the meaning of:
  * *point of view*: perspective; who is doing the thinking or talking
  * *scientific vocabulary*: words that name plants or animals; names of tools scientists use; names and steps of research methods
  * *inferring*: coming to a conclusion or forming an opinion based on evidence or reasoning
• Say: "Now you will create interview questions for Meg Lowman. Pretend that you are Eve Nilson, the teenage scientist we read about in Unit 1. What questions would you want to ask Dr. Lowman? Writing from the *point of view* of a scientist like Eve Nilson helps us to think more deeply about why and how scientists conduct research."
• Give students 2 minutes to work with their partners to reread the first four sentences of paragraph 5 on page 39, starting with "Meg has an answer for her sons..." through "... it is responsible collection for identification that makes her a good scientist."
• Then prompt students to consider: "What are some questions a young scientist like Eve Nilson might want to ask expert scientist Meg Lowman about her research of the slingshot spider?"
• Invite pairs to take 2 minutes to brainstorm potential interview questions.
• Cold call several students to share out their possible questions.
• Ask the class: "What makes a good interview question?" Invite students to share out ideas and list them on the board.
• Listen for students to list some of the following: "asks for specific details; gets at *why* Meg Lowman researches; *why* she uses certain methods; helps us understand what makes her a 'good' scientist; helps us find out more about *what* she researches; will use scientific and academic vocabulary," or similar ideas.
• Suggest any of these criteria that students do not mention.
	• Consider providing either questions or answers for students who struggle and have them provide the corresponding question or answer.
	• Consider allowing students who struggle with writing to dictate their suggestions for questions and answers to a partner or teacher.
	• 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.
	• Provide anchor charts for processes such as How to Write an Interview. This would include steps and criteria.

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Interviewing Meg Lowman:
What Does it Mean to be a Responsible Scientist? (Pages 37–39)

Work Time (continued)	Meeting Students' Needs
• Tell students that they will need to work with their partners to create four interview questions that Eve Nilson might ask Meg Lowman about her research of the slingshot spider. Ask them to include one question that specifically asks Dr. Lowman to justify why she took the slingshot spider to study. Students should write their interview questions and answers on one shared page. Clarify instructions as necessary. • Give students 5 minutes to write their questions. Circulate to support as needed. Remind students to refer to the criteria for good interview questions that they listed. Encourage them to use the scientific and academic vocabulary in the glossary. • Next, ask students to write answers from the *point of view* of Meg Lowman. Tell students: "You will need to *infer* what Meg Lowman's answers would be, based on what you have read." Clarify instructions as necessary. • Give students 5 minutes to write their answers.	•

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Interviewing Meg Lowman:
What Does it Mean to be a Responsible Scientist? (Pages 37–39)

Work Time (continued)	Meeting Students' Needs

C. Critique and Feedback (15 minutes)
• Introduce the learning target: "I can revise interview questions and answers given feedback from my peers." Ask several students to share what it means to *revise* (edit; improve; change). Then ask the class to define *feedback* (comments; questions; suggestions).
• Say: "*Revising* work based on specific *feedback* helps us to improve our writing skills."
• Remind students of the Praise-Question-Suggest protocol that they have used previously. Explain that after they read their peers' questions and answers, they will need to offer one praise, ask one question about the interview, and make one suggestion for revision. Clarify instructions as necessary.
• Tell students that they will join another pair. Each pair will have 2 minutes to share with the other pair just one question and answer for which they most want feedback.
• Each pair will share by reading one question and answer that they wrote.
• One student reads the role of "Eve Nilson."
• One partner reads the role of "Dr. Meg Lowman."
• The other pair will use the Praise-Question-Suggest protocol to offer feedback.
• Circulate to support as needed.
• Once pairs have shared, give them 2 to 3 minutes to revise their interview question and answer.
• Cold call several pairs to share out:
  * "What feedback did you find most useful?"
  * "How did your revisions improve your writing?"
• Ask students to reflect on this activity: "How did writing questions and answers from scientists' points of view help us to understand more about Meg Lowman's research?"
• Cold call students to share out their ideas.
	• Consider writing and breaking down multistep directions into numbered elements. Students can return to these guidelines to make sure they are on track.

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Interviewing Meg Lowman:
What Does it Mean to be a Responsible Scientist? (Pages 37–39)

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Ask: "What did you learn about Meg Lowman?" Add students' ideas to L column of the **Meg Lowman, Rainforest Scientist KWL anchor chart**. • Read the learning targets aloud. Pause after each for students to show their level of mastery toward the target, using the Fist to Five strategy. *Note students showing a fist or 1, 2, or 3, as they may need more support or strategies to understand the text and new vocabulary.*	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.
Homework	**Meeting Students' Needs**
• Reread pages 37–39 and your interview to someone (or yourself) at home. Discuss with that person whether you would have taken the spider out of the forest, and why. • In your journal, write a brief response to the question: "As a scientist, would you take a new species out of the rainforest? Why or why not?" • Choose three academic words that we reviewed in class today to add to your glossaries. Choose from this list: explain, point of view, scientific vocabulary, inferring, winching (37), identical, inhabitant, "the ends justify the means" (39).	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along in the text. • For students who may have difficulty determining important words to add to their glossaries, consider prioritizing the following words for them: *explain, point of view, identical.*

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 2: Lesson 14

Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

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Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

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 determine the meaning of academic words or phrases in an informational text. (RI.5.4) I can determine the meaning of content words or phrases in an informational text. (RI.5.4)	
Supporting Learning Targets	**Ongoing Assessment**
• I can explain how Meg Lowman communicates her research. • I can explain biodiversity by using quotes from the text. • I can determine ways to explain biodiversity to others. • I can determine the meaning of new words in *The Most Beautiful Roof in the World*.	• Journal (Meg Lowman KWL chart, AQUA Biodiversity anchor chart, glossaries)

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Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (5 minutes) 2. **Work Time** A. Read-aloud and Rereading: How Does Meg Lowman Communicate Her Research? (15 minutes) B. Group Work: Explaining Biodiversity (25 minutes) C. Key Vocabulary to Deepen Understanding (10 minutes) 3. **Closing and Assessment** A. Debrief and Looking Ahead (5 minutes) 4. **Homework**	• During Work Time Part B, groups will work on task cards. Each group will need another group to share with at the end of Part B.

