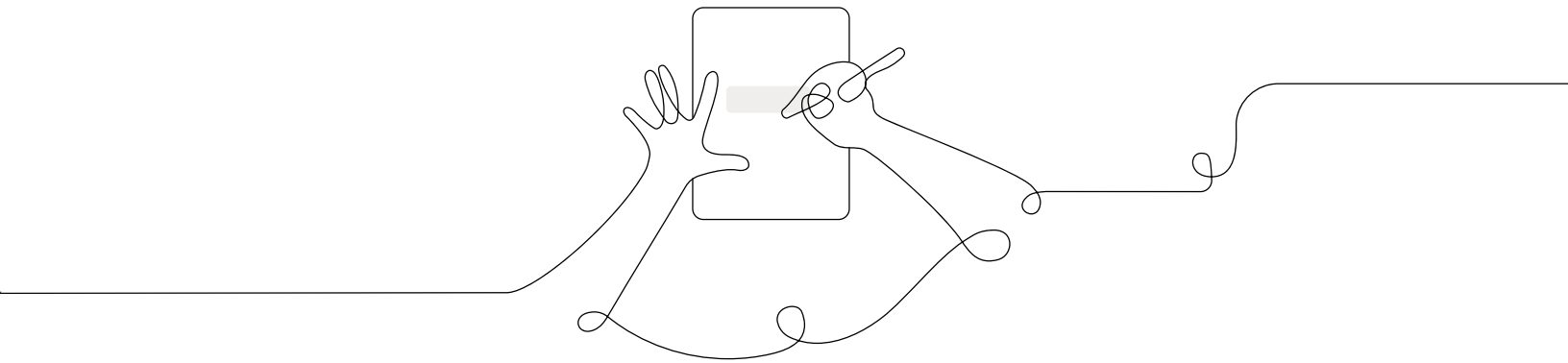


# Participant Notebook

TK, Unit 1:  
Wondering About Noises in Trees



# Unit Resources guide

Unit resources	
Unit overview	Brief description of the what, the why, and the how of the unit. It also gives an overview of the structure of the unit.
Instructional resources	Includes references, flexible implementation, description of routines, assessment opportunities, and supports.
Getting Ready to Teach	Snapshot of all the things you will need to prepare ahead of time that will save you time once you get going.
Materials and Prep	What materials you need and what is provided, as well as what you need to prepare before the start of the unit.
Preparation at a Glance	What you need to get ready broken down by activity as well as how long you can expect it to take.
Lesson-level resources	
Lesson Overview	Brief description of what the activity will cover, the how and the why
Materials and Prep	Detailed instructions on how to prepare for this specific activity.
Activity Notes	The what, the why, and the how, including all steps you will go through and recommended teacher talk.
Teacher support	Instructional suggestions including extension opportunities and home connections
Flexible Implementation	Notes on how to structure the activities in the classroom
Model set ups	Set-ups for investigation materials, shared writing and shared drawings
Formative assessments	How to perform the assessment and what to look for in student performance, one per exploration



## Unit Overview

In the *Life Science: Wondering About Noises in Trees* unit, students investigate the phenomenon of noises coming from a tree. They are challenged to solve the mystery of what's causing these noises and why. Students discover that many animals spend time in trees and that the noises from the tree are likely coming from animals. What are those animals doing in the tree to make so much noise? Students learn that animals can make noises in trees when they get food and make shelter for themselves or for their babies. For example, a woodpecker taps tree bark to get bugs to eat. Next, students investigate why the tree is a good place for the animals to get food and make shelter. They discover that trees have things that animals need, including food (fruit and nuts, seeds, leaves, and bugs), building materials, and places for shelter. In the course of solving the mystery of the noises from the tree, students are introduced to core ideas in life science, including needs of living things and dependence of animals on plants. The unit includes an emphasis on gathering evidence to construct and test students' ideas and sharing those ideas as scientists do. Students gather evidence for these ideas from a variety of sources: a book, photographs, sound recordings, and videos. They share their developing ideas through discussion, drawing, writing, movement, and use of the class Tree Model. Through the activities, students are exposed to the crosscutting concepts of *Patterns* and *Cause and Effect*. The context of noises from a tree provides a familiar and intriguing starting point for students to engage in doing science.

