

Lesson 12: Speaking, Reading, and Writing: Famous Paleontologists and Their Discoveries



CCS Standards

- **RI.2.1:** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
- **RI.2.4:** Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
- **SL.2.1:** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
- **SL.2.1a:** Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
- **W.2.7:** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
- **L.2.6:** Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., *When other kids are happy that makes me happy*).



Daily Learning Targets

- I can answer questions about famous paleontologists using key details in the text *Curious about Fossils*. (RI.2.1, RI.2.4, L.2.6)
- I can write a paragraph about a famous paleontologist. (RI.2.1)

Ongoing Assessment

- During Work Time A, listen for students to answer questions about famous paleontologists using key details in the text *Curious about Fossils*. (RI.2.1, RI.2.4, L.2.6)
- During Work Time B, circulate and observe as students write a paragraph about a famous paleontologist. Notice whether students use the Famous Paleontologists anchor chart as a resource when needed. (W.2.7)
- During the Closing, listen as students share their writing and reflect on their progress toward answering Unit 1 Guiding Questions anchor chart and demonstrating perseverance through their work.

Agenda

1. Opening

A. Engaging the Learner: Curiosities Museum (5 minutes)

2. Work Time

A. Focused Read-aloud: *Curious about Fossils*, Pages 12–15 (20 minutes)

B. Independent Writing: Famous Paleontologists (20 minutes)

3. Closing and Assessment

A. Sharing Our Work: Famous Paleontologists Paragraphs (5 minutes)

B. Celebrating Our Learning: Reflecting on Perseverance (10 minutes)

Teaching Notes

Purpose of lesson and alignment to standards:

- This lesson serves as the culmination lesson for the work of Unit 1. In this lesson, students have the opportunity to share their paragraph writing from the paleontologist's notebook with a classmate. Sharing and celebrating work not only supports students' speaking and listening skills, but also cultivates a sense of pride and ownership in the work.
- During Work Time A, students co-create the Famous Paleontologists anchor chart by gathering information from the focused read-aloud of the excerpt from *Curious about Fossils* by Kate Waters. As students independently write a paragraph during Work Time B, this resource supports their writing.
- During the Closing, students reflect on both their learning and work habits as they consider the Unit 1 guiding questions and habit of character of perseverance.

How this lesson builds on previous work:

- In Lessons 10-11, students composed portions of a paragraph as a scaffold for writing a paragraph independently during Work Time B.
- Continue to use Goal 1 and 2 Conversation Cues to promote productive and equitable conversation.

Areas in which students may need additional support:

- As the scaffold for writing is removed, some students will find it challenging to write a paragraph independently. If needed, consider pairing those students with another student and allowing them to complete their writing together. Alternatively, consider providing one portion of the paragraph (e.g., the focusing statement) and asking the student to write the rest on his or her own.

Down the road:

- In Unit 2, students will deepen their knowledge of paleontology and fossils, as well as strengthen their ability to navigate informational text.

In advance:

- Preview the focused read-aloud of *Curious about Fossils* during Work Time A to familiarize yourself with its content.

- Prepare the Famous Paleontologists anchor chart (see supporting materials).
- Post: Learning targets and applicable anchor charts (see materials list).

Technology & Multimedia

Consider using an interactive white board or document camera to display lesson materials.

- Work Time A: Create the Famous Paleontologists anchor chart in an online format—for example, a Google Doc—for display and for families to access at home to reinforce the learning.
- Work Time B: Students complete page 4 of the paleontologist's notebook using a word-processing tool—for example, a Google Doc.

Supporting English Language Learners

Supports guided in part by CA ELD Standards 2.I.A.1, 2.I.A.2, 2.I.B.6, 2.I.B.8, 2.I.C.9, and 2.I.C.10

Important points in the lesson itself

- The basic design of this lesson supports ELLs by continuing reading and writing routines established in the previous two lessons, providing modeling and scaffolding for writing about famous paleontologists, allowing students to share and take pride in their work and reflect on what they did to persevere.
- ELLs may find it challenging to independently write their famous paleontologist paragraphs in the time allotted. Work closely with and allow extra time for any students who need it. See “Levels of support” below and the Meeting Students’ Needs column for additional suggestions.

Levels of support

For lighter support:

- During Work Time B, challenge students to include adjectives in the sentences they write about their paleontologist. (Example: Mary Anning looked for *tiny* fossils with her dog, Tray, on the *steep* cliffs of her home.) Encourage them to select adjectives from the Adjective Construction board started earlier in the unit, and to add new adjectives.
- Challenge students to create a paragraph frame for students who need heavier support to use during Work Time B. Example:
 - _____ was a famous paleontologist. He/She discovered _____. S/he also found _____.
 - _____ loved studying fossils.