Lesson Vocabulary	Materials
communicate, explain, determine, synthesize, taking action; balance, conservation, concern, traces (39), illuminated, enter, figures (41), pondering (42)	• *The Most Beautiful Roof in the World* (book; one per student) • Meg Lowman, Rainforest Scientist KWL anchor chart (from Lesson 1) • What Is Biodiversity? task cards (1–5, one per group) • AQUA Biodiversity anchor chart (from Lesson 4) • Sticky notes for evidence flags (for Part B of Work Time and homework)

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Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

Opening	Meeting Students' Needs
A. Reviewing Homework and Engaging the Reader (5 minutes) • Ask students to take out their journals. Direct students to share with a partner their homework from Lesson 13: the three new academic words from pages 37–39 and their written response to the question: "As a scientist, would you take a new species out of the rainforest? Why or why not?" • Explain to students: "Today we are going to read the final pages of our book about Meg Lowman, ***The Most Beautiful Roof in the World***. We will also look back at some of the passages to help us confirm our understanding of what biodiversity is."	• 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	Meeting Students' Needs
A. Read-aloud and Rereading: How Does Meg Lowman Communicate Her Research? (15 minutes) • Ask students to join their groups of four. • Introduce the learning target: "I can explain how Meg Lowman communicates her research." Invite several students to offer definitions for the word *communicate* (share; make public). • Say: "As I read these final pages aloud, think about how Meg Lowman *communicates* her research." • Orient students to page 39, and tell them to follow along silently as pages 39–42 are read aloud, beginning with "But we have to take it back. I'm going to send it to the Smithsonian for identification," through to the last page. • Give students 3 to 4 minutes to discuss: "How does Meg Lowman *communicate* her research?" • Direct students' attention to the **Meg Lowman, Rainforest Scientist, KWL anchor chart**. Invite several students to share out their response to the question. Record ideas in the L column of the chart (as students record ideas in their own KWL). • Listen for ideas such as: "She allowed the author of this book to write about her work in the rainforests; she collects samples to send back to other scientists or the Smithsonian; she records, sketches, traces her findings; records her figures/data on her computer."	• Visuals can help ELLs and other students comprehend questions and discussions. Chart main points in answers and post all questions asked to students.

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Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

Work Time (continued)	Meeting Students' Needs

B. Group Work: Explaining Biodiversity (25 minutes)
• Introduce the learning target: "I can explain biodiversity by using quotes from the text."
• Cold call several students to share what they recall about the meaning of the word *explain* (give details; make clear; describe).
• Tell students that they are going to begin to *synthesize* what they have learned from all of their readings about biodiversity by explaining what biodiversity is. Say to students: "Remember that to *synthesize* something means to combine all your thinking and learning about a topic. Tomorrow, you will have a chance to write about rainforest scientist Meg Lowman, so it is important that today you continue to listen carefully and take good notes."
• Distribute one **What Is Biodiversity? task card** to each group.
• Explain the directions to students: "Each group has a task card. As a group, you will do the following:
  * Reread the section of text noted on the card.
  * Record quotes from the text that help explain what biodiversity is.
  * Review Understandings from the **AQUA Biodiversity anchor chart**.
  * Discuss what you think biodiversity is based on the quotes you chose.
  * Write a sentence that explains what biodiversity is."
• Clarify directions as necessary.
• Give students 10 minutes to work in their group on their task cards. Circulate to support as needed.
• Then ask each group to find one other group that has a different task card.
• In these new combined groups, give students 10 minutes to do the following:
  * Share the sentence you wrote to explain biodiversity.
• Discuss:
  * What page from the text did you reread?
  * What quotes from the text helped to explain biodiversity?
  * How were our sentences about biodiversity similar?
  * How were our sentences different?
	• Students needing additional supports may benefit from partially filled-in task cards.
	• Consider writing and breaking down multistep directions into numbered elements. ELLs can return to these guidelines to make sure they are on track.
	• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information.

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Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

Work Time (continued)	Meeting Students' Needs
• Circulate to support as needed. • As time allows, invite several students to share out biodiversity sentences they heard from another group that they think clearly explain what biodiversity is. • Ask students to return to their regular groups of four. • Introduce the learning target: "I can determine ways to explain biodiversity to others." • Cold call students to explain what it means to *determine* (decide; choose). • Direct the class's attention to the Action column (last A) of the AQUA Biodiversity anchor chart. • Ask students to briefly discuss with their groups: "What is *taking action*?" Invite several students to share out whole group. Listen for ideas such as: "doing something; achieving a goal," etc. • Give students 3 minutes to brainstorm in their groups about ways they could "take action" to explain biodiversity to others (peers, family members, friends, community members, etc.). • Cold call students to share their ideas. List students' ideas in the last A column of the AQUA chart. Ask students to record ideas on the AQUA chart in their journals. Remind them that these notes may be very helpful for them during their assessment in the next lesson. • Distribute **sticky notes** to use as evidence flags (students should be familiar with these from Module 1). Ask students to place a flag on each of the pages from the task cards, since they may want to refer to these during the assessment: pages 12, 13, and 30.	•

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Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

Work Time (continued)	Meeting Students' Needs

C. Key Vocabulary to Deepen Understanding (10 minutes)
• Students remain in their groups of four.
• List the following words on the board:
  * balance, conservation, concern, traces, illuminated, enter, figures, pondering
• Review the learning target: "I can determine the meaning of new words in *The Most Beautiful Roof in the World*."
• Say: "We have learned a lot about Meg Lowman through our close reading of *The Most Beautiful Roof in the World*. The words I have listed focus on two things we have learned about her:
  * How Meg Lowman communicates her research
  * How she takes action to preserve biodiversity."
• Ask students to spend 3 to 4 minutes to discuss in groups:
  * Which words relate to communicating research?
  * Which words relate to taking responsible actions?
• Encourage them to look back at pages 39–42 for context clues to help them determine the meaning of any unknown words.
• After student groups have sorted the words, gather students' attention whole group for a brief discussion about the meaning of each word. Listen for students to make suggestions such as:
  * *balance* (v): make things equal; keep steady (academic)
  * *conservation*: protection; preservation (scientific)
  * *concern*: worry; fear (academic)
  * *traces*: outlines; tracks (academic)
  * *illuminated*: lit up; supplied with light (academic)
  * *enter*: input; type in (academic)
  * *figures*: totals; numbers (academic)
  * *pondering*: thinking about; considering (academic)
•
	• All students developing academic language will benefit from direct instruction of academic vocabulary.
	• Consider providing visuals of each vocabulary word to facilitate vocabulary acquisition for students who struggle with language.

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Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

Work Time (continued)	Meeting Students' Needs
• Ask groups to briefly discuss whether they now would move any words to the other category, based on new understandings. • Cold call individuals to share out a word they determined should go in each category and why that word fits in that category.	•

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Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

Closing and Assessment	Meeting Students' Needs

A. Debrief (5 minutes)
• Ask students to think about the two big ideas they have discussed today:
  * How Meg Lowman communicates her research
  * What actions Meg Lowman takes to conserve biodiversity
• Invite several students to share their ideas whole group. Add to the L column of the KWL anchor chart. (Students should record ideas in their journal KWL.)
• Congratulate students on completing their close read about rainforest scientist Meg Lowman. Remind them that tomorrow they will have an opportunity to share through writing all they have learned about Meg Lowman and her exciting work.
• Read the learning targets aloud. Pause after each for students to show a thumbs-up (I got it!), thumbs-sideways (sort of have it), or thumbs-down (didn't get it) for each target.
• Distribute more **sticky notes** for the class to use as evidence flags for tonight's homework.
	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.

