Lesson 1: Speaking and Listening: Inquiring about Living and Nonliving Things

CCS Standards

- **W.K.7:** Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).
- **SL.K.1b:** Continue a conversation through multiple exchanges.
- **SL.K.2:** Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
- **L.K.5a:** Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.

Daily Learning Targets

- I can explain whether something is living or nonliving using information from observations. (W.K.7, SL.K.1b, L.K.5a)
- I can ask and answer questions about my observations. (W.K.7, SL.K.1b, SL.K.2, L.K.5a)

Ongoing Assessment

- During Work Time A, use the Speaking and Listening Checklist as you observe students discuss their ideas with a partner (see Assessment Overview and Resources).
- During Work Time B, circulate and observe as students work with a partner to sort and label the pictures (L.K.5). Consider using the Speaking and Listening Checklist to document progress toward SL.K.1 (see Assessment Overview and Resources).

Agenda

1. **Opening**
   A. Engaging the Researcher: Close Observation of a Tree (15 minutes)
2. **Work Time**
   A. Back-to-Back and Face-to-Face Protocol: Is a Tree Alive? (10 minutes)
   B. Shared Reading: What Do Researchers Do? (10 minutes)
   C. Sorting Protocol: Living and Nonliving Things (15 minutes)
3. **Closing and Assessment**
   A. Reflecting on Learning (10 minutes)

Teaching Notes

Purpose of lesson and alignment to standards:

- This first lesson in the module is meant to foster wonder and curiosity about the world and how it works. Continue to nurture an inquiry-rich classroom environment by inviting

students to ask questions and wonder about living and nonliving things as they engage in an outdoor activity observing trees, discuss what is living and nonliving, and sort images of living and nonliving things (SL.K.1b, SL.K.2, L.K.5a, W.K.7).

- Because this lesson fosters inquiry, it is important to allow some student misconceptions to linger. Do not correct students' mistakes, as they have the opportunity to revise their thinking in future lessons.
- During the Opening, students go outside to closely observe a tree. Close observation is a type of research. Students generate detailed observations about the world around them and use their observations as evidence when explaining their ideas. Students connect the observations they make in this lesson with the information they learn in subsequent lessons. If it is not possible to take students outside, consider alternatives such as viewing a video or observing a picture.
- The module's literacy guiding question ("What do researchers do?") is introduced at the beginning of Work Time B, and the Unit 1 guiding question ("How do we know something is living?") is introduced at the end of Work Time B. Similar to Modules 1–2, students continually return to these questions as they build and refine their knowledge.
- Consider how this lesson might build on instructional routines already introduced to students (e.g., learning targets, drawing to communicate ideas, transitions, use of Materials). Modify the lesson based on what students have experienced during Modules 1–2.
- To allow for a volume of reading on the topic of trees and living things for this module, see the K–5 Recommended Text List. Ensure that a variety of informational and narrative texts below, on, and above grade level for this topic are available during independent reading in the Labs and the Reading Foundations Skills Block.
- Beginning in this module, ELL supports within the Meeting Students' Needs column will be labeled and explained in detail the first time they are used. Supports repeated in subsequent lessons will also be labeled but condensed for easier reading, and at times adjusted to provide lighter support. Attend to the detailed supports (and labels) early in the module in order to apply them throughout. Note that many supports have been suggested repeatedly in Modules 1–2.
- This lesson is the first of three that include built-out instruction for the use of Goal 4 Conversation Cues. Conversation Cues are questions teachers can ask students to promote productive and equitable conversation (adapted from Michaels, Sarah and O'Connor, Cathy. Talk Science Primer. Cambridge, MA: TERC, 2012. https://inquiryproject.terc.edu/shared/pd/TalkScience_Primer.pdf. Based on Chapin, S., O'Connor, C., and Anderson, N. [2009]. *Classroom Discussions: Using Math Talk to Help Students Learn, Grades K-6*. Second Edition. Sausalito, CA: Math Solutions Publications). Goal 4 Conversation Cues encourage students to think with other students to expand the conversation. Continue drawing on Goals 1–3 Conversation Cues, introduced in Modules 1–2, and add Goal 4 Conversation Cues throughout Modules 3–4 to more strategically promote productive and equitable conversation. Refer to the Module 1 Appendix for additional information on Conversation Cues. Consider providing students with a thinking journal or scrap paper. Following are examples of the Goal 4 Conversation Cues you will see in the remaining modules (with expected responses).
- To encourage students to compare ideas:

  Teacher: "How is what ____ said the same as/different from what ____ said? I'll give you time to think and write."

