

## Lesson 5: Reading Informational Texts: How Do Seeds Grow into Plants?



- **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.2.4:** Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
- **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.
- **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.2.4d:** Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *birdhouse*, *lighthouse*, *housefly*; *bookshelf*, *notebook*, *bookmark*).



### Daily Learning Targets

- I can answer questions using information from the text to learn about how seeds grow into plants. (RI.2.3, RI.2.4)

### Ongoing Assessment

- During the focused reading in Work Time A, continue to use the Reading Informational Text Checklist to track students' progress toward RI.2.1, RI.2.2, RI.2.3, RI.2.4, RI.2.5, RI.2.6, and RI.2.7 (see Assessment Overview and Resources).
- After Work Time B, collect students' Plants and Pollinators research notebook, Part I to review page 5 and measure progress toward RI.2.3 and RI.2.4.
- During Work Time C, listen for students to provide information for the Seed Frayer Model anchor chart using evidence from the text *Seed to Plant*. (W.2.7, SL.2.1)

## Agenda

### 1. Opening

A. Poem and Movement: “Plants around the World” (5 minutes)

### 2. Work Time

A. Focused Reading: *Seed to Plant*, Pages 10–13 (25 minutes)

B. Developing Language: How a Plant Grows (10 minutes)

C. Shared Writing: Seed Frayer Model (10 minutes)

### 3. Closing and Assessment

A. Reflecting on Learning (10 minutes)

## Teaching Notes

### Purpose of lesson and alignment to standards:

- In this lesson, students continue to build knowledge about how plants grow and survive by learning about how seeds grow into plants. As in Lessons 3 and 4, students read an excerpt from *Seed to Plant* to gain information about seeds and plant growth. In this focused reading session, students continue to use various text features to gain information from the text efficiently, synthesize scientific ideas, and determine the meaning of unknown words.
- In the Opening, students are introduced to the “Plants around the World” poem to learn about compounds words through an engaging text. Throughout Lessons 5–7, students continue to work with this poem as they learn to determine the meanings of compounds words.

### How this lesson builds on previous work:

- This lesson follows a similar structure to Lesson 3 and 4, inviting students to participate in focused reading, engage in a hands-on experience to supplement learning about the topic, and co-create the Seed Frayer Model anchor chart.
- Similar to Lessons 3 and 4, in this lesson students revisit the What Researchers Do anchor chart as they “gather evidence from texts” during the focused reading. In Work Time C, students “closely observe” when they watch a video showing plant growth.

### Areas in which students may need additional support:

- For some students, using their bodies to show a plant growing may present a kinesthetic challenge. As needed, consider modeling explicitly the physical movements that might be used to show plant growth (e.g., crouching down into a ball position to mimic a seed, using arms and hands coming up to show a shoot sprouting).

### Down the road:

- In Lesson 6, students will take the Unit 1 Assessment to measure their progress toward RI.2.1, RI.2.2, RI.2.3, RI.2.4, RI.2.5, RI.2.6, and RI.2.7.

### In advance:

- Prepare Plants and Pollinators Word Wall cards for the words *seed* and *grow*.

- Strategically partner students for focused reading during Work Time A, partnering students with varying levels of reading proficiency.
- Prepare technology necessary to play “Time Lapse of Sunflower from Seed to Flower” in Work Time B.
- Pre-divide the class into four groups for working with the Seed Frayer Model anchor chart in Work Time C.
- Post: Learning targets, “Plants around the World,” and applicable anchor charts (see Materials list).

### Technology & Multimedia

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

- Citation for “Wheat Germinating March” here:  
<https://www.youtube.com/watch?v=bHcyFm7M3Uc>
- In Work Time A, students watch a 4-minute video entitled “Wheat Germinating March.” This prepares them to act out how a plant grows by moving their bodies.

### Supporting English Language Learners

Supports guided in part by CA ELD Standards 2.I.B.5 and 2.I.B.6

#### Important points in the lesson itself

- The basic design of this lesson supports ELLs with opportunities to engage content knowledge using varied input, such as reading informational text and watching a video.
- ELLs may find it challenging to master using text features to find the meaning of Vocabulary words. Offer varied and supportive ways for students to engage and practice this skill. Think aloud the cognitive process of finding the meaning of an unknown word. Offer whole class and small group opportunities for students to practice and grapple with the skill. (Example: Call on a student who had trouble finding the meaning of *germination* on his or her own. Ask probing questions to guide that student through the process of using text features.)

