

Lesson 10: Close Reading: "Fossils and the Earth Long Ago" Part 1



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.2.2:** Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
- **RI.2.5:** Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
- **W.2.8:** Recall information from experiences or gather information from provided sources to answer a question.
- **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).
- **SL.2.1b:** Build on others' talk in conversations by linking their comments to the remarks of others.
- **L.2.4:** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.
- **L.2.4a:** Use sentence-level context as a clue to the meaning of a word or phrase.
- **L.2.4c:** Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *addition*, *additional*).



Daily Learning Targets

- I can use evidence from the text "Fossils and the Earth Long Ago" to answer questions about how fossils tell us about the earth long ago. (**RI.2.1, RI.2.4, RI.2.5, L.2.4a, L.2.4c**)
- I can make inferences about animals from long ago by closely examining pictures of fossils. (**W.2.8, SL.2.1, SL.2.1a**)

Ongoing Assessment

- At the end of Work Time A, collect students' "Fossils and The Earth Long Ago": Selected Responses Questions and use the Reading Informational Text Checklist (**RI.2.1, RI.2.2, RI.2.5, RI.2.6**) to track students' progress toward reading standards **RI.2.1, RI.2.4, and RI.2.5** (see Assessment Overview and Resources).
- At the end of Work Time A, collect students' "Other Types of Fossils": Selected Responses Questions and use the Language Checklist (**L.2.4a, L.2.4c**) to track students' progress toward **L.2.4a** and **L.2.4c**.
- During Work Time B, monitor students' use of the discussion norms. Refer students to the Classroom Discussion Norms anchor chart when giving support (**SL.2.1, SL.2.1a, SL.2.1b**)

Agenda

1. Opening

A. Building Vocabulary: Interactive Word Wall (10 minutes)

2. Work Time

A. Close Reading: “Fossils and the Earth Long Ago” (30 minutes)

B. Constructing an Explanation: Using Clues to Make Inferences about Animals from Long Ago (15 minutes)

3. Closing and Assessment

A. Reflecting on Learning (5 minutes)

Teaching Notes

Purpose of lesson and alignment to standards:

- This lesson is the third of four lessons in which students begin to read texts independently. In this lesson, students read in pairs to practice the skills they have practiced during whole group close read-alouds. The text, “Fossils and the Earth Long Ago,” is written at a 490 Lexile level, and is of a similar length to the assessment passage in Lesson 12. (**RI.2.1, RI.2.2, RI.2.4, RI.2.5, RI.2.6, L.2.4a, L.2.4c**)
- In Work Time B, students work with partners to match pictures of fossils and the animals they may have come from. This relates back to information they read about in the text “Fossils and the Earth Long Ago.” Students will use their discussion norms and the information gained from the text to make decisions about how to match each photograph. (**SL.2.1, SL.2.1a, SL.2.1b**)
- In Work Time B, students practice writing observations and inferences about what animals were like long ago using one of the pictures they matched. (**W.2.8**)
- In the Closing, students revisit the definition of collaboration by providing examples of how they showed collaboration during their learning.

How this lesson builds on previous work:

- In Lessons 8–9, students experienced a modified whole group version of the Interactive Word Wall protocol. Today, students experience this protocol in a small group setting as formally intended.
- Students learned and practiced defining new words as a group during the close read-aloud of *Fossils*. In this lesson, students start to apply those skills as they read and answer questions with their partners.
- Continue to use Goal 1–3 Conversation Cues to promote productive and equitable conversation.

Areas in which students may need additional support:

- During the Interactive Word Wall protocol, students may continue to find it challenging to make connections between various fossil-related words. Verbalizing the reason for a connection also may be challenging. If needed, provide additional scaffolding for students by limiting the number of words or choosing the word for the student and asking for the

student to think about how the two words are connected. Consider also using sentence stems to support students. (Example: “My word is _____. It means _____. I connected it to _____ because ...”)

- In Work Time A, students work with partners to read through a text independently. For students who may need teacher-level support with reading, consider pulling a small group of students to read the text aloud to them. Consider prioritizing selected response questions to analyze and talk about together before having students answer them independently.

Down the road:

- In this lesson, students practice with a partner responding to selected response questions about using text features and determining the meaning of unknown words. In the following lesson, students work independently on the same types of questions as well as questions about the author’s purpose.
- The Unit 2 Assessment takes place during Lesson 12. This assessment asks students to apply these close reading skills with less scaffolding and independently read a text and answer related selected response questions.

