

Lesson 10: Speaking and Listening: Science Talk



- **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.2.3:** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.



Daily Learning Targets

- I can participate in a Science Talk about how plants grow and survive. (SL.2.1, SL.2.3)
- I can reflect on my learning from this unit. (W.2.8)

Ongoing Assessment

- After Work Time B, collect students' Plants and Pollinators research notebook, Part I to review page 11 and measure progress toward W.2.8.
- During the Science talk, listen for students to share information they have learned to answer the Unit 1 guiding question: "How do plants grow and survive?" (SL.2.1, SL.2.3)

Agenda

1. Opening

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

2. Work Time

- A. Engaging the Speaker: Preparing for a Science Talk (20 minutes)
- B. Science Talk Protocol: "How Plants Grow and Survive" (20 minutes)

3. Closing and Assessment

- A. End of Unit Reflection (15 minutes)

Teaching Notes

Purpose of lesson and alignment to standards:

- This is the final lesson in Unit 1, and it culminates in students participating in a Science Talk. The Science Talk helps students revisit the learning they have done about what plants need to grow and survive, and how this helps us get the fruits, flowers, and vegetables that we enjoy.
- In the Closing, students participate in an end of unit reflection on their research skills. While reflecting, students focus on how their growing research skills have aided their learning about plants and their survival needs.

How this lesson builds on previous work:

- Continue building a culture of productive and equitable conversation by helping students prepare their comments for the Science Talk and encouraging the use of Collaborative Conversation sentence starters.
- Students revisit the unit guiding question to reflect on their learning from Unit 1. This reflection helps students consolidate their current thinking and develop new ideas to move forward.

Areas in which students may need additional support:

- In Work Time A, some students may benefit from working in small groups while preparing for the Science Talk.
- Reflecting on previous thinking might be a stretch for some students without more context. To ensure all students can make connections to previous learning, display the books, Materials, and/or assignments from Unit 1 to help prompt their memories.

Down the road:

- In Unit 1, students built background knowledge on plants in preparation for shifting their focus to pollinators in Unit 2. Students continue to develop their informational text reading and writing skills as they learn about plants' dependence on pollinators to grow and survive in the next unit.

In advance:

- Strategically create groups of four for the Science Talk in Work Time B.
- Pre-distribute Materials for Work Time B in the whole group area.
- 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.

- 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.A.1 and 2.I.C.10

Important points in the lesson itself

- The basic design of this lesson supports ELLs with opportunities to deepen content knowledge and to practice speaking and listening skills by participating in the Science Talk protocol.
- ELLs may find it challenging to navigate the abundance of resources accumulated throughout the unit to collect information for use during the Science Talk protocol. Make this process more manageable for students by suggesting specific pages of their notebooks and specific Frayer models on which to focus as they collect notes.

Levels of support

For lighter support:

- During the Science Talk Protocol in Work Time B, encourage students to use Goals 1–4 Conversation Cues with other students to extend and deepen conversations, think with others, and enhance language development.

For heavier support:

- During Work Time A, distribute a partially filled-in copy of page 10 of the Plants and Pollinators research notebook, Part I. This provides students with models for the kind of information they should enter while relieving the volume of writing required.

Universal Design for Learning

- **Multiple Means of Representation (MMR):** To set themselves up for success during the end of unit reflection in the Closing, students need to generalize the skills that they learned from the previous sessions. Before the discussion, activate prior knowledge by recalling the learning from the previous sessions and the similar reflections that students have already completed.
- **Multiple Means of Action & Expression (MMAE):** In this lesson, students participate in a Science Talk. Continue to support students in setting appropriate goals for their effort and the level of difficulty expected.
- **Multiple Means of Engagement (MME):** While holding high expectations is important, be aware that sometimes these expectations can raise student anxiety. During this lesson, emphasize the importance of process and effort by discussing how even when you try your best, you can sometimes make a mistake, and that is okay.

Vocabulary

Key:

(L): Lesson-Specific Vocabulary

(T): Text-Specific Vocabulary

(W): Vocabulary Used in Writing

Review

- reflect (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)
- ✓ Science Talk Protocol anchor chart (begun in Module 2; added to in advance; see supporting Materials)
- ✓ Plants and Pollinators research notebook, Part I (begun in Lesson 2; pages 10–12; one per student and one to display; for teacher modeling)
- ✓ Plants and Pollinators research notebook, Part I (from Lesson 2; example, for teacher reference)
- ✓ Flower Frayer Model anchor chart (begun in Lesson 7)
- ✓ Seed Frayer Model anchor chart (begun in Lesson 5)
- ✓ Plant Frayer Model anchor chart (begun in Lesson 3)
- ✓ Fruit Frayer Model anchor chart (begun in Lesson 8)
- ✓ Popsicle sticks (two per student)
- ✓ Science Talk Protocol anchor chart (example, for teacher reference)
- ✓ Collaborative Conversation sentence starters (from Module 1; one per group)
- ✓ What Researchers Do anchor chart (begun in Lesson 3)

