

Lesson 9: Small Group Research: Using Photos to Gather Information about Insect Pollinators



- **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.2.3:** Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a 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.
- **RI.2.7:** Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- **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).
- **SL.2.2:** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.



Daily Learning Targets

- I can collaborate with classmates to research information about a pollinator using photographs. (RI.2.5, RI.2.7, W.2.7)
- I can create and label a scientific drawing of my pollinator. (W.2.7)

Ongoing Assessment

- During Work Time A, circulate and observe while students collaborate (observing photos and recording notes) to track students' progress toward RI.2.5 and W.2.7.
- During the Closing, circulate and listen for students to share details about their scientific drawing and what they learned about bees through their research. (W.2.7, SL.2.2)
- After Work Time B, collect students' Plants and Pollinators research notebook, Part II and use page 10 to document progress toward W.2.7.

Agenda

1. Opening

- A. Entrance Ticket: "It's Pollination Time" (5 minutes)

2. Work Time

- A. Close Viewing Protocol: Pollinator Research Photographs (15 minutes)
- B. Shared Writing: Research about Pollinators: Class Notes (15 minutes)
- C. Scientific Drawing of Our Pollinators: Shape and Size (20 minutes)

3. Closing and Assessment

- A. Reflecting on Learning (5 minutes)

Teaching Notes

Purpose of lesson and alignment to standards:

- Lesson 9 is the final research session for this unit. In Work Time A, students use photographs as a form of visual text to continue practicing closely observing and taking notes about their insect pollinator.
- In Work Time B, the teacher and students add to the Research about Pollinators: Class Notes. Students then add these notes to their Research about Pollinators: Student Notes on page 10 of the Plants and Pollinators research notebook, Part II (RI.2.1, RI.2.7, W.2.7).
- In Work Time C, students complete a second, new scientific drawing of their pollinator. This is the final drawing session for this unit, where students have practiced observing closely with focus on shape and size to draw just what they can see in a photograph. Consider using magnifying glasses to help students examine photographs even more closely (RI.2.1, RI.2.3, RI.2.4, W.2.7).

How this lesson builds on previous work:

- In Lesson 8, students used the text *What Is Pollination?* to gather information about their insect pollinators. In this lesson, students continue to research using photographs instead of written text.
- In Work Time C, students apply the scientific drawing skills they learned in Lessons 5–8 to a final, new drawing of their pollinator.

Areas in which students may need additional support:

- In the Opening, some students may experience difficulty accurately choosing adjectives and adverbs for the Entrance Ticket: “It’s Pollination Time.” Consider the use of strategic partnerships, or a small, teacher-guided group to complete the entrance ticket.

Down the road:

- During Work Time A, students work in small groups to collect information relevant to the unit guiding question using photos of their insect pollinators. In Lesson 10, students will process their notes by preparing for a Science Talk.
- Students will use their Research about Pollinators: Student Notes from Lessons 8–9 to write an informational text for the Unit 2 Assessment in Lessons 13–14.

In advance:

- Prepare pollinator photographs (in color, if possible) for pairs in each research group to have one photo to begin Work Time A (see supporting Materials). Pairs will trade their photo with other pairs from within their small research group every few minutes. By the end of Work Time A, students should observe all four photos for their pollinator group.
- Preview the pollinator photos being used in Work Time A to support student observations and note-taking.
- Post: Learning targets; “It’s Pollination Time,” Version 1; and applicable anchor charts.

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

- Continue to use the technology tools recommended throughout Modules 1 and 2 to create anchor charts to share with families; to record students as they participate in discussions and protocols to review with students later and to share with families; and for students to listen to and annotate text, record ideas on note-catchers, and word-process writing.