  Student: "____ said ____. That's different from what ____ said because ____."

- To encourage students to agree or disagree and explain why:

  Teacher: "Do you agree or disagree with what your classmate said? Why? I'll give you time to think and write."

  Student: "I agree/disagree because ____."

- To encourage students to add on to others' ideas:

  Teacher: "Who can add on to what your classmate said? I'll give you time to think and write."

  Student: "I think that ____."

- To encourage students to explain others' ideas:

  Teacher: "Who can explain why your classmate came up with that response? I'll give you time to think and write."

  Student: "I think what she's saying is ____."

- Note that Goal 4 Conversation Cues are not built into the Discussion Norms anchor chart, as these cues are best suited for teachers facilitating student conversations.

How this lesson builds on previous work:

- This module builds and expands upon students' understanding of reading informational text, as well as finding and using evidence in discussions. Students will continue to build on the Science Talk protocol from Module 2 by adding on to their peers' ideas using sentence starters.

Areas in which students may need additional support:

- During the Opening, some students may need additional support with making drawings and adding labels of their observations. Remind them that it is a sketch meant to serve as notes for a discussion.

Down the road:

- Lesson 1 begins with inquiry about trees but transitions to a more general inquiry about living things (plants and animals) in Lesson 2. In Lesson 7, students will return to the study of trees. It is important not to make the connection between trees and plants for students. They will return to their thinking in future lessons.
- In Lesson 2, students begin observing a set of plants in small groups to better understand the criteria for what makes a living thing living and to see illuminating examples of each criterion. Students will continue to make observations about the plants during Lessons 3–4. To ensure successful observations and proper setup, preview the Directions for Live Plants Observation Setup (see supporting Materials).
- In Lesson 2, students will revisit their sorts from Work Time C of this lesson by viewing a class version of this sorting activity called the Sorting Living and Nonliving Things anchor chart, based on information you synthesize from their work with partners in this lesson. Capture similarities among the student sorts in the Living and Nonliving columns of the class version of the sort. Also capture differences among the student sorts in the Unsure column (see Lesson 2 Teaching Notes). Before Lesson 2, create the Sorting Living and Nonliving Things anchor chart based on students' work in Lesson 1.
  - Students will use the Sorting Living and Nonliving Things anchor chart to work with the Next Generation Science Standard K-LS1 crosscutting concept: Patterns in the natural and human-designed world can be observed and used as evidence. They will look

for patterns across living and nonliving things to learn the definition attributes of each category. Help students notice patterns that emerge when discussing the needs of living things.

In advance:

- Strategically pair students for the Back-to-Back and Face-to-Face protocol in Work Time A and partner work in Work Time C.
- Preview the Directions for Live Plants Observation Setup and begin preparing plants (see supporting Materials). These plants are used in Lessons 2–4.
- Prepare:
  - Word Wall cards for the words *living*, *nonliving*, and *researcher*.
  - Closely Observing Notice/Wonder graphic organizer, clipboards, and pencils in one large bag or crate to distribute to students during the Opening (once they are outside).
- Distribute Materials for Work Time C at student workspaces.
- Review the Sorting protocol. (Refer to the Classroom Protocols document for the full version of the protocol.)
- Post: Learning targets and applicable anchor charts (see Materials list).

Technology & Multimedia

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

- Continue to use the technology tools recommended throughout Modules 1–3 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: K.1.A.1, K.1.A.3, K.1.A.4, and K.2.C.6

Important points in the lesson itself

- The basic design of this lesson supports ELLs with opportunities to demonstrate their content and language knowledge after engaging in a hands-on, collaborative experience observing trees outside. Students are encouraged to use gestures to understand the tasks of a researcher. They are invited to draw and label during the observation.
- ELLs may find it challenging to understand and apply the language in the learning targets. In this lesson and throughout the unit, consider using icons and pictures and chunking the targets in color-coded phrases. (Example: "I can" in blue and "living and nonliving" in green throughout the unit.) Provide encouragement and remind them that the class will return to these concepts.