Homework	**Meeting Students' Needs**

• Reread pages 39–42 to someone (or yourself) at home. As you read, use evidence flags to mark the following passages:
  * Describe how Meg Lowman conducts research
  * Describe what Meg Lowman researches
• 2. Add four vocabulary words from pages 39–42 to the glossaries in your journal:
  * Two "academic" words that describe Meg Lowman's thoughts or feelings about her research
  * Two "scientific" words that describe what Meg Lowman studies
 	
Note: In Lesson 15, students will complete the End of Unit 2 On-Demand Assessment.
	• Audio recordings of text can aid students in comprehension. Students can pause and replay confusing portions while they follow along with the text.

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EXPEDITIONARY LEARNING

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

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What Is Biodiversity? Task Cards (1–5)

TASK CARD #1

READ On page 12, read the last two sentences of paragraph 1 (starting with: "In this shadowed world ...") and all of paragraph 2 (ending with "... high above the forest floor in the tanks of bromeliads").

QUOTES Record quotes from the text that help to explain biodiversity.

REVIEW Look back at the AQUA Biodiversity anchor chart for ideas about biodiversity.

EXPLAIN Write one sentence to explain what biodiversity is.

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What Is Biodiversity? Task Cards (1–5)

TASK CARD #2

READ On page 12, read all of paragraph 3 (starting with the phrase "The rainforest is a timeless ..." and ending with "... a rush of opportunistic species to fill the gaps").

QUOTES Record quotes from the text that help to explain biodiversity.

REVIEW Look back at the AQUA Biodiversity anchor chart for ideas about biodiversity.

EXPLAIN Write one sentence to explain what biodiversity is.

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What Is Biodiversity? Task Cards (1–5)

TASK CARD #3

READ On page 13, read all of paragraph 1 (starting with "Meg Lowman believes ..." and ending with "... how it will have an impact").

QUOTES Record quotes from the text that help to explain biodiversity.

REVIEW Look back at the AQUA Biodiversity anchor chart for ideas about biodiversity.

EXPLAIN Write one sentence to explain what biodiversity is.

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What Is Biodiversity? Task Cards (1–5)

TASK CARD #4

READ On page 13, read all of paragraph 2 (starting with "When Meg wants to have a close look ..." and ending with "How many species can be removed before it will break?").

QUOTES Record quotes from the text that help to explain biodiversity.

REVIEW Look back at the AQUA Biodiversity anchor chart for ideas about biodiversity.

EXPLAIN Write one sentence to explain what biodiversity is.

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What Is Biodiversity? Task Cards (1–5)

TASK CARD #5

READ On page 30, read all of paragraph 2 (starting with "Continuing to count ..." and ending with "... and at the most thirty different species").

QUOTES Record quotes from the text that help to explain biodiversity.

REVIEW Look back at the AQUA Biodiversity anchor chart for ideas about biodiversity.

EXPLAIN Write one sentence to explain what biodiversity is.

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EXPEDITIONARY LEARNING

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

End of Unit Assessment: On-Demand Analysis of Meg Lowman's Research in the Rainforest

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End of Unit Assessment:
On-Demand Analysis of Meg Lowman's Research in the Rainforest

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can write informative/explanatory texts. (W.5.2) I can use precise, content-specific vocabulary to inform or explain about a topic. (W.5.2) I can choose evidence from informational texts to support analysis, reflection, and research. (W.5.9) (W.5.4)	
Supporting Learning Targets	**Ongoing Assessment**
• I can analyze Meg Lowman's research in the rainforest. • I can justify my analysis by citing evidence from the text. • I can use academic and scientific vocabulary accurately in my writing. • I can reflect on my learning.	• End of Unit 2 Assessment • Tracking My Progress, End of Unit 2 recording form

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End of Unit Assessment:
On-Demand Analysis of Meg Lowman's Research in the Rainforest

Agenda	Teaching Notes
1. **Opening** A. Reviewing Homework and Engaging the Reader (10 minutes) 2. **Work Time** A. End of Unit Assessment: Analyzing Meg Lowman's Research in the Rainforest (40 minutes) B. Learning Target Reflection (5 minutes) 3. **Closing and Assessment** A. Debrief (5 minutes) 4. **Homework**	• Students will take the End of Unit 2 Assessment: On-Demand Analysis of Meg Lowman's Research in the Rainforest today. They will need to write a two-paragraph essay explaining what and how Meg Lowman researches in the rainforest. Later, in Unit 3, students will revisit the other guiding question about how scientists communicate their findings. • Use the Extended Response (4-Point) Rubric to score student assessments.

Lesson Vocabulary	Materials
analyze, cite, evidence, accurately	• *The Most Beautiful Roof in the World* (book; one per student) • Meg Lowman, Rainforest Scientist KWL anchor chart (from Lesson 1) • AQUA Biodiversity anchor chart (from Lesson 4) • End of Unit 2 Assessment: On-Demand Analysis of Meg Lowman's Research in the Rainforest (one per student) • Accordion graphic organizer for paragraph writing (2 per student) • Tracking My Progress, End of Unit 2 recording form (one per student) • Extended Response (4-Point) Rubric (for teacher reference)

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End of Unit Assessment:
On-Demand Analysis of Meg Lowman's Research in the Rainforest

Opening	Meeting Students' Needs

A. Reviewing Homework and Engaging the Reader (10 minutes)
• Ask the class to take out their journals. Direct students to share with a partner their homework from Lesson 14, pages 39–42:
  * Two "academic" words that describe Meg Lowman's thoughts or feelings about her research
  * Two "scientific" words that describe what Meg Lowman studies
• Prompt partners to discuss how they determined whether the word was "academic" or "scientific."
• Ask students to take out ***The Most Beautiful Roof in the World*** with evidence flags from Lesson 14 homework.
• Say to students: "Today you are going to complete the end of unit assessment. You will have time to plan, and then will write two separate paragraphs about how Meg Lowman explores the rainforest canopy, and what she learns about biodiversity. Review the passages from pages 39–42 that you marked with evidence flags describing how Meg Lowman conducts research and what she researches."
• Direct students to read through the **Meg Lowman, Rainforest Scientist KWL anchor chart** and **AQUA Biodiversity anchor charts** to review what they have learned about Meg Lowman as a scientist.
• Ask students to consider:
  * What does Meg Lowman study?
  * How does she conduct her research?
• Invite students to Pair-Share what they have learned about Meg Lowman.
• Cold call students to share out whole group.
	• 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.