Supporting English Language Learners

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

Important points in the lesson itself

- The basic design of this lesson supports ELLs with opportunities to use photographs to strategically to gather information.
- ELLs may find it challenging to comprehend the academic Vocabulary found in *What Is Pollination?* and in their class notes. Guide students through a Language Dive conversation (see Levels of Support below and Meeting Students' Needs column).
- In Work Time C of this lesson, ELLs may participate in an optional Language Dive that guides them through the meaning of a sentence from *What Is Pollination?* The focus of this Language Dive is using the sentence to determine the meaning of unknown Vocabulary (L.2.4a). Students then apply their understanding of the meaning and structure of this sentence when adding information to their Research about Pollinators: Student Notes and writing their informational paragraphs for the Unit 2 Assessment. Preview the Language Dive Guide and consider how to invite conversation among students to address the language goals suggested under each sentence strip chunk (see supporting Materials). Refer to the Module 1 Appendix for additional information regarding a consistent Language Dive routine.

Levels of support

For lighter support:

- Encourage students to use Conversation Cues with other students to promote productive and equitable conversation and enhance language development.

For heavier support:

- During Work Time B, invite students to create sentence strip pieces with the names of their group's pollinators. While introducing the focus statement about bees from Lesson 7, invite them to the front to place their sentence strips over the word *bees*. This demonstrates that the focus statement is applicable to their pollinators.

Universal Design for Learning

- **Multiple Means of Representation (MMR):** Continue to reduce barriers to metacognition in this lesson by providing a visual reminder of the focus for each activity. For example, display the question on chart paper or sentence strip, or offer an index card with the questions to individual students.
- **Multiple Means of Action & Expression (MMAE):** Continue to support students' ability to appropriately express knowledge about the content by varying the options for composition and communication. Match students' abilities and the demands of the writing task by offering alternatives for students to articulate their research.
- **Multiple Means of Engagement (MME):** As students engage with the texts during this lesson, continue to support students in linking the information presented back to the learning target to emphasize and remind them of the instructional goal.

Vocabulary

Key:

(L): Lesson-Specific Vocabulary

(T): Text-Specific Vocabulary

(W): Vocabulary Used in Writing

Review

- pollinator, collaborate, adjective, adverb, noun, verb (L)

Materials

- ✓ Entrance Ticket: "It's Pollination Time" (one per student and one to display)
- ✓ "It's Pollination Time," Version 1 (from Lesson 5; one to display)
- ✓ Research about Pollinators: Class Notes (begun in Lesson 8)
- ✓ Close Viewing Protocol anchor chart (begun in Module 2)
- ✓ Pollinator Photographs: Butterflies and moths photographs #3–6 for research (one per pair in this research group)
- ✓ Pollinator Photographs: Flies and wasps photographs #3–6 (one per pair in this research group)
- ✓ Pollinator Photographs: Beetles photographs #3–6 (one per pair in this research group)
- ✓ Sticky notes (three to four per student)
- ✓ Plants and Pollinators research notebook, Part II (from Lesson 1; pages 10 and 12; one per student and one to display)
- ✓ Plants and Pollinators research notebook, Part II (from Lesson 1; example, for teacher reference)
- ✓ Research about Pollinators: Class Notes (begun in Lesson 8; example, for teacher reference)
- ✓ Focus statement sentence strip (from Lesson 7; one to display)

- ✓ Scientific Drawing anchor chart (begun in Lesson 5)
- ✓ Butterflies and moths photographs #1–2 (from Lesson 8; enough for half of this research group to have photograph #1 and the other half to have photograph #2)
- ✓ Wasps and flies photographs #1–2 (from Lesson 8; enough for half of this research group to have photograph #1 and the other half to have photograph #2)
- ✓ Beetles photographs #1–2 (from Lesson 8; enough for half of this research group to have photograph #1 and the other half to have photograph #2)
- ✓ Language Dive Guide III: *What Is Pollination?* (optional; for ELLs; for teacher reference)
 - Questions We Can Ask during a Language Dive anchor chart (begun in Unit 1, Lesson 8)
 - Language Dive Chunk Chart III: *What Is Pollination?* (optional; for ELLs; for teacher reference)
 - Language Dive Sentence Strip Chunks III: *What Is Pollination?* (optional; for ELLs; one to display)
 - Language Dive Note-catcher III: *What is Pollination?* (optional; for ELLs; one per student and one to display)
- ✓ What Researchers Do anchor chart (begun in Unit 1, Lesson 2)