In advance:

- Prepare:
 - Sets of Interactive Word Wall cards and arrow cards for each group (see supporting materials).
 - Collaborating with My Partner During Close Reading anchor chart (see supporting materials).
 - Matching Fossils to Their Animals Activity anchor chart (see supporting materials).
 - Matching Fossils to Their Animals Activity during Work Time B by making enough copies of the organizer for each partnership, and cutting apart pictures for each partnership. Paperclip these pictures to the Matching Fossils to Their Animals graphic organizer.
- Create groups of four to five students for the Interactive Word Wall protocol.
- Review the Interactive Word Wall protocol. (Refer to the Classroom Protocols document for the full version of the protocol.) Additionally, watch the “Interactive Word Wall Protocol” video to prepare for when students participate in this protocol in Work Time A (<https://vimeo.com/channels/eleducationk5curriculum>)
- Post: Learning targets and applicable anchor charts (see materials list).

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

- Work Times A and B: Students compete “Fossils and the Earth Long Ago”: Selected Response Questions and page 12 of their paleontologist’s notebook using word processing software, for example a Google Doc.
- Work Times A and B: Students use Speech to Text facilities activated on devices, or using an app or software like Dictation.io (<https://dictation.io/speech>).
- Work Time B: Create a slideshow of the images from the set of Pictures of Fossils and Pictures of Animals from Long Ago.

Supporting English Language Learners

Supports guided in part by CA ELD Standards **2.I.A.1**, **2.I.B.6**, **2.I.C.10**, and **2.I.C.12**

Important points in the lesson itself

- The basic design of this lesson supports ELLs with explicit instruction applying strategies for answering selected response questions and with opportunities to participate in task-based, authentic communicative exchanges.
- ELLs may find it challenging to process the information presented in “Fossils and the Earth Long Ago,” and to answer the related selected response questions. It may be necessary to reread aloud key parts of the article and to read aloud the questions and response choices multiple times. Support students in rephrasing and conceptualizing each selected response question.

Levels of support

For lighter support:

- The supports in this lesson and Lesson 11 are similar to the supports in Lessons 8–9 because the tasks mirror one another. Based on student performance in Lessons 8–9, consider releasing students from some of the supports applied in those lessons to foster independence and to assess student progress.

For heavier support:

- Work closely with a small group of students who need heavier support and guide them through each selected response question together. Support them as they read, paraphrase, and comprehend each question and response. Think aloud with them as they answer each question.

Universal Design for Learning

- **Multiple Means of Representation (MMR):** In this lesson, students reflect on how they use collaboration in working toward the learning targets. To maximize generalization, invite students to practice sharing a definition of this term. Provide explicit feedback to ensure students have an accurate understanding of this word and its meaning.
- **Multiple Means of Action & Expression (MMAE):** In Work Time A, students recall the gist of the first and second sections of “Fossils and the Earth Long Ago.” Support working

memory by scaffolding organization of information. (Example: Offer partially filled-in concept maps of sections 1 and 2 for students to reference as they recall the gist.)

- **Multiple Means of Engagement (MME):** As students interact with the text “Fossils and the Earth Long Ago” in a close read, support persistence and highlight sustained effort by providing examples of how to problem-solve when they encounter an unfamiliar word. Emphasize process and effort by modeling how to sound out a word with tricky spelling, look for a familiar spelling pattern in the word, or ask for help.

Vocabulary

Key:

(L): Lesson-Specific Vocabulary

(T): Text-Specific Vocabulary

(W): Vocabulary Used in Writing

New:

- sedimentary rock, layers, information, examine (T)

Review:

- paleontologist, fossils, clues, excavate, fossilization, decay, preserved, petrified, surrounding, bones, ancient, hardened, pressure, layers, buried, inference (L)

Materials

- ✓ Interactive Word Wall cards (one set per group)
- ✓ Arrow cards (one set per group)
- ✓ “Fossils and the Earth Long Ago” (one per student)
- ✓ Equity sticks (class set; one per student)
- ✓ Strategies to Answer Selected Response Questions anchor chart (begun in Unit 1, Lesson 2)
- ✓ “Fossils and the Earth Long Ago”: Selected Response Questions (one per student)
- ✓ Reading Informational Text Checklist (for teacher reference; see Assessment Overview and Resources)
- ✓ “Fossils and the Earth Long Ago”: Selected Responses Questions (answers, for teacher reference)
- ✓ Pictures of Fossils and Pictures of Animals from Long Ago (one set per pair)
- ✓ Matching Fossils to Their Animals graphic organizer (one set per pair)
- ✓ Matching Fossils to Their Animals Activity anchor chart (new; teacher-created; see supporting materials)
- ✓ Matching Fossils to Their Animals graphic organizer (answers, for teacher reference)
- ✓ Paleontologist’s notebook (from Unit 1; Lesson 10; page 12; one per student and one to display)
- ✓ Paleontologist’s notebook (from Unit 1, Lesson 10, example, for teacher reference)