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End of Unit Assessment:
On-Demand Analysis of Meg Lowman's Research in the Rainforest

Work Time	Meeting Students' Needs

A. End of Unit Assessment: Analyzing Meg Lowman's Research in the Rainforest (40 minutes)
• Introduce the learning targets: "I can analyze Meg Lowman's research in the rainforest," "I can justify my analysis by citing evidence from the text," and "I can use academic and scientific vocabulary accurately in my writing."
• Ask several students to define:
  * *analyze*: examine, consider, evaluate
  * *cite evidence*: use quotes from the text; use details from the book
  * *accurate*: correct, true
• Distribute the **End of Unit 2 Assessment: On-Demand Analysis of Meg Lowman's Research in the Rainforest** and the **Accordion graphic organizer for paragraph writing** (two per student).
• Invite students to quickly skim the assessment.
• Point out to students that this will be a two-paragraph essay. Direct them to focus on the Criteria for Success listed at the bottom of the assessment. Ask students to pay particular attention to the fact that this is a two-part question. They will need to write a paragraph addressing each part of this question to fully respond to the prompt. Review with students the criteria for a good paragraph (topic sentence, correct punctuation and grammar, complete sentences that stay on topic, and concluding sentence). Address any clarifying questions.
• Tell students they will have 30 minutes, broken into two sessions (planning and writing), to complete their essays. Inform students that this essay is on-demand: They should do their best in the time they have. They will need to use their books, journals, and anchor charts as references during the assessment. Clarify any instructions as necessary.
• Part 1: Planning (15–20 minutes)
• Ask students to begin planning their two paragraphs:
  * Skim the assessment prompt once again.
  * Locate information that addresses both parts of the prompt question from *The Most Beautiful Roof in the World*, their journals, and anchor charts.
  * Complete one Accordion graphic organizer for each paragraph.
	• Consider providing a modified assessment with fewer criteria for students who struggle with language.
	• Students needing additional supports may benefit from partially filled-in graphic organizers.
	• Consider allowing students who struggle with writing to dictate their assessment to a teacher.
	• Consider providing extra time for tasks and answering questions in class discussions. Some students need more time to process and translate information. ELLs receive extended time as an accommodation on NY State assessments.

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End of Unit Assessment:
On-Demand Analysis of Meg Lowman's Research in the Rainforest

Work Time (continued)	Meeting Students' Needs

• Circulate to supervise; because this is a formal on-demand assessment, do not provide support other than formally approved accommodations.
• Part 2: Writing the Essay (20–25 minutes)
• Prompt students to begin writing. Encourage students to:
  * Reread the essay prompt.
  * Determine the sequence of their paragraphs.
  * Review the Criteria for Success.
  * Refer to the book, their journals, and anchor charts as needed.
• Continue to circulate to supervise.
• If students finish the assessment early, they may read independently.
	•

B. Learning Target Reflection (5 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 the **Tracking My Progress, End of Unit 2 recording form** to students. Explain that this is a self-assessment, exactly like the Tracking My Progress they completed at the end of the Mid- and End of Unit 1 Assessments. They will reflect on their progress toward the learning targets. Read through the tracker and provide clarification as necessary for students. • Ask students to independently complete their Tracking My Progress. Ask them to hold on to this sheet to refer to during the lesson debrief.	• Consider allowing students who struggle with written language to dictate their reflections to a partner or teacher.

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End of Unit Assessment:
On-Demand Analysis of Meg Lowman's Research in the Rainforest

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Congratulate students on completing their close read about and analysis of rainforest scientist Meg Lowman. • Pair up students. Ask them to share the reflections on their Tracking My Progress, End of Unit 2 recording form. • Invite several students to share out with the whole group. • Collect students' Tracking My Progress forms to review. • Collect students' journals to review before starting Unit 3.	• For students needing additional supports producing language, consider offering a sentence frame, sentence starter, or cloze sentence to provide the structure required.
Homework	**Meeting Students' Needs**
• None	•

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EXPEDITIONARY LEARNING

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

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End of Unit 2 Assessment: On-Demand Analysis of Meg Lowman's Research in the Rainforest

Name:

Date:

Instructions:

- Read the essay prompt below.
- Refer to your book, journal, and anchor charts to locate information that helps you respond to the prompt.
- Use the two Accordion graphic organizers for paragraph writing (one for each paragraph) to arrange the "details" and "explains" you will include in your essay.
- Write a two-paragraph essay that responds to the prompt below.
- Use *The Most Beautiful Roof in the World*, your journals, and anchor charts as references during the assessment.
- Make sure to cite evidence from the text to support your answer.
- Use both academic and scientific vocabulary in your essay.

How does Meg Lowman explore the rainforest canopy, and what does she learn about biodiversity? After reading and analyzing The Most Beautiful Roof in the World, about rainforest scientist Meg Lowman, write an essay in which you address the question and analyze Meg Lowman's research of biodiversity in the rainforests, providing examples to clarify your analysis.

Criteria for Success and Self-Assessment:

- Write two high-Lquality paragraphs that have:
  - * A topic sentence
  - * Correct punctuation
  - * Correct grammar
  - * Complete sentences that stay on topic
  - * A concluding sentence
- Include one paragraph on each of the following:
  - * How Meg Lowman conducts her research in the rainforest
  - * What Meg Lowman learns about biodiversity
- Use academic and scientific vocabulary accurately.

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Accordion Graphic Organizer for Paragraph Writing

Use this graphic organizer to help you plan one paragraph of your essay about Meg Lowman.

Paragraph Topic:

Detail:

Explain:

Detail:

Explain:

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Tracking My Progress, End of Unit 2

Name:

Date:

Learning Target: I can determine the meaning of new words in *The Most Beautiful Roof in the World*.

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:

_____

_____

_____

_____

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Tracking My Progress, End of Unit 2

Name:

Date:

Learning Target: I can determine the gist of a selection of text from *The Most Beautiful Roof in the World*.

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:

_____

_____

_____

_____

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End of Unit Assessment:
On-Demand Analysis of Meg Lowman's Research in the Rainforest

Name:

Date:

Tracking My Progress, End of Unit 2

Learning Target: I can synthesize what I read in *The Most Beautiful Roof in the World*.