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 Lessons 8–9 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. Engaging the Speaker: Preparing for a Science Talk (20 minutes)

- Remind students that they have been learning about how plants grow and survive during this unit. Explain that understanding how plants grow and survive helps us better understand how we get the fruit, flowers, and vegetables that we enjoy.
- Tell students that today they will participate in Science Talk to discuss the Unit 1 guiding question: “How do plants grow and survive?” Remind students that they participated in a Science Talk in Module 2 and review as necessary using the **Science Talk Protocol anchor chart**. (Refer to the Classroom Protocols document for the full version of the protocol.)
- Tell students that it is important to be prepared to use evidence from their learning to answer the Science Talk question.
- Display page 10 of the **Plants and Pollinators research notebook, Part I**. Tell students this note-catcher is where they will think about their learning and what they would like to say during the Science Talk.
- Distribute students’ research notebooks.
- Tell students you are going to think aloud about how to use the Plants and Pollinators research notebook, Part I to look for useful information to answer the Science Talk question.
- Say:

“First I need to think about the question for this Science Talk: How do plants grow and survive? We have gathered a lot of information about how plants grow and survive, and I want to find some new information I learned to share with my group. There are a lot of pages of new learning in my notebook, so I need to think about how to find the information efficiently.”

- Using a total participation technique, invite responses from the group:
- *“Which text feature in your Plants and Pollinators research notebook could help me efficiently find the most useful pages in their notebook?” (Table of Contents)*
- Display the Table of Contents on page 1 of the Plants and Pollinators research notebook, Part I.
- Say:

“I can see that on pages 2–10, all the pages are connected to reading, writing, drawing, and talking about plant parts and needs. I remember that learning about flowers was interesting to me, so I’m going to look for pages with information about flowers. I see that on the Table of Contents, page 8 has information about flowers. I’ll start with page 8.”

- Invite students to turn to page 8 in their Plants and Pollinators research notebook, Part I.
- Using a total participation technique, invite responses from the group:
- *“What useful information can you find to share with your Science Talk group about flowers?”*
- Say:

“My answers to questions on this page show that I learned flowers open from a bud. They also show that flower pollen sticks to birds and bees and that flower pollen helps make new seeds and plants. I think that this information about pollen in flowers helps answer our Science Talk question, so I want to share it with my group! I am going to write these ideas on my note-catcher so I remember to say them during the Science Talk. I’m going to write enough to help me remember what to say.”

- Write on the note-catcher: “pollen sticks to birds and bees” and “pollen helps make new seeds and plants.” Refer to the **Plants and Pollinators research notebook, Part I (example, for teacher reference)** as necessary.
- Say:

“I want to find some more information about flowers and how they connect to plants growing and surviving. I know that we have collected much of our information about seeds on the Frayer Model anchor chart about flowers. I’m going to look there next.”
- Direct students’ attention to the **Flower Frayer Model anchor chart**. Choose relevant information from the chart to add to the note-catcher.
- Say:

“I have written down some ideas that help me answer the Science Talk question on my note-catcher, but I know that I can find more information about how plants grow and survive. I can continue using notes from our Frayer Model anchor charts and Plants and Pollinators research notebook, Part I to help me.”
- Tell students that it will now be their turn to practice finding a piece of evidence from the Frayer Model anchor charts that helps answer the Science Talk question: How do plants grow and survive?
 - Direct students to give a thumbs-up when they have found a piece of evidence.
 - Turn and Talk:

“Share your piece of evidence with an elbow partner.” (Responses will vary.)
 - Circulate and listen as students discuss. Give specific, positive feedback about the examples they have found.
- Invite students to continue working independently to complete the note-catcher using the pages in their research notebooks and the following anchor charts:
 - **Seed Frayer Model anchor chart**
 - **Plant Frayer Model anchor chart**
 - **Fruit Frayer Model anchor chart**
- Invite students to use the Frayer Model anchor charts and their Plants and Pollinators research notebook, Part I as resources. Tell students that this work is preparing them to discuss the Unit 2 guidance question “What do plants need grow and survive?”
- Circulate to support students as they prepare for the Science Talk.

Meeting Students’ Needs

- For ELLs: (Recalling Language Dive) Invite students to use language from the Language Dives in Lessons 2, 7, 8, and 9 as they prepare for their Science Talk.
- For ELLs: (Partners) Allow students to work in partners to compile information on page 10 of their research notebooks.
- For students who may need additional support with organizing their thinking for written expression: Offer individual copies of the Frayer Model anchor charts. Invite students to first highlight the information on these charts and their Plants and Pollinators research notebook, Part I, then copy this information to the note-catchers. (MMAE, MME)