Levels of support

For lighter support:

- Throughout the lesson, encourage students to extend the rationale for their ideas and choices during discussion. Use total participation techniques to encourage students to contribute. Invite partners to share what their classmate said to help students practice attentive listening, share useful sentence frames, put ideas in their own words and encourage language modeling.

For heavier support:

- During the Opening, circulate and listen to what students notice. If students are struggling to express ideas, prompt them with questions of increased specificity to focus their attention. (Examples: "What do you observe?" "What do you feel?" "What are the leaves doing?" "Can you reach them?" "Why?") If they continue to hold back, reach out and touch the trunk and make an observation: "I observe that the bark is rough." If students still struggle, give them a choice between two ways to describe another attribute, contrasting with opposites to scaffold: "Is the tree short or tall?"

Universal Design for Learning

- **Multiple Means of Representation (MMR):** In this lesson, students participate in close observation of a tree. As this is introduced in the Opening, guide students' information processing and comprehension by inviting volunteers to help model what this observation looks and sounds like. Additionally, provide support for comprehension by offering visual representation of questions posed throughout this lesson during whole group discussions.
- **Multiple Means of Action & Expression (MMAE):** In this lesson, students are asked to share ideas with the whole group. As they share out, provide options for expression and communication by offering and modeling sentence frames.
- **Multiple Means of Engagement (MME):** Continue to foster a sense of community by inviting the whole class to join you in a special applause as you celebrate their work today and build enthusiasm for future learning.

Vocabulary

Key:

(L): Lesson-Specific Vocabulary

(T): Text-Specific Vocabulary

(W): Vocabulary Used in Writing

New:

- living, nonliving, researcher (L)

Review:

- observation (L)

Materials

- ☑ Living Things Word Wall cards (new; teacher-created; three)
- ☑ Living Things Word Wall (new; teacher-created)
- ☑ Closely Observing Notice/Wonder graphic organizer (one per student)
- ☑ Clipboards (optional; one per student)
- ☑ Pencils (one per student)
- ☑ Back-to-Back and Face-to-Face Protocol anchor chart (begun in Module 1)
- ☑ What Researchers Do anchor chart (new; teacher-created; see supporting Materials)
- ☑ What Researchers Do anchor chart (example, for teacher reference)
- ☑ Sorting note-catcher (one per pair and one to display)
- ☑ Living and Nonliving Things sorting images (one set per pair and one set to display)
- ☑ Sorting Protocol anchor chart (new; teacher-created; see supporting Materials)
- ☑ Markers (various colors per pair)
- ☑ Glue stick (one per pair)

Opening

A. Engaging the Researcher: Close Observation of a Tree (15 minutes)

- Gather students whole group.
- With excitement, tell students that one of the best parts of learning is being curious and exploring the world to answer questions!
- Share with students that they are going to be curious about these questions:

  "Is a tree living?"

  "Why or why not?"
- Show students the **Living Things Word Wall card** for *living* and follow the same process established in Modules 1–2: provide its definition (something that is or has ever been alive), clap out its syllables, use it in a sentence, and place the Word Wall card and picture for it on the **Living Things Word Wall**.
- Repeat the questions "Is a tree living? Why or why not?" and give students 1 minute to think about them.
- Tell students that they will do lots of reading, writing, discussion, and observation to find answers to these questions and others like them.
- Briefly define *observation* (looking at the world with one's senses) and make a connection to the Module 2 Vocabulary word *observe*. Model how you would observe the tree when outside.
- Invite students to show you how they would observe the tree when outside.
- Tell students that making observations is a great way to learn about something new. Inform students that in just 1 minute, they are going outside to make observations of a tree. Remind them that they are observing to collect evidence to answer the questions: "Is a tree living? Why or why not?"
- Invite students to generate a list of some things they might look for to see if the tree is living.