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:

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Extended Response (4-Point) Rubric (For Teacher Reference)

New York State Grade 4-5 Expository Writing Evaluation Rubric

CRITERIA	CCLS	SCORE				
		4 Essays at this level:	3 Essays at this level:	2 Essays at this level:	1 Essays at this level	0 Essays at this level:
CONTENT AND ANALYSIS: the extent to which the essay conveys ideas and information clearly and accurately in order to support an analysis of topics or texts	W.2 R.1–9	—clearly introduce a topic in a manner that follows logically from the task and purpose —demonstrate insightful comprehension and analysis of the text(s)	—clearly introduce a topic in a manner that follows from the task and purpose —demonstrate grade-appropriate comprehension and analysis of the text(s)	—introduce a topic in a manner that follows generally from the task and purpose —demonstrate a literal comprehension of the text(s)	—introduce a topic in a manner that does not logically follow from the task and purpose —demonstrate little understanding of the text(s)	—demonstrate a lack of comprehension of the text(s) or task
COMMAND OF EVIDENCE: the extent to which the essay presents evidence from the provided texts to support analysis and reflection	W.2 W.9 R.1–9	—develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples from the text(s) —sustain the use of varied, relevant evidence	—develop the topic with relevant facts, definitions, details, quotations, or other information and examples from the text(s) —sustain the use of relevant evidence, with some lack of variety	—partially develop the topic of the essay with the use of some textual evidence, some of which may be irrelevant —use relevant evidence inconsistently	—demonstrate an attempt to use evidence, but only develop ideas with minimal, occasional evidence which is generally invalid or irrelevant	—provide no evidence or provide evidence that is completely irrelevant
COHERENCE, ORGANIZATION, AND STYLE: the extent to which the essay logically organizes complex ideas, concepts, and information using formal style and precise language	W.2 L.3 L.6	—exhibit clear, purposeful organization —skillfully link ideas using grade-appropriate words and phrases —use grade-appropriate, stylistically sophisticated language and domain-specific vocabulary —provide a concluding statement that follows clearly from the topic and information presented	—exhibit clear organization —link ideas using grade-appropriate words and phrases —use grade-appropriate precise language and domain-specific vocabulary —provide a concluding statement that follows from the topic and information presented	—exhibit some attempt at organization —inconsistently link ideas using words and phrases —inconsistently use appropriate language and domain-specific vocabulary —provide a concluding statement that follows generally from the topic and information presented	—exhibit little attempt at organization, or attempts to organize are irrelevant to the task —lack the use of linking words and phrases —use language that is imprecise or inappropriate for the text(s) and task —provide a concluding statement that is illogical or unrelated to the topic and information presented	—exhibit no evidence of organization —exhibit no use of linking words and phrases —use language that is predominantly incoherent or copied directly from the text(s) —do not provide a concluding statement
CONTROL OF CONVENTIONS: the extent to which the essay demonstrates command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling	W.2 L.1 L.2	—demonstrate grade-appropriate command of conventions, with few errors	—demonstrate grade-appropriate command of conventions, with occasional errors that do not hinder comprehension	—demonstrate emerging command of conventions, with some errors that may hinder comprehension	—demonstrate a lack of command of conventions, with frequent errors that hinder comprehension	—are minimal, making assessment of conventions unreliable

- If the prompt requires two texts and the student only references one text, the response can be scored no higher than a 2.
- If the student writes only a personal response and makes no reference to the text(s), the response can be scored no higher than a 1.
- Responses totally unrelated to the topic, illegible, incoherent, or blank should be given a 0.
- A response totally copied from the text(s) with no original student writing should be scored a 0.

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EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 3:
Overview

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

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

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).

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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

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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

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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

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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

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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

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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

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

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

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

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

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

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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Reading and Writing Like a Scientist:
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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

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EXPEDITIONARY LEARNING

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

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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

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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

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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

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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

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*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

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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

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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

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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.

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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)

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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.

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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.

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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.

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

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.

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

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.

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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.

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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.

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EXPEDITIONARY LEARNING

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

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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

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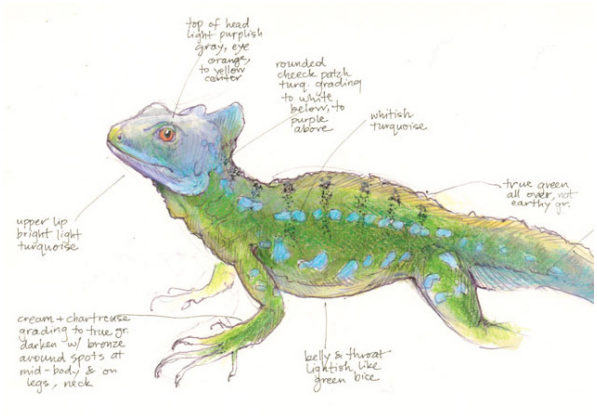
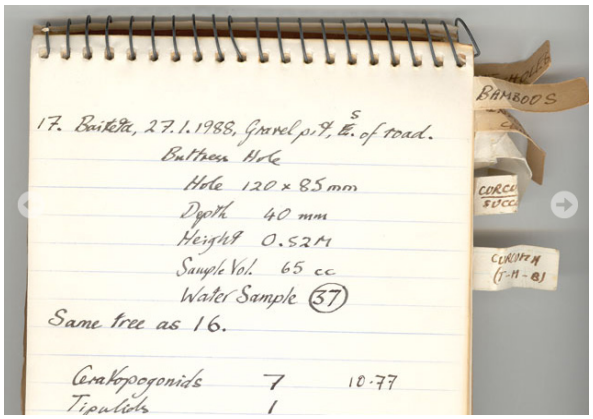
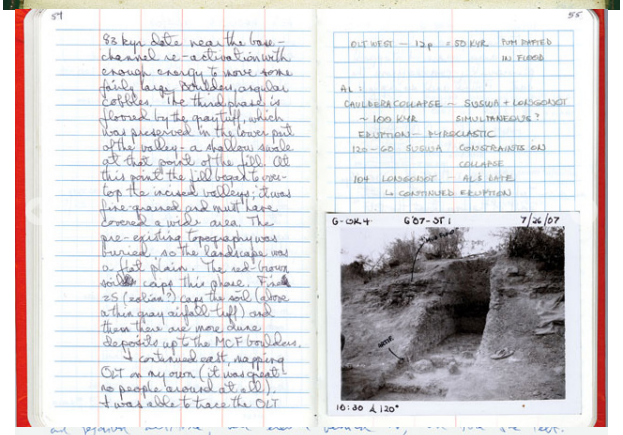
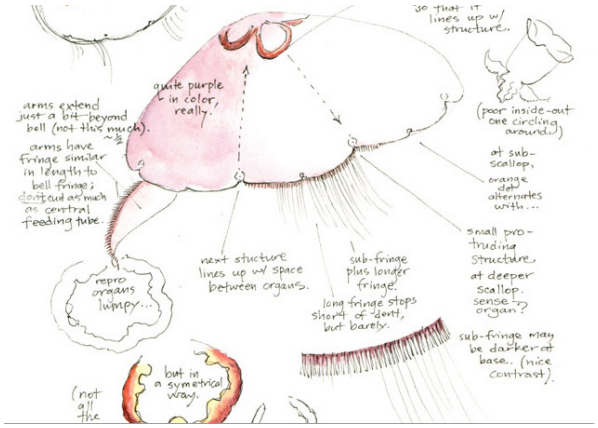
Teaching Resource:
Model Field Journal Books and Internet Links