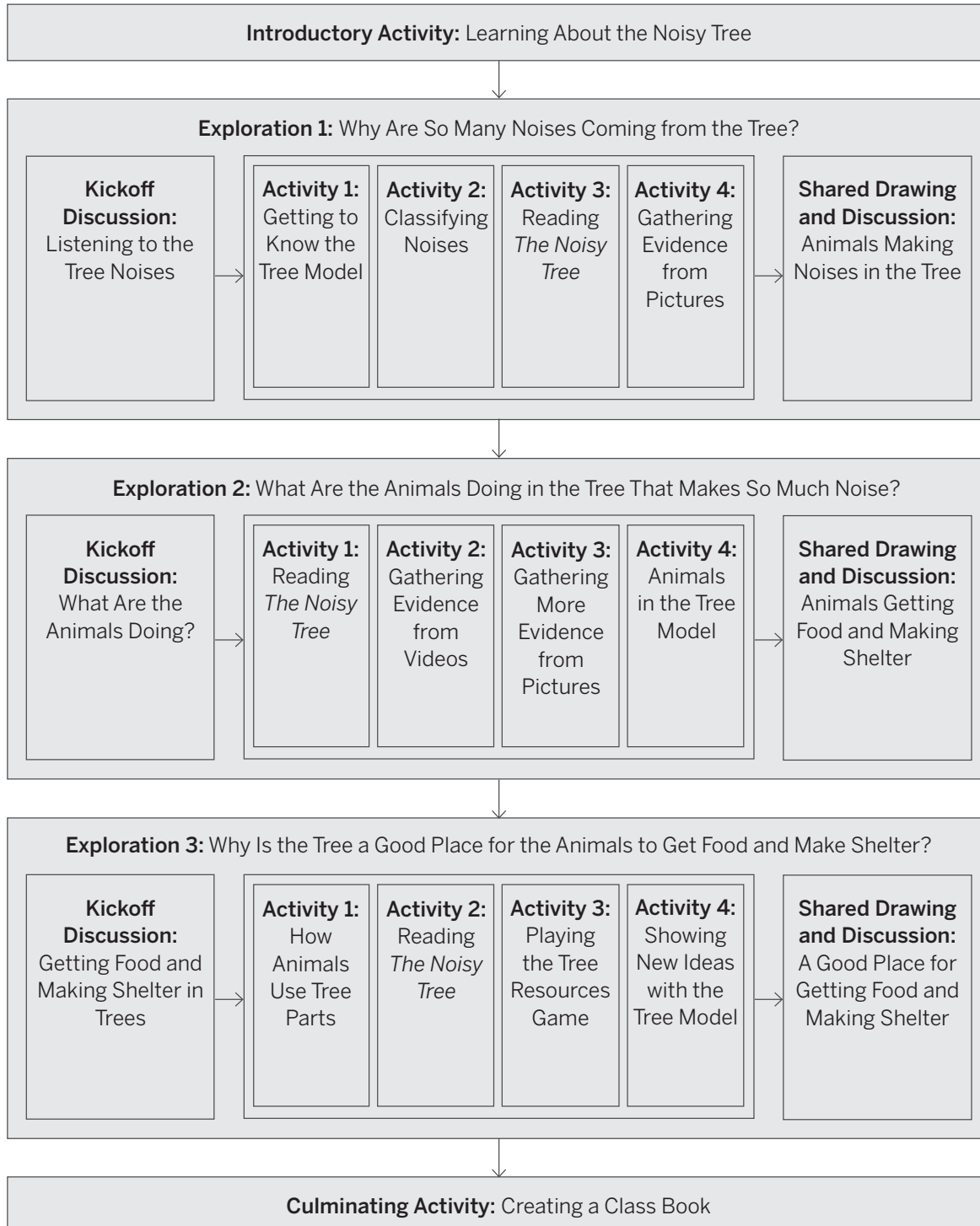
### Structure of the Unit

Each unit in the Amplify Science Transitional Kindergarten (TK) curriculum begins with an Introductory Activity that introduces a phenomenon. The Introductory Activity is followed by a series of three Explorations—each Exploration is comprised of a Kickoff Discussion, four activities, and a Shared Drawing and Discussion—in which students investigate to collect evidence that will help them construct an understanding of the phenomenon. Each unit ends with a Culminating Activity that consolidates students' understanding. See the unit diagram on the next page for a visual representation of the flow of instructional activities.

