



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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Mid-Unit Assessment	On-Demand Note-Taking about Howler Monkeys This assessment centers on NYSP12 ELA CCSS RI.5.1, RI.5.2, RI.5.7, W.5.8, and W.5.9. Students will be given three unfamiliar informational texts about monkeys and will be asked to take structured notes. The passages will include text, illustrations, and graphic displays of information. Students will read the texts and take notes using a graphic organizer that they create. Completion of this task will assess the students on their ability to locate an answer within a text (RI.5.7) and take notes about a topic (W.5.8), as well as explain what the text says using quotes (RI.5.1) and determine the main idea (RI.5.2).
End of Unit Assessment	On-Demand Note-Taking about Howler Monkeys This assessment centers on NYSP12 ELA CCSS RI.5.1, RI.5.2, RI.5.7, W.5.8, and W.5.9. Students will be given three unfamiliar informational texts about monkeys and will be asked to take structured notes. The passages will include text, illustrations, and graphic displays of information. Students will read the texts and take notes using a graphic organizer that they create. Completion of this task will assess the students on their ability to locate an answer within a text (RI.5.7) and take notes about a topic (W.5.8), as well as explain what the text says using quotes (RI.5.1) and determine the main idea (RI.5.2).
Performance Task	A Rainforest Field Journal Entry After researching scientific texts on an arthropod that Meg Lowman might see in the rainforest, students will write a page from a field journal in which they incorporate information that they have gathered from research. They will also include an informational text box that states how it contributes to the rainforest ecosystem and lists the essential characteristics of that arthropod. This performance task intentionally blends informational and narrative writing, and centers on NYSP12 ELA CCSS RI.5.7, RI 5.9, W.5.2, W.5.3, W.5.4, W.5.5, W.5.7, W.5.8, and W.5.9.



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Content Connections

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

NYS Social Studies Core Curriculum:

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

NYS Science:

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

Central Texts

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



Unit-at-a-Glance

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

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 1	How to Write Like a Scientist in the Field: Introduction to the Elements of Field Journals	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Field Journal Note-catchers Exit tickets
Lesson 2	Learning to Observe Closely and Record Accurately: How to Create a Field Journal	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Students' field journals



Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 3	Writing Narratives from First-Person Point of View: Imagining Meg Lowman's Rainforest Journal	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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 <i>The Most Beautiful Roof in the World</i> to incorporate into a rainforest field journal entry. 	<ul style="list-style-type: none"> Field journals Journals (rainforest field journal entry)
Lesson 4	Taking Notes and Citing Quotes from Text: Gathering Information on Our Rainforest Insects	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Field journals C/F/Q/R Note-catcher
Lesson 5	Structuring the Search: Categorizing Our Research	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Students' field journals Exit tickets



Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 6	Conducting Research: Asking and Answering Our Questions about Rainforest Arthropods	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Students' field journals Students' research notes Admit and exit tickets



Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 8	Mid-Unit 3 Assessment: On-Demand Note-Taking about Howler Monkeys	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Science Talk (observations/notes) Journal: Synthesis Statement



Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 10	Blending Informative and Narrative Writing: Transforming Research Notes into Field Journal Entries	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Rainforest Field Journal graphic organizer
Lesson 11	Writing and Revising Our Texts: Using Peer Critique to Improve First Drafts	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Rainforest Field Journal Entry graphic organizer Postcards
Lesson 12	Using Peer Feedback and Summarizing Our Research in Informational Text Boxes	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Homework questions Peer feedback sheets Exit tickets



Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 13	Revision and Illustration: Strengthening the Writing in My Rainforest Field Journal and Adding a Labeled Drawing	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Field journal entry drafts • Scientific drawings (first draft)
Lesson 14	Revising and Polishing Our Final Products	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Drafts of field journal narratives, informational text boxes, and labeled drawings • Project Management checklists



Unit-at-a-Glance

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment
Lesson 15	End of Unit Assessment: Writing a Rainforest Field Journal Entry about Howler Monkeys	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • End of Unit 3 Assessment • Tracking My Progress, End of Unit 3 recording form



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Optional: Experts, Fieldwork, And Service

Experts:

- Invite a specialist in insects (maybe someone from a local zoo) to come speak to the class or provide feedback on students' draft field journal entries.