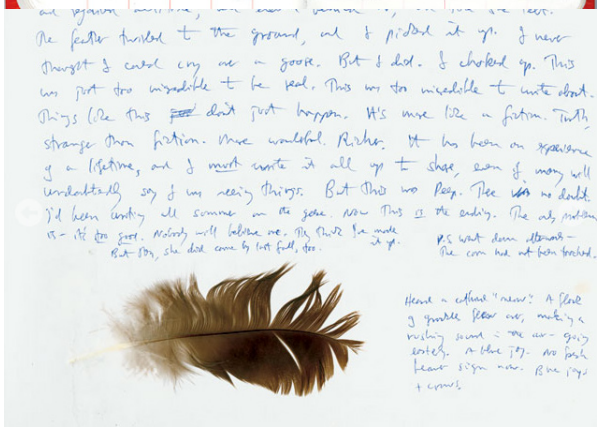
Image Samples from www.hup.harvard.edu/features/canfie/











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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?	

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Text Features Venn Diagram

Informational Texts | Features of BOTH | Field Journal

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EXPEDITIONARY LEARNING

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

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

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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

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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.

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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

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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.

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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.

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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.

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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.)	•

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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.*	•

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EXPEDITIONARY LEARNING

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

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

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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)

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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.

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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)

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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.

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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*.

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

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.

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

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.

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

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.

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EXPEDITIONARY LEARNING

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

Taking Notes and Citing Quotes from Text:

Gathering Information on our Rainforest Insects

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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

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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.

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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)

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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.")

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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.

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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.

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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.

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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.	•

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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.

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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.

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EXPEDITIONARY LEARNING

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

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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).

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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/

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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/**

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

Category	Facts	Questions	Responses

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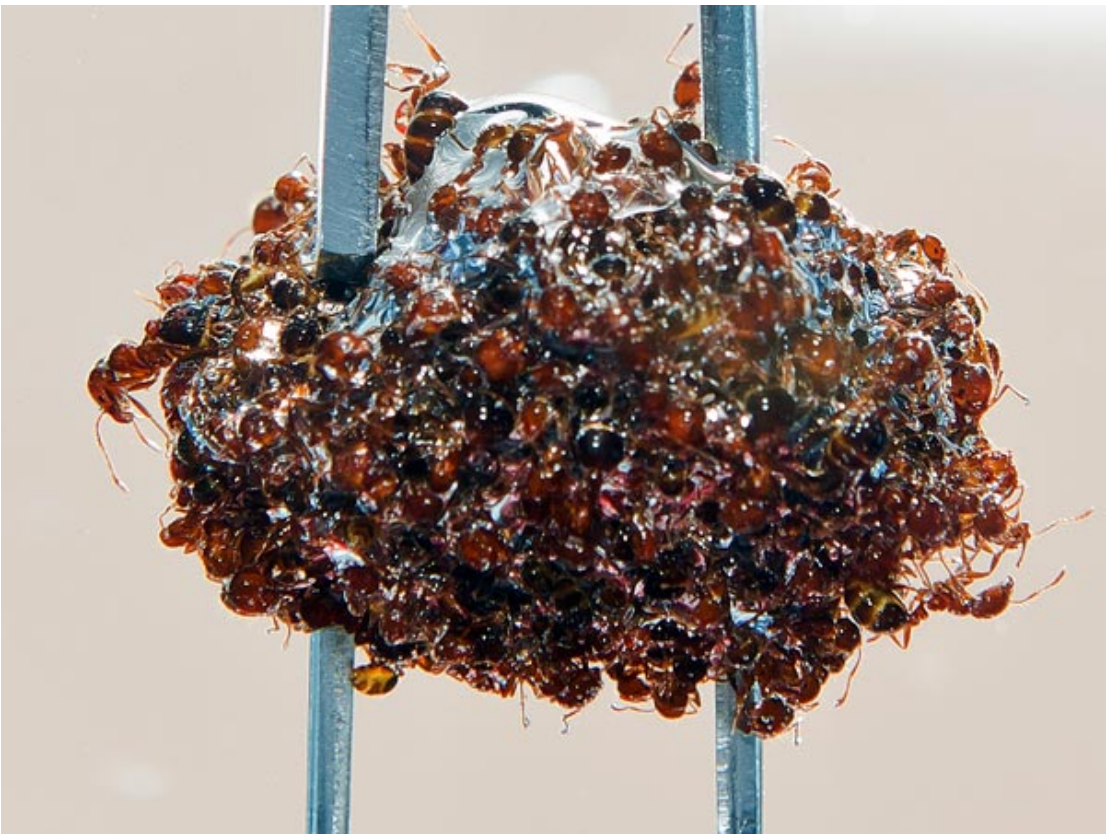
Fire Ants

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.



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EXPEDITIONARY LEARNING

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

Structuring The Search: Categorizing Our Research

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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

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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.

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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.

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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.

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Structuring The Search:
Categorizing Our Research

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.

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Structuring The Search:
Categorizing Our Research

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.

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Structuring The Search:
Categorizing Our 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.

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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.*	

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EXPEDITIONARY LEARNING

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

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Categories for Research on Rainforest Insects Anchor Chart

Question	Scientific Term

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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

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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.

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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.

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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.

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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

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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.

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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.