Depending on your class schedule and configuration, each unit can be implemented in a variety of instructional formats. (For additional information about how to personalize a unit for your class, see Flexible Implementation in the Instructional Resources section on page 6.) Each instructional activity is designed to span approximately 15 minutes. Depending on the implementation options you choose, teaching the entire unit will take approximately 4–6 weeks.



## Life Science: Wondering About Noises in Trees





## Introductory Activity Overview

This Introductory Activity introduces students to the *Life Science: Wondering About Noises in Trees* unit and sets the stage for the Explorations to follow. The teacher reads aloud the first few pages of *The Noisy Tree*, which begins the story of a young girl who works like a scientist as she observes nature in her park. She hears mysterious noises from a tree and wonders what is going on. During the Read-Aloud, students are introduced to their role as scientists. After reading, students share their initial ideas about what could be making the noises in the tree. The purpose of this Introductory Activity is to introduce students to the unit phenomenon and to their role as scientists in order to motivate their learning throughout the unit.

### Students learn

- Scientists wonder about things and try to figure out more about them.
- Scientists use their senses to figure things out.

### Vocabulary

- scientist



## Exploration 1 Overview

In this Exploration, students investigate Science Question 1: *Why are so many noises coming from the tree?* Exploration 1 begins with the Kickoff Discussion in which students listen to sound recordings of noises like those from the tree and share their initial ideas in response to Science Question 1. Four activities help students gather evidence about trees and possible sources of noises from a tree. In Activity 1, students are introduced to the Tree Model that they will use throughout the unit. In Activity 2, students listen to additional sound recordings and draw their ideas about the source of each sound. In Activity 3, the teacher reads aloud a new section of *The Noisy Tree*. In Activity 4, students observe a series of tree pictures and use a language frame to describe their observations. Exploration 1 ends with the Shared Drawing and Discussion in which the class summarizes and applies what they have learned. The purpose of Exploration 1 is for students to use science practices and ideas about patterns to figure out that trees often have a lot of animals in them and that animals make noises.

### Students learn

- Trees often have lots of animals in them. Animals make noises.
- Trees have trunks, branches, and leaves.
- Scientists ask questions and gather evidence to answer their questions.
- Scientists draw, write, and talk to share their ideas.

### Activities at a Glance

#### Kickoff Discussion: Listening to the Tree Noises

The teacher introduces Science Question 1: *Why are so many noises coming from the tree?* to motivate the activities students engage in throughout Exploration 1.

#### Activity 1: Getting to Know the Tree Model

Students are introduced to the Tree Model in order to build an understanding of the parts of a tree and to become familiar with a central resource of the unit.

**Activity 2: Classifying Noises**

Students listen to a series of sound recordings and make drawings of their ideas about the source of each noise. This activity supports students' preliminary understanding that many noises are made by animals.

**Activity 3: Reading *The Noisy Tree***

The teacher leads a Read-Aloud of a new section of *The Noisy Tree* to introduce students to animals in the tree. This section of the book helps students understand how scientists make observations to gather evidence to help answer their questions.

**Activity 4: Gathering Evidence from Pictures**

Students describe what they observe in trees on the Tree Cards in order to gather evidence that many kinds of animals can be found in trees. Students use a language frame to practice sharing ideas like scientists do.