#### Levels of support

*For lighter support:*

- During Work Time A, invite students to mentor those who need heavier support as they independently read pages 10–13 in *Seed to Plant*.

*For heavier support:*

- During Work Time A, as students are asked to read independently, consider reading aloud for individual students or a group of students who may need heavier support.
- In preparation for the Unit 1 Assessment, take time to review a selected response question. Remind students of strategies they can use to determine the correct response.

## Universal Design for Learning

- **Multiple Means of Representation (MMR):** During this lesson, students are invited to reference the What Researchers Do anchor chart, specifically highlighting *initiative* during the Closing. Consider printing and displaying photographs of students demonstrating *initiative* to connect these terms to concrete shared experiences, or invite students to recall one way they showed *initiative* recently outside of the classroom.
- **Multiple Means of Action & Expression (MMAE):** 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. Varying tools for construction and composition support students' ability to express information gathered from the text.
- **Multiple Means of Engagement (MME):** In this lesson, students again interact with *Seed to Plant*. 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

### New

- compound words, seed, grow (L)
- germination, seedling, shoot (T)

### Review

- efficiently, gist, glossary, label (L)

## Materials

- ✓ "Plants Around the World" (one to display)
- ✓ What Researchers Do anchor chart (begun in Lesson 2)
- ✓ Text Features anchor chart (begun in Lesson 3; added to during Work Time A; see supporting Materials)
- ✓ *Seed to Plant* (from Lesson 3; one per student and one to display; for teacher read-aloud)
- ✓ Reading Informational Text Checklist (RI.2.1, RI.2.2, RI.2.3, RI.2.4, RI.2.5, RI.2.6, and RI.2.7) (for teacher reference; see Assessment Overview and Resources)
- ✓ Text Features anchor chart (begun in Lesson 3; example, for teacher reference)
- ✓ Plants and Pollinators research notebook, Part I (begun in Lesson 2; page 5; one per student and one to display)
- ✓ Pencil (one per student and one for teacher modeling)
- ✓ Plants and Pollinators research notebook, Part I (example, for teacher reference)
- ✓ "Wheat Germinating March" (video; play in entirety; see Technology and Multimedia)

- ✓ Seed Frayer Model anchor chart (new; co-created with students in Work Time C; see supporting Materials)
- ✓ Sticky notes (two to three per pair)
- ✓ Seed Frayer Model anchor chart (example, for teacher reference)
- ✓ Plants and Pollinators Word Wall cards (new; teacher-created; two)
- ✓ Plants and Pollinators Word Wall (begun in Lesson 3; added to during Work Time C; see Teaching Notes)

### Opening

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#### A. Poem and Movement: “Plants around the World” (5 minutes)

- Gather students whole group.
- Display “**Plants around the World**” and read it aloud.
- Point to the highlighted words and ask:  
*“What do you notice about the highlighted words?” (They are made up of more than one word; they have two words.)*
- Invite a few students to share their responses from the group.
- Explain that the highlighted words are called *compound words*. They are made up of two or more words joined together.
- Point to the word *sunflower* and ask:  
*“What two words do you see in this compound word?” (sun and flower)*
- Share that to figure out the meaning of a compound word, you can use what you know about the two words to make a guess about what the new word means. Using the word *sunflower*, provide an example. (Example: “I know the meaning of the words *sun* and *flower*, so I can make a guess that the word *sunflower* might mean flowers that looks like the sun.”)
- Pointing to the word *watermelon*, Turn and Talk:  
*“Based on the meaning of water and melon, what guess do you have about what watermelon means?” (Watermelon is a melon filled with water. A watermelon is a melon that has a lot of water in it.)*
- If productive, cue students to explain why a classmate came up with a particular response:  
*“Who can explain why your classmate came up with that response?”*
- Inform students that over the next few weeks, they will continue to determine the meanings of compound words by looking at the “words inside the word.”

#### Meeting Students' Needs

- For ELLs: (Identifying Compound Words) Invite students to hold up a ruler or pencil vertically on the displayed poem to indicate the breaks in each part of the compound words. (Example: sun | flower)
- For ELLs: (Recalling Language Dive: Compound Words) Invite students to recall the compound word they discussed during the Language Dive begun in Lesson 2 (*everything*).

