

Lesson 9: Reading Informational Text: Different Kinds of Seed Dispersal



CCSS

- **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.
- **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.2.1:** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups



Daily Learning Targets

- I can answer questions about the different kinds of seed dispersal in the text *From Seed to Plant*. (RI.2.1, RI.2.3, SL.2.1)
- I can document my predictions and observations about the different kinds of seed dispersal after participating in a seed dispersal challenge. (W.2.7, SL.2.1)

Ongoing Assessment

- During the research read-aloud in Work Time A, continue to use the Reading Informational Text Checklist to track students' progress toward RI.2.1 and RI.2.3 (see Assessment Overview and Resources).
- After Work Time B, collect students' Plants and Pollinators research notebook, Part I to review page 8 and measure progress toward W.2.7.

Agenda

1. Opening

A. Developing Language: Volley for Vocabulary (5 minutes)

2. Work Time

A. Reading Aloud to Research Seed Dispersal: *From Seed to Plant*, Pages 12–17 (20 minutes)

B. Making Observations: Seed Dispersal Challenge (30 minutes)

3. Closing and Assessment

A. Reflecting on Learning (5 minutes)

Teaching Notes

Purpose of lesson and alignment to standards:

- This lesson connects to Next Generation Science Standard 2LS2-2. During Work Time A, students focus on the following disciplinary core idea: “Plants depend on animals for

pollination or to move their seeds around.” This lesson builds students’ understanding of the different ways animals help seeds move around.

- In this lesson, students continue to build knowledge about how plants grow and survive by learning about the different kinds of seed dispersal. Students engage in a read-aloud of a portion of the text *From Seed to Plant* and collect information about the different kinds of seed dispersal (RI.2.1, RI.2.3, W.2.7).
- In Work Time B of this lesson, students participate in a Seed Dispersal activity, documenting their predictions and observations about the different kinds of seed dispersal (W.2.7, SL.2.1).

How this lesson builds on previous work:

- In the Closing, students revisit the Unit 1 guiding question to reflect on their learning from the lesson and add to the knowledge they have gained in previous lessons throughout the unit.

Areas in which students may need additional support:

- During Work Time A, consider providing students with specific pictures from the text from pages 14–17. They can use these pictures as supports when describing the different kinds of seed dispersal.
- During Work Time B, students may need additional support to follow the Seed Dispersal activity directions. Consider providing sentence starters to guide them through the activity.

Down the road:

- In Lesson 10, students participate in a Science Talk, using the knowledge they have learned to answer the Unit 1 guiding question: “How do plants grow and survive?”
- In Unit 2, students build on their understanding of how animals depend on plants to grow and survive through a study of pollination.

In advance:

- Strategically pair students for Work Time B, with at least one strong reader per pair.
- Pre-distribute Materials for Work Time B at student workspaces.
- Post: Learning targets and applicable anchor charts (see Materials list).

Technology & Multimedia

- 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.
- Work Time B: “Plants and Their Seeds”: Video. Funsciencedemos. YouTube, Oct.2014. Web. 12 September 2016. <<https://www.youtube.com/watch?v=mOuZrgjJ8QQ>>. (For display. Used by permission.)
- In Work Time B, students watch a 4-minute video entitled “Plants and Their Seeds.” This prepares them to discuss seed dispersal.

Supporting English Language Learners

Supports guided in part by CA ELD Standards 2.I.A.1, 2.I.B.5, 2.I.B.6, and 2.I.C.10

Important points in the lesson itself

- The basic design of this lesson supports ELLs with opportunities to actively observe videos of seed dispersal and to record and discuss their observations.
- ELLs may find it challenging to make predictions about seed dispersal as they complete steps 1–3 in their research notebooks. Work closely with groups of students to support this work (see Meeting Students’ Needs column).
- In Work Time A of this lesson, ELLs may participate in an optional Language Dive that guides them through the meaning of a sentence from *From Seed to Plant*. The focus of this Language Dive is using shades of meaning to examine two verbs that help explain the process of seed dispersal (L.2.5b). Students then apply their understanding of the meaning and structure of this sentence when participating in the Science Talk Protocol in Lesson 10. 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).