Opening

A. Building Vocabulary: Interactive Word Wall (10 minutes)

- Invite students to the whole group meeting area.
- Tell students they are going to use the Interactive Word Wall protocol to better understand words about fossils. Remind them that they used this protocol in Lessons 8 and 9, and review as necessary. (Refer to the Classroom Protocols document for the full version of the protocol.)
- Follow the same routine from Lessons 8–9 to read each **Interactive Word Wall card** aloud. Hold up each card in the set, reading the word aloud. Make sure all students can see the word and picture icon on each card.
- Tell students that today, they will work in small groups to complete the protocol.
- Move students into groups and distribute Interactive Word Wall cards and **arrow cards**.
- Guide students through the Interactive Word Wall protocol and circulate to support them as needed.
- Refocus whole group and give students specific, positive feedback regarding their participation in the protocol. (Example: “I noticed that Aziz waited for his turn and made a connection between two words.”)
- Invite students to turn and talk with an elbow partner:

“What step in this protocol did you do well?” (I sat in the circle, I waited my turn, I connected two cards, I explained my connection.)
- Invite several students to share out. If there is a particularly challenging step for all groups, consider re-modeling that portion of the protocol briefly.

Meeting Students' Needs

- For students who may be uncomfortable sharing their own ideas with the entire class: Consider allowing them to share what their partner said so that they still have a chance to speak in front of the class. (MME)
- For ELLs: Consider inviting students to discuss the meaning of the Interactive Word Wall cards in home language groups before beginning the Interactive Word Wall protocol.
- For ELLs: Check for comprehension by inviting students to paraphrase the rationale for each connection in their own words. Restate or rephrase as necessary.

Work Time

A. Close Reading: “Fossils and the Earth Long Ago” (30 minutes)

- Remind students that in the past two lessons they worked hard to closely read “Other Types of Fossils” with a partner and independently.
- Using a total participation technique, invite responses from the group:

“What did you learn about fossils from reading this article?” (We learned about different kinds of fossils.)
- Tell students that today they are going to closely read another article with their reading partners.

- Direct students' attention to the posted learning targets and read the first one aloud:
"I can use evidence from the text 'Fossils and the Earth Long Ago' to answer questions about how fossils tell us about the earth long ago."
- Display "**Fossils and the Earth Long Ago**" and invite students to Think-Pair-Share with an elbow partner:
"What text features do you notice in article?" (There is a title. There are headings. There are words that are bolded.)
- If productive, use a Goal 3 Conversation Cue to challenge students:
"What if there were no text features? I'll give you time to think and discuss with a partner." (It would be harder to read; we wouldn't know what to expect.)
- Remind students that the first thing close readers do when they read a text independently is to read the whole text and think about what it is mostly about.
- Using a total participation technique, invite responses from the group:
"What is the word that readers use to describe what the text is mostly about?" (gist)
- Remind students that when close readers think about the gist, they don't look for the small details in the text. They think about what the whole text or sections of the text is mostly about.
- Explain to students that you will read aloud the whole text once before they start working with their partners.
- While still displaying "Fossils and the Earth Long Ago," complete a first read of the text. If necessary, define *layers* (a surface of one material that lies over a surface of another material). Point out the layers in the picture that accompanies the first paragraph of the text.
- Invite students to Think-Pair-Share with an elbow partner:
"What is the gist of this text? What it mostly about?" (It is about how fossils can tell us what the earth was like a long time ago.)
- Tell students that before they start reading with their partners, a partnership is going to read a few sentences in front of the class and remind everyone of what it looks like to closely read a text with a partner.
- Invite a pair to the front of the class.
- Choose a partnership that will be able to model the following behaviors: Read one sentence at a time clearly and with expression, read loudly enough so the partner can hear, use strategies if the partner gets stuck on a word.
- Have one student read the first few sentences from the section "Rock Layers."
- Ask:
"What did these reading partners do to collaborate?" (Examples: One partner read while the other partner listened. The partner read one sentence at a time. One partner read clearly and loudly enough for his or her partner to hear, etc.)
"How can we support or collaborate with our partner if he or she gets stuck on a word?" (Give them him or her time to think. Show him or her the spelling pattern and break up the word for him or her.)
- Use **equity sticks** to call on a few students to share out.

