EXPEDITIONARY LEARNING

Grade 5: Module 2A: Unit 2: Lesson 14
Analyzing How Rainforest Scientists Communicate Their Research (Pages 39–42)

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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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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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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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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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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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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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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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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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Supporting Materials

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.

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.

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.

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.

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.