- Tell them that after they observe outside, they will share their observations and thinking about the questions with a partner.
- Invite students to line up to go outside.
- Refocus students whole group and remind them of the questions they should keep in mind as they carefully observe the tree.
- Invite students to observe and talk about the tree. Circulate to observe students as they discuss the tree. Prompt the group when necessary:

  "Remember to think about the questions: "Is a tree living? Why or why not?"

  "Look at the whole tree and each of its parts. What do you notice about them?"

  "Look at the top and bottom of the tree. What do you notice about it?"
- After 5 minutes of observation time, distribute the **Closely Observing Notice/Wonder graphic organizer**, **clipboards**, and **pencils**.
- Ask students to draw and label the things that they notice and wonder about the tree.
- After 5 additional minutes of observation and note-taking time, refocus whole group and lead them back inside.

Meeting Students' Needs

- For ELLs and students who may need additional support with comprehension: (Sensory Map) As students share their understandings of how to observe something, consider creating a visual that demonstrates the different senses we can use to observe a tree: our eyes, our hands, our noses. (MMR, MME)
- For ELLs: (Academic Word Wall) Starting now and as the unit progresses, invite students to add simpler synonyms and translations next to target Vocabulary.
- For ELLs: (Reinforcement) Bring students' attention to how questions are intonated. Then, consider using a total participation technique such as call and response to focus students on the question and encourage them to intonate the question. (Example:
- For ELLs and students who may need additional support with motivation: (Encouraging Engagement) During the observation, invite students to look at, smell, and touch the tree, including any roots that are noticeable above ground. (Example: Ask them to try to fit their arms around the tree.) (MME)
- For ELLs: (Selecting) During the observation outside, offer students struggling with expressing their ideas two options. (Example: "Is the tree tall or short?") Since students may default to the second option you state, vary which order you offer a realistic observation.

Work Time

A. Back-to-Back and Face-to-Face Protocol: Is a Tree Alive? (10 minutes)

- Refocus whole group.

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

  "I can explain whether something is living or nonliving using information from observations."

- Show students the Living Things Word Wall card for *nonliving* and follow the same process established in Modules 1–2: provide its definition (something that has never been alive), clap out its syllables, use it in a sentence, and place the Word Wall card and picture for it on the Living Things Word Wall.
- Tell students they are going to share their observations and ideas about the tree using the Back-to-Back and Face-to-Face protocol. Remind students that they used this protocol in Module 1 and review as necessary using the **Back-to-Back and Face-to-Face Protocol anchor chart**. (Refer to the Classroom Protocols document for the full version of the protocol.)
- Guide students through two rounds of the protocol with the same partner using the questions:

  "What did you observe about the tree during your observation?"

  "Is the tree living? Why or why not?"

- Prompt students to use the sentence frame as needed:
  - "I think the tree is _____ because I observed_____."
- If productive, use a Goal 4 Conversation Cue to encourage students to agree or disagree and explain why:

  "Do you agree or disagree with what your classmate said? I'll give you time to think." (Responses will vary.)

- Invite students to return to their seats.
- Using a total participation technique, invite students to share their observations and answers to the second question with the whole group.

Meeting Students' Needs

- For ELLs and students who may need additional support with comprehension: (Illustrations) Consider using illustrations alongside the learning target to help scaffold meaning and make explicit connections among the Word Wall, the learning targets, and what they are doing. (Example: next to "explain," create a pencil to signify writing and drawing and a face talking to signify oral sharing. Do the same with eyes, hands, and nose near the word *observations*.) (MMR)
- For ELLs: (Student Modeling) Invite a student to model how to fill in the sentence frame provided.
- For ELLs: (Partner Share-Out) Invite students to share what their partner said to promote attentive listening, retelling, paraphrasing, and peer language modeling.
- For ELLs: (Strategic Grouping) Create pairs or groups with varying levels of language proficiency. The students with greater language proficiency can serve as models in the group, initiating discussions and providing implicit sentence frames. If possible, consider grouping students who speak the same home language to help one another interpret and comprehend the conversation in their home language.
- When using a total participation technique, minimize discomfort or perceived threats and distractions by alerting individual students that you are going to call on them next. (MME)