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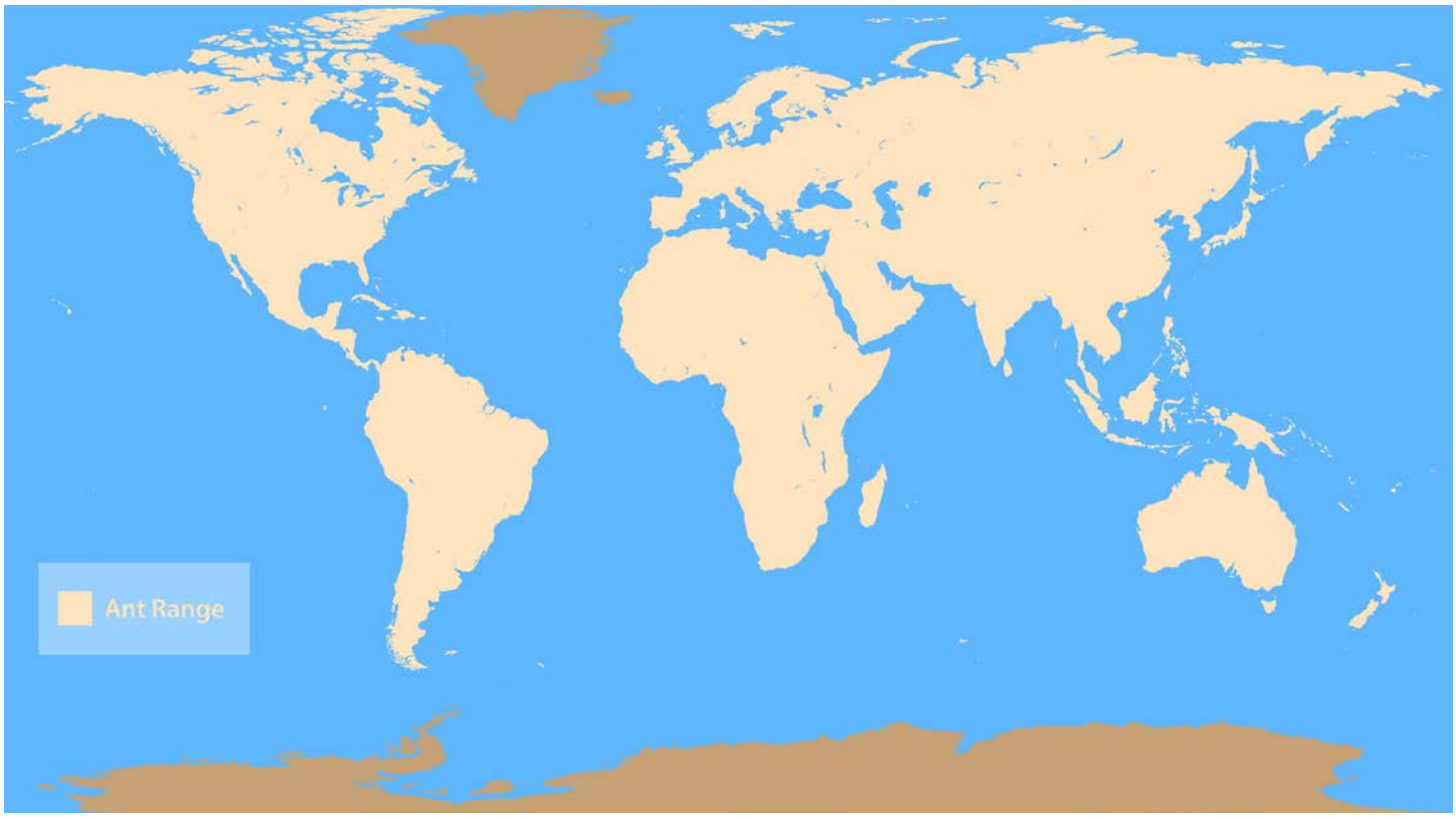
Ant Range Map



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Ants

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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.

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EXPEDITIONARY LEARNING

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

Conducting Research: Asking and Answering our Questions about Rainforest Arthropods

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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)

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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).

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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)

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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.

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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.

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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.

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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.

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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	•

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EXPEDITIONARY LEARNING

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

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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.

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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)

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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

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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.

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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.

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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.

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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?

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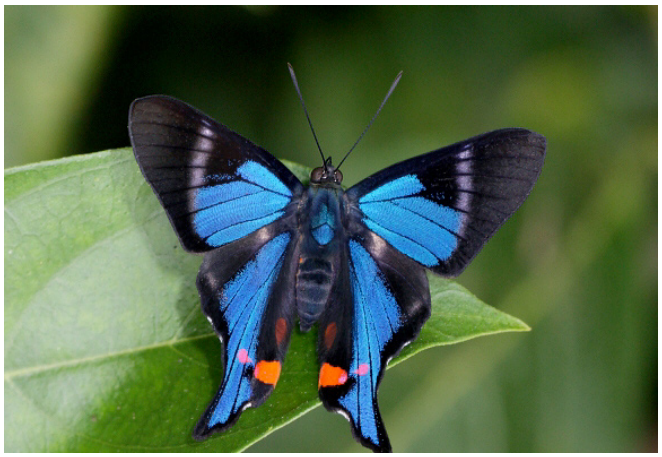
Butterfly Expert Group:
"Rainforest: The Most Precious Environment on Earth"

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.

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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

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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

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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 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.

Fires raging uncontrolled in Rondonia, Brazil

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

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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

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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.

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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.

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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.

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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.

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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.

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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.*	•

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EXPEDITIONARY LEARNING

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

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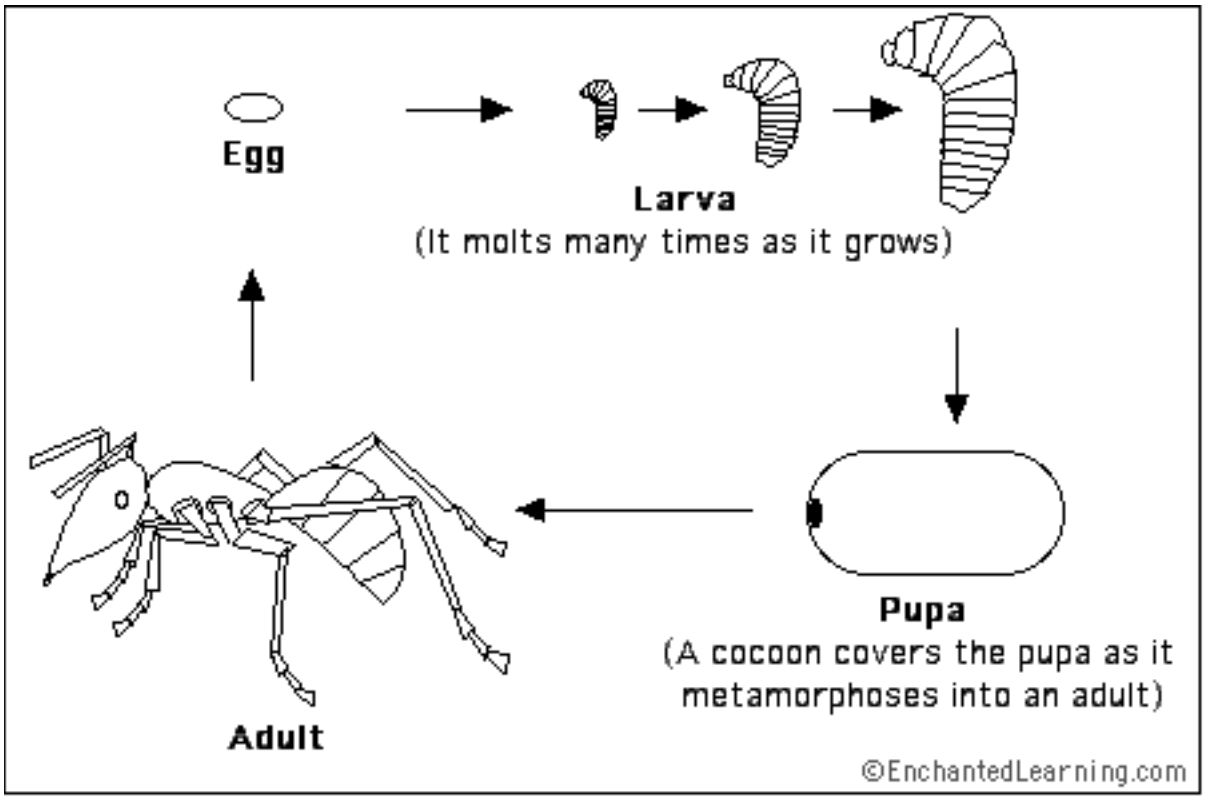
Ant Expert Group Materials:
Ant Life Cycle Graphic

Graphic:



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Text:

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

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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.