Opening

A. Entrance Ticket: “It’s Pollination Time” (5 minutes)

- Focus whole group. Remind students that this week they have been working with the lyrics to “It’s Pollination Time” to work on how to use adjectives and adverbs to describe nouns and verbs. Share that you have a challenge for them today!
- Tell students that they will each receive a line of the song with some words missing, and their job is to use the word bank to find an adjective and adverb that can complete the sentence.
- Distribute the **Entrance Ticket: “It’s Pollination Time”** and read the directions aloud. Answer clarifying questions.
- Invite students to complete the entrance ticket. Circulate to support students as needed.
- After 3–4 minutes, gather students whole group and collect the entrance tickets.
- Display **“It’s Pollination Time,” Version 1** and invite students to sing the song and make the movements created in Lesson 6. At the end of the song, invite students to sit with their pollinator research groups.

Meeting Students’ Needs

- For students who may need additional support with comprehension: Scaffold differentiation of parts of speech by highlighting the adjectives in blue and the adverbs in green on the entrance ticket. (MMR)

Work Time

A. Close Viewing Protocol: Pollinator Research Photographs (15 minutes)

- Refocus whole group. Remind students that their small group research process will mirror the whole class research they conducted about bees.
- Display the **Research about Pollinators: Class Notes** and review the column heading. Remind students that these columns will help focus their work again today.
- Point out that they have already added notes to their Research about Pollinators: Student Notes using the text *What Is Pollination?* Tell them that today they are going to add new notes by closely looking at photographs of their pollinator using the Close Viewing protocol. Remind students that they used this protocol in Lesson 6 and review as necessary using the **Close Viewing Protocol anchor chart**. (Refer to the Classroom Protocols document for the full version of the protocol.)
 - Transition students to their workspace with their research groups from Lesson 8. Point out that **pollinator photographs, sticky notes, and Plants and Pollinators research notebooks, Part II** already there.
 - Guide students through the protocol using the pollinator photographs, inviting them to trade photographs with another pair in their research group every 2–3 minutes.
 - Remind students to refer to the headings from the Research about Pollinators: Student Notes on page 10 of their Plants and Pollinators research notebook, Part II to guide their observations as they discuss the photographs.
 - Circulate to support students in noting words and phrases on their sticky notes based on their observations. Encourage students to stick the note to their Research about Pollinators: Student Notes in the related column.
- After 8–9 minutes, invite pairs to transition to the group meeting space while singing “It’s Pollination Time,” bringing their notebooks and sticky notes with them.

Meeting Students’ Needs

- For ELLs and students who may need additional support with organizing ideas for written expression: (Using Language to Make Observations) Suggest language for collaborating and writing based on information from photographs. Examples:
 - “I observe ____, so I will write ____.”
 - “Some information I found in this picture is ____.”
 - “I observe _____. Can you help me describe it in words?” (MMAE)

Work Time

B. Shared Writing: Research about Pollinators: Class Notes (15 minutes)

- Refocus students and invite them to turn and talk to share a piece of new information that they have gathered.
- Turn and Talk:

“What new information did you write on your sticky notes after closely viewing the photographs?”
- Follow the routine from Work Time B of Lesson 5 for students to share their findings, add relevant notes to the Research about Pollinators: Class Notes, and add information to their Research about Pollinators: Student Notes on page 10 in their notebooks. Refer to the **Plants and Pollinators research notebook, Part II (example, for teacher reference)** as necessary.
- Display the **focus statement sentence strip** about bees from Lesson 7. Remind students that the focus statement helps us use our research findings in our writing.
- Direct students’ attention to the Research about Pollinators: Class Notes and focus students on the research question. Remind them that they have the same research question for their small group.
- Say:

“Give a thumbs-up if it is true that your pollinator helps plants grow and survive!”
- Check for student responses and clarify misconceptions as needed by referring to the **Research about Pollinators: Class Notes (example, for teacher reference)**.
- Say:

“Since it is true that all of our pollinators help plants grow and survive, we can use the same focus statement by changing the word bee to the name of the pollinator for your group.”
- Direct students to copy the focus statement onto their Research about Pollinators: Student Notes, replacing the word *bee* with the name of their specific pollinator.
- Invite students to give partners a fist bump to acknowledge their hard work.