- To vary methods for response, invite students to generate ideas for physical movements that express particular phrases in the “Plants around the World” poem. Invite students to join you in doing the movements as the poem is read aloud. (MMAE)

## Work Time

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### A. Focused Reading: *Seed to Plant*, Pages 10–13 (25 minutes)

- Direct students’ attention to the posted learning target and read it aloud:  
**“I can answer questions using information from the text to learn about how seeds grow into plants.”**
- Direct students’ attention to the **What Researchers Do anchor chart** and briefly review it, emphasizing that researchers “ask and search for answers to questions.”
- Direct students’ attention to the **Text Features anchor chart** and remind students that they have been using various text features to find information in the text.
- Briefly review the text features listed.
- Share that today, students will continue using text features to learn new information about plants efficiently. Students will also discover the meaning of unknown words and think about how different information in the text is connected.
- Review the definition of *efficiently* (do something well without wasting time).
- Display page 3 of *Seed to Plant*. Consider using the **Reading Informational Text Checklist** (RI.2.1, RI.2.2, RI.2.5, RI.2.6, and RI.2.7) during this focused reading session (see Assessment Overview and Resources).
- Follow the routine from Work Time A of Lesson 4 to guide students through the focused reading of *Seed to Plant*.
  - Read the first six chapter titles and invite students to listen for a chapter title that sounds like it might contain information about how seeds grow into plants and show a quiet thumbs-up when they hear it. (“How Does a Plant Begin?” and “A Plant Grows”)
  - Invite students to read pages 10–13 independently for gist (what the text is mostly about).
  - After 4–5 minutes, refocus students whole group and discuss the *gist*. (how seeds grow into plants, how plants grow)
  - Display page 10 and invite a student to read it aloud.
  - Using a total participation technique, invite responses from the group:  
**“What does the word germination mean?” (the sprouting of a new plant from a seed)**  
**“Where is an easy place to locate the meaning of the word germination?” (in the Buzz Words box)**
  - Point out that the Buzz Words Box is a text feature that allows the reader to find it efficiently. Remind students that the glossary is another place that tells you the meaning of a word and is found at the back of a text.

- Add “glossary” and “tells you the meaning of a word” to the **Text Features anchor chart. Refer to the Text Features anchor chart (example, for teacher reference)** as necessary.
- Using a total participation technique, invite responses from the group:  
**“What is a shoot?” (a new plant that pushes out of a seed)**
- Invite students to read page 11 independently.
- Follow the same routine from Work Time B of Lesson 3 to guide students through completing page 5 of their **Plants and Pollinators research notebook, Part I.**
  - Transition students to their workspaces, where their research notebooks and **pencils** have been pre-distributed.
  - Display page 5 and invite students to open to the same page in their research notebook.
  - Review the directions and invite students to answer Questions 1–2 independently. Refer to the **Plants and Pollinators research notebook, Part I (example, for teacher reference)** as necessary.
  - After 4–5 minutes, refocus students whole group and confirm the correct answers (1. A seedling is a young plant; 2. The glossary)
  - Display page 11 of *Seed to Plant* and review the definition of *label* (a word that names a part of something).
  - Using a total participation technique, invite responses from the group:  
**“What do these labels name?” (the parts of a plant)**
  - Confirm that the labels name the parts of a plant, and these pages will be about plant parts and how they grow.
  - Invite students to independently read pages 11–13 of *Seed to Plant* and answer Questions 3 and 4.
  - After 4–5 minutes, refocus students whole group and invite several students to share their responses.
  - Turn and Talk:  
**“What is one thing you learned about how seeds grow into plants from this text?” (plants begin as a seed, they go through germination, seeds sprout and a shoot comes out, seedling start to grow, roots go down deeper, the stem grows up and gets stronger)**
  - 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.”**
  - Encourage students and say that they are working hard to read like researchers do as they continue to expand their knowledge of plants!