Levels of support

For lighter support:

- During the Language Dive, invite students to take leadership roles by asking them to provide examples of questions to add to the Questions We Can Ask during a Language Dive anchor chart.

For heavier support:

- During Work Time B, provide students with a partially filled-in copy of page 9 of the Plants and Pollinators research notebook, Part I. Also consider providing students with pre-written sentence frames.

Universal Design for Learning

- **Multiple Means of Representation (MMR):** In this lesson, students listen to *From Seed to Plant* and then use this information to help them answer the Unit 1 guiding question, specific to seed dispersal. Recall that this transfer of information into knowledge that students can use requires metacognitive skills and strategies. Continue to provide scaffolds to students as necessary.
- **Multiple Means of Action & Expression (MMAE):** When introducing independent writing, continue to support a range of fine motor abilities and writing needs by offering students options for writing utensils. Also consider supporting students’ expressive skills by offering partial dictation of student responses. Recall that varying tools for construction and composition support students’ ability to express knowledge without barriers to communicating their thinking.
- **Multiple Means of Engagement (MME):** As students engage with the text and video during this lesson, some may need additional support in linking the information presented back to the learning target. Continue to support them 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

New

- seed dispersal (L)
- base (T)

Review

- prediction, observations (L)

Materials

- ✓ Plants and Pollinators Word Wall (begun in Lesson 3)
- ✓ Word ball (from Lesson 8; one; used by students during the Volley for Vocabulary protocol in the Opening)
- ✓ Unit 1 Guiding Question anchor chart (begun in Lesson 3; added to the during the Closing)
- ✓ *From Seed to Plant* (from Lesson 3; one to display; for teacher read-aloud)
- ✓ Seed Dispersal anchor chart (new; co-created with students during Work Time A; see supporting Materials)
- ✓ Seed Dispersal anchor chart (example, for teacher reference)
- ✓ Reading Informational Text Checklist (for teacher reference; see Assessment Overview and Resources)
- ✓ Seed Frayer Model anchor chart (begun in Lesson 2; added to during Work Time A; see supporting Materials)
- ✓ Seed Frayer Model anchor chart (begun in Lesson 2; example, for teacher reference)
- ✓ Language Dive Guide II: *From Seed to Plant* (optional; for ELLs; for teacher reference)
 - Questions We Can Ask during a Language Dive anchor chart (begun in Lesson 8)
 - Language Dive Chunk Chart II: *From Seed to Plant* (optional; for ELLs; for teacher reference)
 - Language Dive Sentence Strip Chunks II: *From Seed to Plant* (optional; for ELLs; one to display)
 - Language Dive Note-catcher II: *From Seed to Plant* (optional; for ELLs; one per student and one to display)
- ✓ Plants and Pollinators research notebooks, Part 1 (begun in Lesson 2; page 9; one per student and one to display)
- ✓ Images of seeds (one set per small group)
- ✓ Plants and Pollinators research notebooks, Part I (from Lesson 2; example, for teacher reference)
- ✓ Pencil (one per student)
- ✓ “Plants and Their Seeds” (video; play 0:00–4:36; see Technology and Multimedia)

Opening

A. Developing Language: Volley for Vocabulary (5 minutes)

- Gather students whole group.
- Tell students that they are going to play Volley for Vocabulary to practice using words from the **Plants and Pollinators Word Wall**. Remind them that they used this protocol in the previous lesson and review as necessary. (Refer to the Classroom Protocols document for the full version of the protocol.)
- Use the **word ball** to guide students through the protocol. Model any steps of the game as needed. Repeat the game as time permits.