Meeting Students’ Needs

- For ELLs: (Comparing Information: Lighter Support) Prompt students to ask one another probing questions as they decide if their notes contain similar information to another’s notes. (Example: “What information does your note give us that is different from my note?”)
- For students who may need additional support with organizing ideas for verbal expression: Continue to support oral language and processing by allowing ample wait time as students share their responses. (MMAE, MME)

Work Time

C. Scientific Drawing of Our Pollinators: Shape and Size (20 minutes)

- Refocus whole group. Give students specific, positive feedback on their small group collaboration while taking notes about pollinator pictures.
- Direct students' attention to the posted learning targets and read the second one aloud:
“I can create and label a scientific drawing of my pollinator.”
- Using a total participation technique, invite responses from the group:
“What pollinator will we create a scientific drawing of?” (my group’s pollinator)
“What do we need to add to our scientific drawing?” (labels and a sentence)
- Tell students that today they will create a new scientific drawing of their pollinator using a new photograph.
- Follow the same routine from Work Time C of Lesson 8 to guide students through creating a new scientific drawing of their pollinator:
 - Direct students' attention to the **Scientific Drawing anchor chart** and tell students they will continue to apply these skills to their drawings, with special attention placed on shape and size.
 - Distribute **butterflies and moths photographs #1–2, wasps and flies photographs #1–2, and beetles photographs #1–2**, ensuring students use a different image than what they used in Lesson 8.
 - Ask:
“What shapes do you see in the photograph?” (circles, ovals, triangles)
“Which shapes are bigger than others? Which shapes are smaller?” (Responses will vary, depending on the photograph.)
“What body parts do you see on the bee?” (Responses will vary, depending on the photograph.)
“Which body parts are bigger than others? Which parts are smaller?” (Responses will vary, depending on the photograph.)
“What do we need to add to our observational drawing?” (labels and sentence)
 - Display page 12 of the Plants and Pollinators research notebook, Part II and read aloud the directions.
 - Invite students to begin drawing, labeling, and writing.
 - Circulate to support students as they work and remind them of strategies as necessary.
 - When 1 minute remains, signal all students to stop working and clean up through the use of a designated signal.
- With excitement, tell students that they will continue developing their scientific drawing skills in Unit 3 as they prepare to share their scientific drawings and their learning about pollinators as part of their performance task and Celebration of Learning!

Meeting Students' Needs

- For ELLs: During or after Work Time C, guide students through a Language Dive. Refer to **Language Dive Guide III: What Is Pollination?** and **Language Dive Chunk Chart III: What Is Pollination?** Distribute and display **Language Dive Sentence Strip Chunks III: What Is Pollination?** and **Language Dive Note-catcher III: What is Pollination?**.

Closing and Assessment

A. Reflecting on Learning (5 minutes)

- Gather whole group and briefly review the posted learning targets by reading them aloud:
 - “I can collaborate with classmates to research information about a pollinator using photographs.”*
 - “I can create and label a scientific drawing of my pollinator.”*
- Follow the same routine from the Closing of Lesson 8 to guide students through reflecting on how well they collaborated today:
 - Direct students’ attention to the **What Researchers Do anchor chart** and briefly review it.
 - Think-Pair-Share:
 - “How did your research group members work to be effective collaborators today?” (Responses will vary.)*
 - “How did collaborating help you learn more about your pollinator?” (Responses will vary.)*
 - If productive, cue students to add on to what a classmate said:
 - “Who can add on to what your classmate said? I’ll give you time to think.”*
 - Listen as pairs discuss. If time allows, invite a few students to share with the whole group.
- Preview tomorrow’s work: preparing for, and participating in, a Science Talk!

Meeting Students' Needs

- During Think-Pair-Share, increase mastery-oriented feedback by continuing to provide feedback that is frequent, timely, and specific to individual students. (MME)