### Meeting Students’ Needs

- For ELLs: (Word Families) When reviewing the word *efficiently*, ask students about the root word (*efficient*). Explain that *efficient* is an adjective to describe someone or something. *Efficiently* is an adverb that describes how something is done. And *efficiency* is a noun that refers to the quality of being efficient. Consider generating sentences to illustrate the meaning and usage of these words.
- For ELLs and students who may need additional support with comprehension: (Partner Reading) Allow students to read pages 10–13 and discuss the gist in partners to help prepare them for the whole group discussion. (MMR, MME)

- For students who may need additional support with comprehension: Continue to prepare sticky notes with pre-written words or drawings based on the gist of the text. As students read independently, they can match the gist represented on the sticky notes with each part of the text. (MMR, MMAE)

## Work Time

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### B. Developing Language: How a Plant Grows (10 minutes)

- Tell students that they will now watch a video where they will see a plant growing from a tiny seed to a large wheat plant.
- Direct students' attention to the What Researchers Do anchor chart and remind them that researchers often "observe and record" to learn more about a topic.
- Invite students to watch closely to observe the different parts of the plant grow larger and stronger.
- Share that this video was taken over a long period of time and then sped up so that we can see the plant growing. Usually, plants grow too slowly to see the change happening within a few minutes.
- Play "**Wheat Germinating March.**"
- Display page 11 of *Seed to Plant*.
- Share that now students will show the plant growth with their bodies as pages 11–13 are read aloud.
- Invite a student to read page 11 aloud as you model showing the action of plant growth with your body.
- Invite students to stand up and spread out so they have enough personal space for movement.
- Read pages 11–13 aloud, inviting students to act out movements to show the plant growing as you read.
- Invite students to return to their seats in the whole group area.
- For ELLs and students who may need additional support with comprehension: (Repeat Viewing) Watch "Wheat Germinating March" twice. Students are able to absorb and comprehend more information during their second viewing after they understand the general idea during the first viewing. (MMR)

## Work Time

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### C. Shared Writing: Seed Frayer Model (10 minutes)

- Direct students' attention to the **Seed Frayer Model anchor chart**.
- Display *Seed to Plant* and read aloud pages 22–23 for gist.
- Divide pairs of students into four pre-determined sections: Definition, Characteristics, Visuals, and Examples.
- Follow the same routine from Work Time C in Lesson 3 to add information about seeds to the Seed Frayer Model anchor chart using *Seed to Plant* and **sticky notes**. Refer to the **Seed Frayer Model anchor chart (example, for teacher reference)** as necessary.

- Show students the **Plants and Pollinators Word Wall cards** for *seed* (the small part of a plant with flowers that can grow into a plant) and *grow* (to become larger) and follow the same process established in Modules 1 and 2: provide its definition, clap out its syllables, use it in a sentence, and place the Word Wall card and picture for it on the **Plants and Pollinators Word Wall**.

### Meeting Students' Needs

- For ELLs: Mini Language Dive. "Many plants/grow a case/around the seeds."
  - Deconstruct: Invite students to discuss the meaning of the sentence and grapple with the meaning of each chunk. Encourage extended conversation and practice with the focus structure in the highlighted chunk, keeping the following language goals in mind:
    - "Where?" / Meaning: around the seed; covering the seed so the seed is inside the case. (preposition)***
    - Suggested questions: "Why do you think plants grow a case around seeds? (to protect them) "What are these cases called?" (a pod) Practice: \_\_\_\_ plants grow a \_\_\_\_ around the seed. (pea; pod)***
  - Reconstruct: Reread the sentence. Ask:
    - "Now what do you think the sentence means?"***
    - "How does your understanding of this sentence add to your understanding of seeds?"***
    - "What information from this sentence can we add to the seed Frayer model?"***
  - Practice: Ask:
    - "What is another way to say this sentence?"***

## Closing and Assessment

### A. Reflecting on Learning (10 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.
  - Review how students took initiative as researchers today: read about how plants grow, acted out a plant growing, and created the Seed Frayer Model anchor chart.
  - Invite students to silently reflect:
    - "You took initiative to learn new information about plants today. What is one thing you learned?" (Responses will vary.)***
  - Instruct students to write a sentence to record what they learned on page 5 in their Plants and Pollinators research notebook, Part I.
  - Invite students to share their sentence with an elbow partner.
- Refocus whole group and preview tomorrow's work by sharing that students will read more about how plants get what they need and take an assessment to show all they have learned about reading informational texts.

### Meeting Students' Needs

- For ELLs: (Recalling Language Dive) Invite students to use language from the Mini Language Dive as they reflect on their learning.
- For students who may need additional support with oral language and processing: Continue to pair students with strategic elbow partners to ensure that they have a strong, politely helpful partner to support their efforts as they share their writing. (MMAE)