Work Time

B. Shared Reading: What Do Researchers Do? (10 minutes)

- Show students the Living Things Word Wall card for *researcher* and follow the same process established in Modules 1–2: provide its definition (a person who studies something to learn more information or solve a problem), clap out its syllables, use it in a sentence, and place the Word Wall card and picture for it on the Living Things Word Wall.
- Tell students that they will be thinking about the question "What do researchers do?" in the upcoming weeks.
- Tell students that researchers are curious about the world. They explore new ideas by asking questions and looking for the answers. Share that students have already been researchers today. They have asked themselves the question "Are trees living?" and looked for the answer in a couple of different ways.
- Direct students' attention to the **What Researchers Do anchor chart** and read it aloud.
- Invite students to show a research signal (e.g., scratching their head like they're asking a question) when they hear something they did to be a researcher today. Read each line of the anchor chart fluently, pausing only to acknowledge student signals. Refer to the **What Researchers Do anchor chart (example, for teacher reference)** as necessary. (Signal: ask questions, observe closely, share and discuss ideas)
- Return to and reread the "Ask questions" bullet slowly while tracking the print and ask students to repeat the bullet after you are finished.
- Using a total participation technique, invite responses from the group:

  "What are some hand gestures, motions, or actions that could go along with each bullet on the anchor chart?" (Responses will vary, but may include: scratching your head.)
- Invite students to reread the bullet again while doing the new gesture.
- Follow the same process for the following bullets:
  - "Observe closely" (Responses will vary, but may include: pretending to look through a magnifying glass.)
  - "Share and Discuss" (Responses will vary, but may include: Opening and shutting their hands like mouths.)
- Tell students that researchers often ask one question, which then leads to another.
- Share that students' discussion about why or why not trees are alive has made you think of a new, very important unit guiding question that they will be thinking about a lot in the coming weeks:

  "How do we know something is living?"
- Tell students that now they will talk with a partner about the question. With a student volunteer, model using a sentence frame to describe what you think about the question:
  - "I think something is living because it _____"
- Turn and talk:

  "How do we know something is living?"
- Circulate and listen as students discuss, prompting students with the sentence frame and with the question as necessary.

- If productive, use a Goal 4 Conversation Cue to encourage students to agree or disagree and explain why:

  "Do you agree or disagree with what your classmate said? I'll give you time to think." (Responses will vary.)

Meeting Students' Needs

- For ELLs: (Fluency) Consider chunking the syllables and practicing saying the word *researcher* aloud a few times to help with pronunciation and fluency.
- For ELLs: (Leadership) Invite a few students who might normally shy away from participation to demonstrate the gestures you decide upon in front of the class.
- For ELLs: (Errors) As students interact, jot down samples of effective communication. Also jot down one or two common language errors (pervasive, stigmatizing, critical). Share each of these with the class, allowing students to take pride in the effective communication and correct the errors. It's not necessary to identify who communicated well or made errors.
- For students who may need additional support with comprehension: Invite students to model/role play what it looks like and sounds like to ask questions, observe closely, and share and discuss. This will connect these terms to shared experiences. (MMR)

Work Time

C. Sorting Protocol: Living and Nonliving Things (15 minutes)

- Direct students' attention to the posted learning targets and read the second one aloud:
  - "I can ask and answer questions about my observations."
- Tell students that they will continue to be researchers by asking themselves the very important Unit 1 guiding question: "How do we know something is living?" They will explore the question by sorting pictures of many objects and making observations to see what is living and nonliving.
- Tell them that they will talk to their partners about their pictures using the sorting protocol, but first you will explain what to do.
- Tell students that they will now participate in the Sorting protocol using the **Sorting note-catcher** and **Living and Nonliving Things sorting images**.
- Referring to the Sorting Protocol anchor chart and explain the expectations.
- Demonstrate each step with a student volunteer.
  - On the Sorting Protocol anchor chart, point to the first step. Tell students they will be assigned a partner. One partner will be partner A, and the other will be partner B.
  - Point to the image of partner A holding a card. Tell students that when all partners are ready and have received a group of pictures, partner A should choose one picture.
  - Point to the image of partner A asking a question on the anchor chart. Explain that partner A will show the picture to partner B and will ask partner B questions about how he or she should sort the picture. Examples: "What category does the toy car belong in?" "Why did you put the toy car with nonliving things?"