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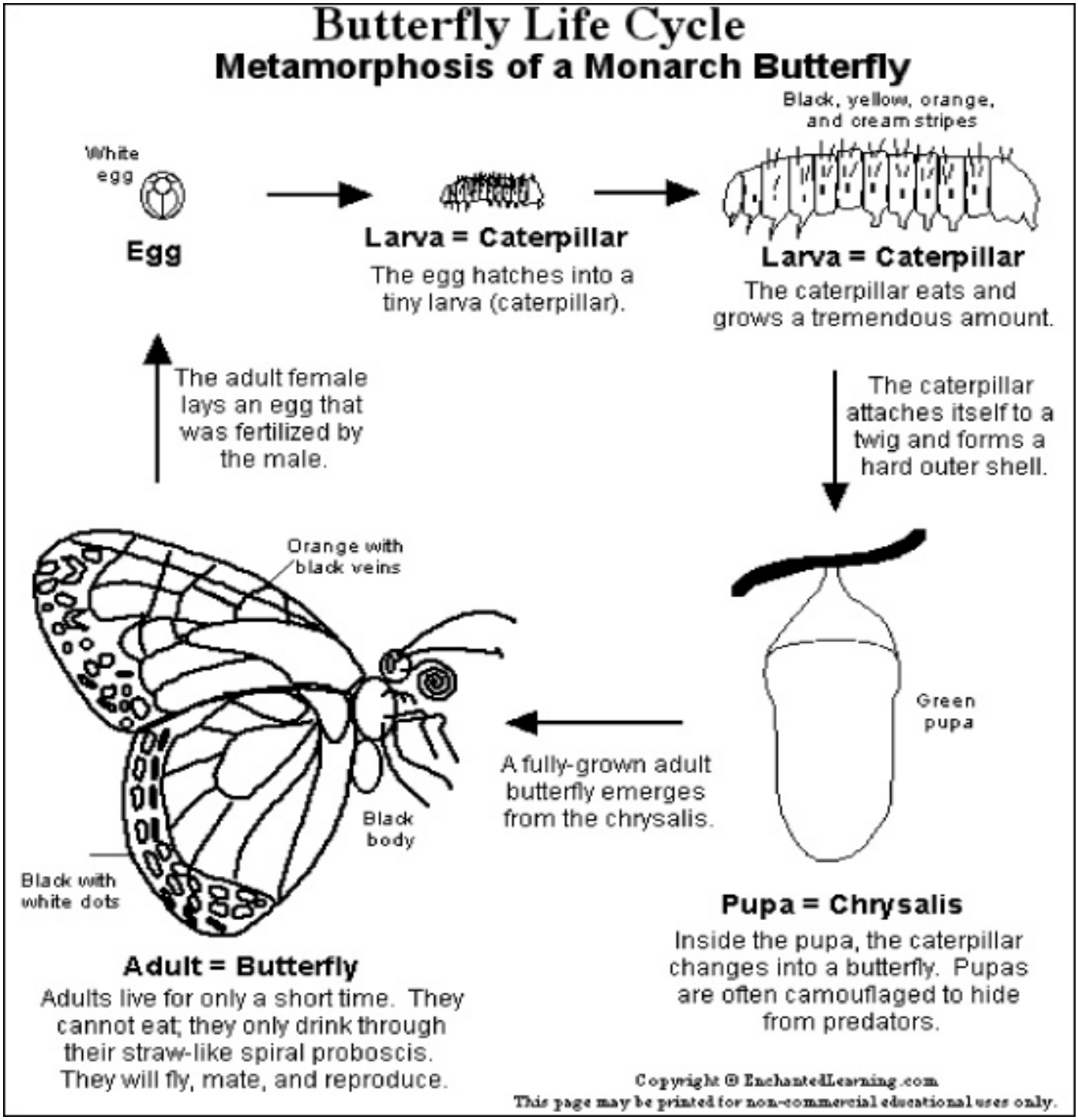
Butterfly Expert Group Materials:
Butterfly Life Cycle Graphic



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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.

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EXPEDITIONARY LEARNING

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

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

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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

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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)

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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.

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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.

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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.

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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.*	•

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EXPEDITIONARY LEARNING

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

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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.

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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)

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Source 2: Howler Monkey (video)

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

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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)

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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?	

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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.		

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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?	

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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?	

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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.

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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		

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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:

_____

_____

_____

_____

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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:

_____

_____

_____

_____

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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

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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

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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)

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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).

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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.	

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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.

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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.

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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.	•

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EXPEDITIONARY LEARNING

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

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Science Talk Note-Catcher

Question: _____

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

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EXPEDITIONARY LEARNING

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

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

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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

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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.

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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)

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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.

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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)
	•

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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.	•

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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.

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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.

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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.

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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!*	•

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EXPEDITIONARY LEARNING

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

Supporting Materials

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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			

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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			

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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

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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.**

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

Draft

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]

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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

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EXPEDITIONARY LEARNING

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

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

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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

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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)

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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.

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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.

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

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 _____.").

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

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.

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

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.	

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EXPEDITIONARY LEARNING

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

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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			

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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.

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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.

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EXPEDITIONARY LEARNING

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

Using Peer Feedback and Summarizing Our Research In Informational Text Boxes

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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

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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)

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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.)

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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.

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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.

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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.*	

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EXPEDITIONARY LEARNING

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

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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.

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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.

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Praise-Question-Suggest Note-Catcher

One compliment I heard from my peer:

One question from my peer:

One suggestion from my peer:

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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:

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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

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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)

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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)

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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.

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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.	•

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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.

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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.	•

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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.*	•

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

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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

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EXPEDITIONARY LEARNING

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

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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

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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

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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.

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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.

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Revising and Polishing Our Final Products

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.	

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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.

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Grade 5: Module 2A: Unit 3: Lesson 14
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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.		

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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.	

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EXPEDITIONARY LEARNING

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

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

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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

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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)

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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.	•

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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.

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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.	•

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

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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:

_____

_____

_____

_____

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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:

_____

_____

_____

_____

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