Work Time

B. Science Talk Protocol: “How Plants Grow and Survive” (20 minutes)

- Invite students back to the meeting area and move them into groups of four.
- Direct students’ attention to the posted learning targets and read the first one aloud:
“I can participate in a Science Talk about how plants grow and survive.”
- Tell students that they are ready to participate in the Science Talk because they have prepared evidence from their notebook to help answer the question: “How do plants grow and survive?” Remind them that they can use the note-catcher to remember what they want to say.
- Direct students’ attention to the Science Talk anchor chart and focus them on the last three steps:
 - “Student A answers the question using evidence from his or her note-catcher. Student A places one **popsicle stick** in the middle of the group after he or she has shared.”
 - “As students B, C, and D respond, they place a stick in the center as well.”
 - “Repeat the process with students B, C, and D answering the question.”
- Invite three students to help model the use of popsicle sticks during the Science Talk. With the teacher as Student A, assign roles B, C, and D to the student volunteers. Refer to the **Science Talk Protocol anchor chart (example, for teacher reference)** as necessary.
- Use a familiar topic to model the use of the popsicle sticks (e.g., “What is your favorite thing to do at recess? Why?”)
- Emphasize that the popsicle sticks are a tool to remind group members to balance their speaking and listening during the Science Talk. Say:
“When I make my first comment, I will put my stick in the center of the group. When my group members respond, they will put their popsicle stick in, too.”
 - Share your answer to the question and place a popsicle stick in the center of the group to indicate your response.
 - Guide student volunteers through responding and placing their popsicle sticks in the center of the group.
 - Tell students that while they only have two popsicle sticks, they can speak more than twice. Remind students that the sticks are a tool to help them balance their speaking and listening, and to encourage equitable participation.
- Remind students that a Science Talk is a conversation, and that during a conversation we listen to others and respond to their comments. Refer students to the discussion norms and goals on page 11 in their Plants and Pollinators research notebook, Part I.
 - Tell students that these discussion norms will help them maintain a fair and engaging conversation with their group.
 - Read the discussion norms aloud. Answer clarifying questions as needed.
 - Turn and Talk:
“Which of the discussion norms will help your group have the best conversation possible? Why do you think so?” (Responses will vary.)
 - Ask students to choose and circle one discussion norm that they will try to follow during the Science Talk.

- Distribute popsicle sticks and **Collaborative Conversation sentence starters**. Encourage students to use these sentence starters to guide their conversation.
- Invite small groups to begin their conversations. Circulate to support students, reminding them to use their popsicle sticks and evidence from their note-catcher as necessary.
- Before the end of this work time, thank students for their effort and attention with their group. Direct them back to the final question on page 10 of their Plants and Pollinators research notebook, Part I to reflect on their discussion norm goal: Read the question aloud and answer clarifying questions as needed:

“Did you use or try to use your discussion norm during the Science Talk?”

- Invite students to circle a response.
- As time permits, call on students to share and explain their response.

Meeting Students' Needs

- For ELLs and students who may need additional support with oral processing: (Pacing Prompts) It may take longer for some students to process language and follow the conversation during the Science Talk. Encourage students to speak up when they would like to hear something repeated. Empower them with questions they can ask to regulate the pace of the conversation. (Examples: Can you please repeat what you said? Can you please speak more slowly?) (MMR)
- For ELLs: (Modeling Sentence Starters) Model using the Collaborative Conversation sentence starters to respond to others' ideas. Display the sentence frames in speech bubbles.
- For students who may need additional support with sustained effort: During the Science Talk, support communication and engagement by organizing students with strategic partners to ensure they have a strong, politely helpful peer model to support their efforts at participation in the protocol using their note-catcher. (MME)

Closing and Assessment

A. End of Unit Reflection (15 minutes)

- Gather students whole group and give them specific, positive feedback on the research skills they have been using during the unit, as well as their participation in the Science Talk.
- Direct students' attention to the posted learning and read the second one aloud:

“I can reflect on my learning from this unit.”

- Remind students that *reflect* means to think about something deeply and carefully.
- Turn and Talk:

“Why would it be important for us to think back on the learning we have done in this unit?” (so we can remember the work we have done)

- 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.”

- Tell students that today they will reflect on their learning by completing an exit ticket about the research skills they have been applying throughout Unit 1.
- Direct students' attention to the **What Researchers Do anchor chart** and briefly review it. Remind them that we have been using these skills throughout the unit but have been working hard at the skills we use to gather information from text.
- Display page 12 from the Plants and Pollinators research notebook, Part I and invite students to open their own research notebooks to this page as well.
 - Read the directions aloud and answer clarifying questions.
 - Ask students to circle the target where they think they have made the most progress.
 - Direct students to support their choice with a reason or evidence by telling what they have learned about plants by applying this skill. (Example: "Gathering info helped me understand pollination. I had to use the glossary and pictures to understand how pollination works.")
 - As time permits, call on students to share their reflection with the whole group or consider using a familiar protocol like Pinky Partners for students to share.
- Give students specific, positive feedback on their effort and learning in this first unit. Tell them that they will continue working as researchers in Unit 2 as they discover a secret about how we get the fruits, flowers, and vegetables that they enjoy! Meeting Students' Needs.
- For ELLs: (Partner Share Out) Invite students to share what their partners said to promote attentive listening, retelling, paraphrasing, and peer language modeling.
- For students who may need additional support with fine motor skills: Continue to offer them supportive tools. (MMAE)