  - Point to the image of partner B pointing on the anchor chart. Explain that partner B should answer partner A's questions and place the card into the category he or she chooses. Allow the student volunteer to answer some questions and place the photograph.
  - Point to the image of the arrows on the anchor chart. Explain that once partner B has placed the picture, the pair should repeat the process but switch roles. This time, partner B should choose a new card and ask partner A questions, and partner A should place the card into the category he or she chooses.
- Using a total participation technique, invite responses from the group:

  "How will you show your partner that you are listening to him or her?" (use eye contact; answer the questions he or she asks)
- Move students into pairs and invite them to label themselves A and B.
- Remind students that they will see many different objects. The categories are living things and nonliving things.
- Transition students back to their workspaces, where sets of Living and Nonliving Things sorting images and Sorting note-catchers are already prepared.
- Guide students through the Sorting protocol using the steps on the Sorting Protocol anchor chart.
- Circulate, listen to discussions, and note any misconceptions for future lessons but do not correct them. Prompt students when needed:

  "Why did you place this picture here? What makes you think it is living/nonliving?"
- Give students the following sentence frame when necessary:
  - "I think _____ is living/nonliving because_____."
- As you circulate, distribute **markers** and **glue sticks** to each pair.
- After 10 minutes of sorting, tell students to begin gluing their sorting images to their Sorting note-catcher, labeling to explain how they sorted. Model this process as necessary.

Meeting Students' Needs

- For ELLs: (Sentence Frame) Consider providing and modeling the sentence frame "I think _____ is living because _____" for students to explain why they placed a picture in the category.
- For students who may need additional support with self-regulation: Help students anticipate and manage frustration during the protocol. (Example: "I can listen as my partner shares how he or she sorted the picture. When my partner is sharing, I am listening without interrupting because it is my partner's turn, and my turn will be next.") (MME)

Closing and Assessment

A. Reflecting on Learning (10 minutes)

- Gather whole group.
- Offer specific, positive feedback on students' teamwork, discussions, and sorting.
- Tell students that they will now turn and talk with an elbow partner to explain their ideas about one photo they decided to put in the living column and one photo they put in the nonliving column.
- Post and read aloud the sentence frame:

  "I would like to add _____."
- Point out that this sentence frame is very useful when taking turns answering a question. Tell students that after listening to their partner, they should have a new idea to add about the same topic. Emphasize that this is a time to share a new idea, not one that has already been said, which is why it is important to carefully listen during a discussion.
- Before modeling the sentence frame, use a total participation technique to invite responses from the group:

  "How will you show your partner that you are listening to him or her?" (use eye contact; not repeat the ideas they just shared)
- Tell students they will first answer the question:

  "What was one picture you thought was a living thing?"
- Model listening to a student volunteer answer the question and add a new idea to the conversation using the posted sentence frame.
- Invite one student pair to model answering this question and using the sentence frame.
- Turn and Talk:

  "What was one picture you thought was a living thing?" (Responses will vary.)
- Circulate, listen to discussions, and note any misconceptions for future lessons but do not correct them. Identify a few students to share an idea about what photo showed a living thing.
- Refocus the group and invite a few volunteers to share out.
- If productive, use a Goal 4 Conversation Cue to encourage students to explain why a classmate came up with a particular response:

  "Who can explain why your classmate came up with that response?" (Responses will vary.)
- Follow this same process for students to answer the next question:

  "What was one picture you thought was a nonliving thing?"

Meeting Students' Needs

- For ELLs and students who may need additional support with comprehension: (Meeting the Target) Review the learning targets introduced in Work Times A and C. Ask students to give specific examples of how they worked toward achieving them in this lesson. (MMR)
- For students who may need additional support with comprehension: Invite students to restate or rephrase the question before answering it. (MMR, MMAE)