Fieldwork:

- Build in time for students to continue working on their field journals in local parks, etc.

Service:

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

Optional: Extensions

- Students create a fully developed field journal page based on their direct observations of their local natural environment.
- Students observe live ants or a model, such as an ant farm, either before or after observing the image of the ant (Lesson 7 extension).

Additional Resources for Teacher Reference

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



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Additional Texts for Specific Lessons

Lesson 1
Field Journals

OPTION A: Ideally, teachers will use any combination of field journals including, but not limited to, these titles. Gather enough texts so every pair of students can look at one text. (Note: Teachers do NOT need to purchase any of these texts.)

The Country Diary of an Edwardian Lady, Edith Holden

Drawn to Nature: Through the Journals of Clare Walker Leslie, Clare Walker Leslie

The Field Guide to Rainforest Animals: Explore the Amazon Jungle, Nancy Honovich

The Field Guide to Safari Animals: Explore Exotic Africa, Paul Beck

Field Notes on Science and Nature, Michael R. Canfield

Keeping a Nature Journal: Discover a Whole New Way of Seeing the World around You, Clare Walker Leslie

Linnea's Almanac, Christina Bjork, and Lena Anderson (illustrator)

A Nature Diary, Richard Adams

Nature in the Neighborhood, Gordon Morrison

The Robin Makes a Laughing Sound: A Birder's Journal, Sallie Wolf

A Trail Through Leaves: The Journal as a Path to Place, Hannah Hinchman (bookmark pages 6, 18, 47, 57, 66, 76, 82, 99, 102, 118, 128–129, 133, 139, 146, 151, 158, 163, 181, 185, and 191)

The Tree of Life: Charles Darwin, Peter Sis



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Additional Texts for Specific Lessons

Lesson 1
Field Journals

OPTION B: If it is not logistically feasible to gather actual field journal books, use these sites:

Field Notes on Science & Nature

www.hup.harvard.edu/features/canfie/
Field journal page (second in the sequence)

The Project Gutenberg EBook of Birds in Town and Village

www.gutenberg.org/files/7353/7353-h/7353-h.htm#II

Digital Collections: John Muir Journals

<http://digitalcollections.pacific.edu/cdm/search/collection/muirjournals>
(This is a link to the journals of naturalist John Muir. Click on the cover of any journal to see inside and then select a page with drawings and text.)

Selections from the Field Journal of William Duncan Strong (Honduras, 1933)

www.nmnh.si.edu/naa/features/strong.htm



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Additional Texts for Specific Lessons	
Lesson 2	A Trail Through Leaves: The Journal as a Path to Place by Hannah Hinchman books.google.com/books?id=iU75CG0IZ6sC&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	Ant Range Map: Overall Species Richness http://www.antmaps.org/
	Enchanted Learning: Ants, Life Cycle graphic http://www.enchantedlearning.com/subjects/insects/ant/
	Enchanted Learning: Butterfly Life Cycle: Metamorphosis of a Monarch Butterfly http://www.enchantedlearning.com/subjects/butterfly/activities/printouts/lifecycle.shtml
	Army Ants vs. Rainforest Land Crab: Monster Bug Wars (8:26) https://www.youtube.com/watch?v=9JniO9aQmLY
Lesson 8	Howler Monkeys http://images.nationalgeographic.com/wpf/sites/kids/NGS/wpf/printcreature/howler-monkey.html
	Howler Monkey http://thinkjungle.com/rainforest-animals/mammals/howler-monkey/



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Additional Texts for Specific Lessons	
Lesson 11	<p>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</p>
	<p>Old York Library: Remember Me to Herald Square: Thirty-fourth Street from River to River http://library.gc.cuny.edu/34th_st/items/browse/?search=postcard&submit_search=Search</p>
Lesson 13	<p>Smithsonian Libraries http://www.sil.si.edu/digitalcollections/bca/explore.cfm</p>
	<p>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</p>
	<p>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</p>
	<p>Rainforest Insects http://kids.mongabay.com/elementary/206.html</p>
	<p>Alex Wild Photography http://www.alexanderwild.com</p>