- Invite students to Think-Pair-Share with their reading partners to share ideas from the chart. (Examples: Give them time to think. Show them the spelling pattern and break up the word for them.)
- Invite students to turn and talk with an elbow partner:
“What habit will you practice as you work with your reading partner?” (collaboration, responsibility)
- Distribute “Fossils and the Earth Long Ago” and guide students through the routine establish in Lesson 8 to:
 - Read the first two sections, “Rock Layers” and “Learning from Fossils,” with their partner.
 - Discuss the gist of each section with their partner.
 - Discuss the gist of each section as a class. (The gist of the first section is that studying layers of rock can help us learn about what the earth was like long ago. The gist of the second section is that fossils can give us clues about what animals were like long ago.)
- Give students specific, positive feedback on reading closely with their partner. (Example: “You took turns reading each section. You gave your partner time to figure out a tricky word.”)
- Tell students that now that they understand the gist of each section, they will answer some selected response questions about the first two sections of the article, similar to Lesson 8.
- Review the **Strategies to Answer Selected Response Questions anchor chart**.
- Distribute and display **“Fossils and the Earth Long Ago”: Selected Response Questions**.
- Read the first question aloud.
- Invite students to work with their reading partner to determine the answer. (B: Rocks made from layers of mud and sand)
- Invite students to work with their reading partner to consider how they determined this answer. (Response may vary. Examples: We read through options. We went back to the article to find the answer. We crossed out ones that were wrong. We circled the right answer.)
- Discuss the answer and strategies as a class.
- Invite students to complete questions #2–6 with their reading partners.
- Circulate to support students as they work with their partners. Encourage them to refer to the Strategies to Answers Selected Response Questions anchor chart as needed. Consider using the **Reading Informational Checklist** to gather data on students’ progress toward RI.2.1, RI.2.2, RI.2.4, RI.2.5, RI.2.6, L.2.4a, L.2.4c.
- After about 10 minutes, refocus whole group.
- Remind students that the most important thing about reviewing these questions together is to think about how we figured out our answer. This process will help us make sure we are learning as much from the text as possible.
- Use equity sticks to select students to share out their answers for questions #2–6 and clarify any misconceptions. Refer to the **“Fossils and the Earth Long Ago”: Selected Response Questions (answers, for teacher reference)** as necessary.
- Give students specific, positive feedback on their close reading skills. Tell students they will finish the rest of the article tomorrow.

Meeting Students' Needs

- To support comprehension before students read with a partner, provide explicit prompts to scaffold the selected response questions that follow. (Example: Consider highlighting or underlining key phrases in their individual copy of "Other Types of Fossils.") (MMR)
- For ELLs: Remind students that if they see a tricky sentence or question, they can try to break it up into chunks as if they are doing a Language Dive (See Meeting Students' Needs column in Lesson 8.) Model breaking up a sentence and asking: "What is this sentence about? What is happening in the sentence? What is this question asking me? How does each chunk give me more information about the sentence?"
- For ELLs: Consider pairing students with a partner who has more advanced or native language proficiency. The partner with greater language proficiency can serve as a model in the pair, initiating discussions and providing implicit sentence frames, for example.
- For ELLs: Model determining the gist of one section and writing it on the margins of the text next to the corresponding paragraph. (Example: Next to Paragraph 2, write: "fossils give us clues.")
- For ELLs: Reread the selected response question and response items aloud as necessary while students take a minute to choose their answers.
- For ELLs: Encourage students to rephrase each selected response question—and answer it—before they read each answer choice. Example:
"Think about what the question is asking."
- Look at the first question:
"What can happen to insects that land in sap? How else can we ask this question?"
(What happens when bugs get in sticky sap?)
- For ELLs: After revealing the answer of the selected response question, take additional time to unpack the language in each response. Discuss what made each response a correct or incorrect. (Example: "So why isn't response a correct? Right, we know paleontologists learn about plants and animals, not mud and sand!")

Work Time

B. Constructing an Explanation: Using Clues to Make Inferences about Animals from Long Ago (15 minutes)

- Gather students back in the whole group meeting area.
- Tell students that in the article "Fossils and the Earth Long Ago," the section with the heading "Learning from Fossils" told us the paleontologists study fossils from long ago to learn about what animals were like long ago.
- Tell students that they are going to be paleontologists today and practice making *inferences* about what animals were like long ago by studying different pictures of fossils. Remind students that an *inference* is a statement that scientists make using evidence or observation that they believe to be true.