Meeting Students' Needs

- For students who may need additional support with organizing their thinking for verbal expression: Continue to provide the word ball to students ahead of time so they can prepare several sentences for use during Volley for Vocabulary. (MMAE, MME)

Work Time

A. Reading Aloud to Research Seed Dispersal: *From Seed to Plant*, Pages 12–18 (20 minutes)

- Refocus whole group.
- Direct students' attention to the **Unit 1 Guiding Question anchor chart** and read it aloud. Tell students that they have been learning information about plants to help them answer this question, and today they will continue to learn information that will help them answer this question with a new book.
- Display the cover of *From Seed to Plant* and read the title aloud.
- Tell students that they will hear the whole text read aloud and then focus on a few pages of the text for specific information.
- Direct students' attention to the posted learning targets and read the first one aloud:
"I can answer questions about the different kinds of seed dispersal in the text *From Seed to Plant*."
- Point to the words *seed dispersal*, and invite students to read those words with you. Tell students that seed dispersal is the movement of seeds.
- Say:
"If plants are all around us, how do they get there? How do plants grow without moving? This text will help us learn how seeds get moved and help us answer our Unit 1 guiding question."
- While displaying the text, read aloud pages 1–27 *From Seed to Plant* fluently and with expression.

- Direct students' attention to the **Seed Dispersal anchor chart**. Share that students will now return to specific pages in the book to learn about seed dispersal and record their information on the anchor chart.
- Reread pages 12–17.
- Think-Pair-Share:
 - “*What is the gist of these pages?*” (*Seeds have different ways they are moved around.*)
- Confirm the gist with students, and tell them they will read to find out the different kinds of seed dispersal.
- Read pages 12–13. Tell students that *base* means the bottom of the plant.
- Using a total participation technique, invite responses from the group:
 - “*Where will these seeds grow?*” (*They will grow near the other plant.*)
- Confirm with students that some seeds grow near the plant
- Prompt students to consider that some seeds may get moved and grow far away.
- Read page 14. Stop after the sentence “Some pods or fruits open and the seeds pop out.”
- Say:
 - “*These seeds moved themselves. They popped out of the flower!*”
- Tell students that one way a seed get dispersed is just by itself. Write “self” in the left-hand column on the Seed Dispersal anchor chart. Refer to the **Seeds Dispersal anchor chart (example, for teacher reference)** as necessary.
- Say:
 - “*I am going to write one or two details about how seeds use self-dispersal.*”
- Write “fruits open, seeds come out by themselves” in the right-hand column, next to “self.” Refer to the Seeds Dispersal anchor chart (example, for teacher reference) as necessary.
- Finish reading page 14 and read page 15.
- Invite students to whisper a response into their hand and ask:
 - “*On page 15, how did these seeds get moved?*” (*Water moved them.*)
- Confirm with students that one way seeds get dispersed is through water. Write “water” in the left column on the Seed Dispersal anchor chart. Continue to refer to the Seed Dispersal anchor chart (example, for teacher reference) when adding to the anchor chart.
- Think-Pair-Share:
 - “*What are one to two details you learned about how water moves seeds?*” (*Seeds fall into ponds or the ocean. They move in water until they stick to land.*)
- As students discuss, circulate and use the **Reading Informational Text Checklist** to track students' progress toward the reading standards.
- Jot students' ideas in note form on the right-hand column of the Seed Dispersal anchor chart next to “water.”
- Read page 16.
- Invite students to whisper a response into their hand and ask:
 - “*On page 16, how did these seeds get moved?*” (*Wind moved them.*)
- Confirm with students that one way seeds get dispersed is through wind. Write “wind” in the left-hand column on the Seed Dispersal anchor chart.

- Think-Pair-Share:
“What are one to two details you learned about how wind moves seeds?” (seeds with fluff can float, seeds with wings can spin)
- As students share out, capture their responses in the right-hand column next to “wind.”
- Read page 17.
- Invite students to whisper a response into their hand and ask:
“On page 17, how did these seeds get moved?” (People and animals moved them.)
- Confirm with students that one way seeds get dispersed is through animals. Write “animals” in the left-hand column on the Seed Dispersal anchor chart.
- Think-Pair-Share:
“What are one to two details you learned about how animals move seeds?” (hide acorns and nuts in the grounds, seeds stick to fur or clothes and drop to the ground)
- As students share out, capture their responses in the right-hand column next to “animals.”
- Direct students’ attention back to the first learning target and reread it aloud:
“I can answer questions about the different kinds of seed dispersal in the text From Seed to Plant.”
- Invite students to give you an air high-five for researching the different kinds of seed dispersal.
- Using a total participation technique, invite responses from the group:
“When seeds get dispersed, what happens?” (New plants can grow.)
- Direct students’ attention the **Seed Frayer Model anchor chart**.
- Using a total participation technique, invite responses from the group:
“What could we add to the ‘characteristics’ part of our anchor chart about seeds?” (Responses will vary, but may include: Seeds get moved around in different ways. Seeds need help to move, so they can grow into plants.)
- As students share out, capture their responses in the “Characteristics” portion of the Seed Frayer Model anchor chart. Refer to the **Seed Frayer Model anchor chart (example, for teacher reference)** as necessary.