For heavier support:

- During Work Time B, invite students who need heavier support to use the paragraph frame created by more proficient students (example above) when writing their famous paleontologist paragraph.

Universal Design for Learning

- **Multiple Means of Representation (MMR):** In this lesson, students listen to a focused read-aloud of *Curious about Fossils*. Some may need support in integrating new information with prior knowledge during this read-aloud. Offer cues and prompts during reading to draw attention to critical features that support this construction of knowledge. (Example: Highlight the supporting details and explain how they give important information to the reader.)
- **Multiple Means of Action & Expression (MMAE):** To minimize distractions during independent writing, vary the level of sensory stimulation as appropriate for individual students (e.g., offering sound-canceling headphones or dividing workspaces).
- **Multiple Means of Engagement (MME):** In this lesson, sustaining effort and concentration is important for students as they complete the independent writing. Encouraging them in keeping their focus on the goal will support both engagement and motivation. Before students begin writing, consider creating a writing goal that is appropriate for each individual. (Example: After completion of one sentence, place a star or sticker at the goal point so that they can self-monitor their progress as they write.) Some students may also need flexibility with the pace of work and length of work sessions. Consider offering time-outs or finger stretch breaks as student write.

Vocabulary

Key:

(L): Lesson-Specific Vocabulary

(T): Text-Specific Vocabulary

(W): Vocabulary Used in Writing

New:

- famous (L)

Review:

- focus, details, concluding (L)
- prehistoric (T)

Materials

- ✓ Curiosities Museum (begun in Lesson 3; added to during the Opening)
- ✓ Fossil photo #6 (one to display)
- ✓ Fossil photo #6 caption (blank; co-created with students during Work Time A)
- ✓ *Curious about Fossils* (one to display; for teacher read-aloud)
- ✓ Famous Paleontologists anchor chart (new; co-created with students during Work Time A; see supporting materials)
- ✓ Famous Paleontologists anchor chart (answers, for teacher reference)
- ✓ Paleontologist's notebook (from Lesson 10; pages 3–4; one for teacher modeling and one per student)

- ✓ Pencils (one per student)
- ✓ Unit 1 Guiding Questions anchor chart (from Lesson 1; one to display)
- ✓ Working to Become Effective Learners anchor chart (begun in Module 1)

Opening

A. Engaging the Learner: Curiosities Museum (5 minutes)

- Invite students to the whole group area.
- Share with students that they have another fossil to add to the **Curiosities Museum**!
- Display **fossil photo #6** and follow the same process from Lesson 3 to add it to the Curiosities Museum. Use the name and description of the photo of the fossil (“This is Win McLaughlin, a paleontologist who is ready to begin prospecting through sediment to look at the paleosols.”) and the following sentence frame as needed for the **fossil photo #6 caption**:

“This is _____. She is _____.”

Meeting Students' Needs

- To support students in using content vocabulary when sharing their observations, offer several words from the Fossils Word Wall as scaffolds for sharing. Example: Prepare index cards with key vocabulary terms (e.g., *paleontologist*, *rocks*, *fossils*, *discover*). (MMAE)
- For ELLs: In addition to using the vocabulary on the Fossils Word Wall, encourage students to choose adjectives from the Adjective Construction board to describe what they notice in the photograph. Add any new adjectives to the board as students share.

Work Time

A. Focused Read-aloud: *Curious about Fossils*, Pages 12–15 (20 minutes)

- Direct students' attention to the posted learning targets and read the first one aloud:
*“I can answer questions about famous paleontologists using key details in the text **Curious about Fossils**.”*
- Invite students to turn and talk to an elbow partner:
*“What does this learning target mean?” (answer questions about famous paleontologists using important information in the book **Curious about Fossils**)*
- Invite a few students to share out.
- Define *famous* (recognized by or well known to the public).
- Share that this text has a lot of information about famous paleontologists, people who have become well known because of their great work with fossils.
- Display pages 12–13 of *Curious about Fossils*.
- Share that in this text, students will learn about three famous paleontologists, the work they did, and why their work was important.

- Direct students' attention to the **Famous Paleontologists anchor chart** and read the title and column headings aloud, pointing to each one as you read it:
 - “Paleontologist.”
 - “What He or She Did.”
 - “Why It Was Important.”
- Read aloud the information already written on the chart about the first paleontologist: Mary Anning!
- Share that, later in the lesson, students will write about one of the famous paleontologists they will hear about now. Prompt them to listen carefully so they can choose one paleontologist they would like to write about.
- Prompt students to listen carefully for the first paleontologist's name and discovery as you read page 12 aloud.
- Draw students' attention back to the text and read the first two sentences of page 12 aloud.
- Pause from reading and record the paleontologist's name on the Famous Paleontologists anchor chart:
 - “Othniel Charles Marsh.”
- Draw students' attention back to the text and continue reading the remainder of page 12.
- Review the definition of *prehistoric* (belonging to a period of time before written history).
- Explain that this paleontologist thought that prehistoric birds came from dinosaurs, and eventually other scientists agreed with him and accepted his idea.
- Using a total participation technique, invite responses from the group:

“What did you learn about Othniel Charles Marsh on this page?” (collected rocks; discovered many ancient birds; thought ancient birds came from dinosaurs; his theory is now widely accepted)
- As students share, record relevant ideas in the middle and right-hand columns of the Famous Paleontologists anchor chart. Refer to the **Famous Paleontologists anchor chart (answers, for teacher reference)** as necessary.
- Draw students' attention back to the text and read page 13 aloud.
- Using a total participation technique, invite responses from the group:

“What did you learn about Barnum ‘Mr. Bones’ Brown on this page?” (hunted fossils for the museum; found tons of fossils; found the first Tyrannosaurus rex skeleton)
- As students share, record relevant ideas on the Famous Paleontologists anchor chart.
- Draw students' attention back to the text and read pages 14–15 aloud.
- Using a total participation technique, invite responses from the group:

“What did you learn about Charles Doolittle Walcott on this page?” (collected fossils as a child; found lots of fossils in the shale rock; blew it up with dynamite.)
- As students share, record relevant ideas on the Famous Paleontologists anchor chart.
- Remind students that they will write about one of these paleontologists. Invite them to choose one paleontologist, other than Mary Anning, from the anchor chart whom they would like to write about.
- Prompt students to show a quiet signal, such as a thumbs-up or touching their nose, when they have chosen.

- When all students have chosen, invite them to turn and talk to an elbow partner:
“What did you learn about the paleontologist you chose to write about?” (Responses will vary, but should include information about one paleontologist from the chart.)
- Refocus students whole group.
- Share that now students will write a paragraph about the paleontologist they chose.

Meeting Students' Needs

- Provide options for physical action and sensory input by differentiating seating during the focused read-aloud (e.g., sitting on a gym ball, a move-and-sit cushion, or a chair with a resistive elastic band wrapped around the legs). (MMAE, MME)
- For ELLs: Pair students with a partner of greater language proficiency. The partner with greater language can serve as a model in the group, initiating discussions and providing implicit sentence frames.
- For ELLs: Provide sentence frames for students to use when discussing what they learned about each famous paleontologist. Examples:
 - “I learned that [Othniel Charles Marsh] discovered_____.”
 - “[Othniel Charles Marsh] found _____.”
 - “[Othniel Charles Marsh’s] work taught us that _____.”

Work Time

B. Independent Writing: Famous Paleontologists (20 minutes)

- Transition students back to their workspaces.
- Direct students’ attention to the posted learning targets and read the second one aloud:
“I can write a paragraph about a famous paleontologist.”
- Remind students that, in the last lesson, they wrote a paragraph together. Today they will work independently.
- Instruct students to open to page 3 of their **paleontologist’s notebook**.
- Share that this page shows a model paragraph about a famous paleontologist whom students know well: Mary Anning!
- If time permits, refer to the Famous Paleontologists anchor chart and review the information about Mary Anning.
- Briefly reviews the parts of a paragraph: focusing statement, supporting details, and concluding statement.
- Referring to page 3 of the paleontologist’s notebook, remind students that the focusing statement introduces the topic.
- Review the definition of *focus* (to direct to a central point).
- Read the focusing statement on page 3 aloud:
“Mary Anning was a very famous fossil hunter.”
- Remind students that the supporting details give the reader more information about the topic. Review the definition of *detail* (a small item; a particular thing).

- Read the supporting details on page 3 aloud:

“She looked for fossils with her dog, Tray, on the cliffs by her home. She discovered a big sea creature called Ithichthyosaur.”

- Review the definition of *concluding* (bringing to an end; finishing or completing) and remind students that the concluding statement ends the paragraph by telling the reader about the topic again.
- Read the concluding statement on page 3 aloud:

“Mary Anning grew up to be a paleontologist.”

- Direct students’ attention to the Famous Paleontologists anchor chart and invite them to quietly find the information about the paleontologist they have chosen to write about.
- When all students have located the information about their paleontologist, invite students to Think-Pair-Share with an elbow partner:

“Share your plan for writing a focusing statement, supporting details, and a concluding statement with your partner.”

- After 1–2 minutes, refocus students whole group.
- Tell students they will now write their own paragraph about a famous paleontologist on page 4 of their own paleontologist’s notebook.
- Distribute paleontologist notebooks to each student. Invite them to begin writing using the **pencils** already at their workspace.
- Give students 10–12 minutes to work. As they work, circulate and provide support. As needed, refer them to the Famous Paleontologists anchor chart. Also, consider asking students to read their writing aloud.
- Refocus students whole group. Assure those who have not finished that they can come back to their writing at a designated time to complete it.
- Provide brief cleanup directions and invite students back to the whole group area.

