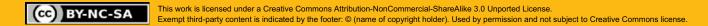


Grade 5: Module 2A:

Overview





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 NJSLS 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 theylearn?
- 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.



GRADE 5: MODULE 2A: OVERVIEW

Researching to Build Knowledge and Teaching Others:

Biodiversity in Rainforests of the Western Hemisphere

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 NJSLS 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.

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.



NJSLS: Reading—Literature Long-Term Learning Targets • RL 5 1 Quote accurately from a text, and make relevant connections • Loan explain what a text says using quotes from the text

NJSLS: Reading—Literature	Long-Term Learning Targets
 RL.5.1. Quote accurately from a text, and make relevant connections 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 the key details in a story, drama or poem to identify the theme and to 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.



NJSLS: Reading—Informational Text	Long-Term Learning Targets
• RI.5.1. Quote accurately from a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from 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.



NJSLS: Reading—Informational Text	Long-Term Learning Targets
• RI.5.9. Integrate and reflect on (e.g. practical knowledge, historical/cultural context, and background knowledge) 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 literary nonfiction at grade level text-complexity or above, with scaffolding as needed.	I can read grade-level informational texts proficiently and independently.
NJSLS: 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. I can read fifth-grade texts with purpose and understanding. I can read fifth-grade texts with fluency.
NJSLS: 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 from text(s), quote directly from text when appropriate. 	 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.





NJSLS: 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 to provide a focus and group related information logically; include text features such as 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 paragraphs and sections 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 mytopic. 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.



NJSLS: Writing	Long-Term Learning Targets
 W.5.7. Conduct short research projects that use several sources to build knowledge through investigation of different perspectives 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.	• I can choose 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]").	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. 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]").	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, metacognition/self-correction 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.



NJSLS: 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. Explicitly draw on previously read text or material 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. Paraphrase portions of a text read aloud or information presented in diverse media and formats (e.g., 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.



NJSLS: 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 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.



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/.





Week	Instructional Focus	Long-Term Targets	Assessments
Unit 1: Buildir	ng Background Knowledge: How Scientists Con	nmunicate about the Living Things of the Rai	nforest
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 (NJSLS RI.5.1, RI.5.2, RI.5.3, RI.5.5, and L.5.4)



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 (NJSLS RI.5.1, RI.5.2, RI.5.4, RI.5.5, RI.5.9 and W.5.1)





Week	Instructional Focus	Long-Term Targets	Assessments
Unit 2: Case	Study: The Most Beautiful Roof in the World: Th	e Work of Rainforest Scientist Meg Lowman	
Weeks 3-5	 Introduction to <i>The Most Beautiful Roof in the World</i>: 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 (NJSLS RI.5.1, RI.5.2, RI.5.4, L.5.4)





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"	that convey ideas and information clearly. Lowman	• End of Unit 2: On-Demand Analysis of Meg Lowman's Research in the Rainforest (NJSLS W.5.2, W.5.4, W.5.8, and W.5.9)
	 Reading for Details: Taking an Inventory in the Rainforest Reading for Fluency: Readers Theater about 	• I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)	
 the Rainforest Interviewing Meg Lowman: What Does It Mean to Be a Responsible Scientist? Analyzing How Rainforest Scientists Communicate Their Research 	• 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)	





Week	Instructional Focus	Long-Term Targets	Assessments
Unit 3: Readir	ng and Writing Like a Scientist: Observing Natur	re, 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 (NJSLS RI.5.1, RI.5.2, RI.5.7, W.5.8, and W.5.9)





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 	 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) 	• End of Unit 3 Assessment: Writing a Field Journal Excerpt on Howler Monkeys (NJSLS W.5.2, W.5.3, W.5.4, W.5.7, W.5.9)
	• Blending Informative and Narrative Writing: Transforming Research Notes into Field Journals	• I can produce clear and coherent writing that is appropriate to task, purpose, and audience. (W.5.4)	
	• Writing and Revising Our Texts: Using Peer Critique to Improve First Drafts	• I can build knowledge about multiple aspects of a topic by conducting research. (W.5.7)	
	• Summarizing Our Research: Creating Informational Text Boxes	• I can use several sources to build my knowledge about a topic. (W.5.7)	
	Revising and Polishing Our Field Journal Pages	I can choose evidence from literary or informational texts to support analysis, reflection, and research. (W.5.9)	