Meeting Students' Needs

- For ELLs: During or after Work Time A, guide students through a Language Dive. Refer to **Language Dive Guide II: From Seed to Plant** and **Language Dive Chunk Chart II: From Seed to Plant**. Distribute and display **Language Dive Sentence Strip Chunks II: From Seed to Plant** and **Language Dive Note-catcher II: From Seed to Plant**.
- Before reading, provide white boards and white board markers as an option for students to record (in drawing or writing) their ideas. (MMR, MMAE)

Work Time

B. Making Observations: Seed Dispersal Challenge (30 minutes)

- Tell students that now that they know a bit more about seed dispersal, they are going to apply this learning and participate in a seed dispersal challenge.
- Direct students' attention to the posted learning targets and read the second one aloud:
"I can document my predictions and observations about the different kinds of seed dispersal after participating in a seed dispersal challenge."
- Review *prediction* (a statement about something that might happen) and *observations* (what we notice) as necessary.
- Tell students they will make predictions and observations during a seed dispersal challenge.
- Display page 9 of the **Plants and Pollinators research notebook, Part I** and read aloud the directions.
- Share that students will be doing this activity with an elbow partner, so they should discuss their ideas with their partner before they write anything down.
- Transition students to their workspaces and point out the pre-distributed **images of seeds**.
- Invite students to begin working through steps 1–3 in their research notebooks. Circulate and support students as necessary. Refer to the **Plants and Pollinators research notebook, Part I (example, for teacher reference)** as necessary.
- After about 10 minutes, invite students back to the whole group area with their research notebooks and a **pencil**. Invite students to sit next to their partners.
- Share that now students will now watch a video and look for the different kinds of seeds they just observed. Tell students they will watch the video once without stopping. Then they will watch the video again and stop in specific places to share their observations with their partner and document what kind of seed dispersal did work best for that seed or plant.
- Play **"Plants and Their Seeds"** once through in its entirety.
- Play the video again, stopping at these specific places for students to discuss. Guide students through the following steps after each pause in the video:
 - Stop at 2:15. Think-Pair-Share:
"What kind of seed dispersal worked best for the dandelion seed?" (wind)
 - Record your observation in the fourth column of the chart on page 9 of their Plants and Pollinators research notebook, Part I.
 - Repeat this process by stopping at 3:02 to ask about the coconut (water), 3:59 to ask about the burr seed (animals), and 4:28 to ask about the walnut (animals).
- Give students specific, positive feedback on their hard work and thinking during the seed dispersal activity.

Meeting Students' Needs

- For ELLs: (Summarizing the Target) Ask students to summarize and then to personalize the learning target.
- For ELLs: (Recalling Language Dive) Invite students to use language from the Language Dive from Work Time A as they work through steps 1–3 in their research journals.
- For ELLs and students who may need additional support with comprehension: (Recapping) After watching each video segment, and before asking which kind of seed dispersal worked best, briefly review what happened in the video. (Example: "What did you observe happening in that segment?") (MMR)
- For students who may need additional support with self-regulation: When giving students a warning before the transition, provide a clear routine for what to do with unfinished work and utilize a visual timer. (MME)

Closing and Assessment

A. Reflecting on Learning (5 minutes)

- Follow the same routine from the Closing of Lesson 3 to guide students through reflecting on how they took initiative to learn new information about plants today. Note: Students will not record their responses in their research notebooks today.
- Preview tomorrow's work by sharing that students have an opportunity to share their thinking about what they have learned in this unit through a science talk!

Meeting Students' Needs

- For students who may need additional support with oral expression: Invite students to write or draw to show how what they learned in the lesson. (MMAE)