Meeting Students’ Needs

- For students who may need additional support with fine motor skills: Offer supportive tools before students begin independent writing (e.g., pencil grips, a slanted desk, a scribe, or the opportunity to type their paragraph). (MMAE)
- For ELLs: Mini Language Dive. Ask students about the meaning of the focusing statement of the model paragraph. “Mary Anning was a very famous fossil hunter.” Examples:

“Who is this sentence about?” (Mary Anning)

“What does this sentence tell us about Mary Anning?” (She was a famous fossil hunter.)

“What does the word very mean? Why do you think the author uses it in this sentence?” (extremely, really; to emphasize how famous Mary Anning was)

“What is another way to say famous?” (well known; popular) Consider listing student ideas on the board.

“What is another way to say fossil hunter?” (paleontologist; bone scientist) Consider listing student ideas on the board.

“Can you say this sentence in your own words? How?” (Responses will vary, but may include: Mary Anning was a well-known paleontologist; Mary Anning was a really famous bone scientist.)

“Use the following sentence frames to talk about the famous paleontologist you will write about: _____ was a very famous _____. _____ was a _____ paleontologist.”

- For ELLs: Invite students who need heavier support to choose the same paleontologist to write about. Consider working with this group to complete their paragraph as a shared or interactive writing experience.
- For students who may need additional support with information processing strategies: Offer a scaffold before students begin writing independently. (Example: Provide a template containing explicit prompts: focusing statement, supporting detail #1, supporting detail #2, and concluding statement.) (MMR)

Closing and Assessment

A. Sharing Our Work: Famous Paleontologists Paragraphs (5 minutes)

- Once settled, invite students to place their paleontologist’s notebook in their lap.
- Tell students they have worked hard to learn and write about paleontologists, and now they will share the paragraph they have written with a partner.
- Guide students through the same partner sharing process as in Lesson 10:
 1. Label yourselves A and B.
 2. Partner B reads page 4 of his or her paleontologist’s notebook aloud to partner A.
 3. Partner A listens closely as partner B reads.
 4. Partners switch roles.
 5. Make a bridge with your arms when both partners have shared.
- After all students have shared, invite them to move back to their spot in the whole group area and collect the paleontologist’s notebooks.

Meeting Students’ Needs

- To increase mastery-oriented feedback as students share with their writing partner, provide feedback that is frequent, timely, and specific to individual pairs of students. (Example: “Your paragraph includes two great sentences that give more detailed information about your paleontologist.”) (MME)

Closing and Assessment

B. Celebrating Our Learning: Reflecting on Perseverance (10 minutes)

- Refer to the posted **Unit 1 Guiding Questions anchor chart** and read them aloud:
 - “What do paleontologists do?”
 - “How do characters respond to major events?”

- Refer to the **Working to Become Effective Learners anchor chart** and briefly review the definition of perseverance.
- Invite students to turn and talk with an elbow partner:
“What does perseverance have to do with the Unit 1 guiding questions?” (Mary Anning persevered to sell her fossils and discover the “sea monster”; paleontologists persevere to dig up and study fossils.)
- Confirm that both Mary Anning and paleontologists use perseverance to complete their work.
- Invite students to Think-Pair-Share with an elbow partner:
“How did you use perseverance in learning to read and write about fossils and paleontologists?” (retold the beginning, middle, and end of the story; answered selected response questions about texts; wrote a paragraph about a famous paleontologist; completed writing in the paleontologist’s notebook)
- Provide a sentence frame as needed:
 - “I showed perseverance in my learning when I ____.”
- Invite students to Think-Pair-Share with an elbow partner:
“How have you seen a classmate show perseverance in his or her learning?” (Responses will vary.)
- Provide a sentence frame, as needed:
 - “____ showed perseverance in his or her learning when he or she ____.”
- As time permits, invite many students to share their observations of other students’ demonstration of this habit of character.
- If productive, cue students to listen carefully and seek to understand:
“Who can tell us what your classmate said in your own words?” (Responses will vary.)
- Celebrate that students have learned a lot about paleontologists, fossils, and character’s responses to major events in this unit. Share that, in the next unit, students will learn about how fossils form and what they can teach us about the earth long ago!

Meeting Students’ Needs

- As students turn and talk with a partner, support access to prior knowledge by prompting them to link the guiding questions and the habit of perseverance. (Example: “Think back to Mary Anning and the perseverance she showed when we read about her.”) (MMR)
- For ELLs: Display, repeat, and rephrase the question. Ask:
“What does perseverance have to do with the guiding questions?”
- Rephrase the question:
“What is one way Mary Anning persevered?”
“What is one way paleontologists persevere?”