- Direct students' attention to the posted learning targets and read the second one aloud:

“I can make inferences about animals from long ago by closely examining pictures of fossils.”
- Remind students that paleontologists put fossils together and, from these pieces, make their best guess about what this animal looked like long ago.
- Display the **Pictures of Fossils, Pictures of Animals from Long Ago**, and the **Matching Fossils to Their Animals graphic organizer**. Tell students that they will receive pictures of different types of fossils and different pictures of what this animal may have looked, and they will collaborate with their reading partner to first match the pictures together.
- Direct students' attention to the **Matching Fossils to Their Animals Activity anchor chart**. Read through the steps with students.
- Answer clarifying questions.
- Tell students that, just like they used collaboration to read the article together, they will also be collaborating as they match.
- Using a total participation technique, invite responses from the group:

“How will you collaborate with your partner?” (take turns, listen closely, speaking, agree or disagree respectfully, take turns holding the cards)
- Distribute the Pictures of Fossils, Pictures of Animals from Long Ago, and the Matching Fossils to Their Animals graphic organizer.
- Release students back to their workspaces to match with their partners.
- After 7–8 minutes, refocus whole group. Use equity sticks to select partnerships to share out their answers and clarify any misconceptions. Refer to the **Matching Fossils to Their Animals graphic organizer (example, for teacher reference)** as necessary.
- Invite students to clean up their materials.
- Tell students that they will now choose one of the fossils and animal pictures that go along with it to make an inference using the details from the picture. They will make an inference about what this animal did by studying the fossil closely.
- Display “Fossils and the Earth Long Ago.” Reread the section entitled “Learning from Fossils.” Tell students that they are going to be just like paleontologists and practice making inferences about these animals from long ago.
- Invite students to retrieve their **paleontologist’s notebook** and turn to page 12.
- Invite students to point to the picture they are going to closely observe and make an inference about.
- Invite students to turn and talk with an elbow partner:

“What details do you notice in your chosen picture?” (Responses will vary, but may include: I notice that this fossil has sharp teeth. I notice that this fossil has small feet.)

“What inference can you draw based on these details?” (Responses will vary, but may include: My inference is that this animal ate meat. My inference is that this animal could run quickly.)
- Provide sentence frames as necessary:
 - “I notice ____.”
 - “My inference is that _____. I think that because _____.”
- Invite students to complete page 12 in their paleontologist’s notebook.

- Circulate to support students as necessary. Encourage students to use the Interactive High-Frequency Word Wall to spell tricky words. Refer to the **paleontologist's notebook (example, for teacher reference)** as necessary.
- If productive, use a Goal 3 Conversation Cue to encourage students to think about their thinking

“How does making inferences add to your understanding of what the earth was like long ago? I'll give you time to think and discuss with a partner.” (Responses will vary.)

Meeting Students' Needs

- To activate background knowledge for the word *inference* and support understanding of language, provide a concrete example that relates to students' lives. (Example: “If I said that I put on my coat, hat, boots, and mittens before going outside, what inference could you make about the weather outside?”) (MMR)
- For ELLs: Introduce language that partners can use with one another as they collaborate to sort the pictures. (Examples: “I think this fossil goes with this animal because _____. What do you think?” “I am not sure how to match this one. Do you have any ideas?”)
- For ELLs: Provide sentence frames to support students as they write page 12 of their Paleontologist's notebooks. (Example: “We can learn _____.”)

Closing and Assessment

A. Reflecting on Learning (5 minutes)

- Direct students' attention to the posted learning targets and reread them aloud:
“I can use evidence from the text ‘Fossils and the Earth Long Ago’ to answer questions about how fossils tell us about the earth long ago.
“I can make inferences about animals from long ago by closely examining pictures of fossils.”
- Invite students to Think-Pair-Share with an elbow partner:
“How did you use collaboration to meet one of the learning targets today?” (Responses will vary.)
- Cold call on a few students to share out.

Meeting Students' Needs

- To provide options for expression, invite students to write or draw to show how they used collaboration in the lesson. (MMAE)
- For ELLs: Invite students, whole class, to generate ideas about how they showed collaboration. Record and display student thinking. Invite students to draw from these ideas as they think about and discuss ways they showed collaboration with their partners. (Examples: working together, taking turns matching pictures.)