**Shared Drawing and Discussion: Animals Making Noises in the Tree**

The class participates in a shared drawing and an accompanying discussion to consolidate and apply their understanding of Science Idea 1: *Trees often have lots of animals in them. Animals make noises.*

**Vocabulary**

- evidence
- observe
- scientist
- senses



## Materials and Preparation

### Materials

#### For the Class

- *The Noisy Tree*
- Science Question 1: *Why are so many noises coming from the tree?*
- 3 vocabulary cards: *evidence*, *observe*, *senses*
- Tree Cards (24 cards)
- Language Frame Cards: Set 1 (11 cards)
- Science Notebook Cover copymaster
- Science Notebook Page copymaster
- 1 computer or other digital device\*
- 2–4 sentence strips\*
- 2 sheets of chart paper\*
- 1 large cardboard box\*
- 1 medium cardboard box\*
- 1 small cardboard box\*
- 3 (or more) cardboard tubes\*
- box cutter or sharp scissors\*
- paper cutter\*
- stapler\*
- tissue paper\*
- pipe cleaners\*
- colored markers\*
- marker\*
- masking tape\*
- pocket chart or whiteboard with magnets\*
- optional: 1 additional sheet of chart paper\*

- optional: Visual Directions Cards (8 cards)

#### For Each Student

- 1 set of crayons\*
- 1 assembled Science Notebook

\*teacher provided

### Preparation

1. **Optional: Plan for flexible implementation.** If you would like to use the flexible implementation option, refer to the teacher reference on pages 32–33 (Suggestions for Flexible Implementation: Exploration 1) to determine any adjustments you may need to make for planning and instruction. Activities 1, 2, and 4 can be implemented flexibly to incorporate a science center with an adult-led introduction and wrap-up. Activity 3 requires adult facilitation.
  - **Visual Directions Cards:** Determine whether or not the Visual Directions Cards will be helpful if you choose to take advantage of the flexible implementation. This optional card set is provided as a Class Resource, located after the activities in Exploration 1. Make a copy of the card set (8 cards) and cut apart each card.



**2. Locate the following print materials:**

- Science Question 1: *Why are so many noises coming from the tree?*
- vocabulary cards: *evidence, observe, senses*
- Tree Cards (24 cards)

**3. Prepare Science Idea 1 (Shared Drawing and Discussion).** On one or two sentence strips, write “Trees often have lots of animals in them. Animals make noises.” You will post this during the Shared Drawing and Discussion activity.**4. Prepare Language Frame 1 and accompanying card set (Activity 4, Shared Drawing and Discussion).**

- **Language Frame 1.** On one or two sentence strips, write “There is a \_\_\_\_\_ in the tree.”
- **Language Frame Cards: Set 1.** This card set is provided as a Class Resource, located after the activities in Exploration 1. Make a copy of the card set (11 cards) and cut apart each card.

**5. Arrange the language frame and cards in a pocket chart or on a whiteboard (Activity 4, Shared Drawing and Discussion).** Refer to the teacher reference on page 37 (Language Frame 1) to see what the setup with the sentence strip(s) and cards will look like.

- Place the language frame in a pocket chart or attach it to a whiteboard with magnets.

- Place the cards beneath the language frame. Make sure the cards are turned over so they are not revealed to students until you discuss them in Activity 4.

**6. Gather materials for the Tree Model (Activity 1).** You will create a Tree Model for the class to use throughout the unit. You will need to obtain the following materials to create the model. You will need three different-size cardboard boxes, measuring a total of 3'–3 ½' tall when stacked on top of one another. Approximate measurements for each box are listed below for your reference.

- 1 large box (at least 9" x 11" x 14")
- 1 medium box (at least 7" x 8" x 11")
- 1 small box (at least 6" x 6" x 8")
- 3 (or more) cardboard tubes (Wrapping paper tubes are recommended. Taping together 2 paper towel tubes in place of 1 longer tube will also work.)
- masking tape
- box cutter or sharp scissors

**7. Create the Tree Model (Activity 1).** You will need to create the basic Tree Model before teaching the activities in Exploration 1. Refer to the teacher reference on page 34 (Tree Model: Setup) to see what the assembled Tree Model will look like.

- **Tree holes.** Cut a large oval-shaped hole on one side of the large cardboard box, a medium



oval-shaped hole on one side of the medium cardboard box, and a small oval-shaped hole on one side of the small cardboard box.

- **Tree trunk.** Stack the three cardboard boxes—the largest box at the bottom and the smallest box at the top. You may choose to secure the boxes together with masking tape.
- **Tree branches.** Cut small holes (corresponding to the number of cardboard tubes you have) in the small box and the medium box. Insert one tube into each hole.

#### 8. Gather materials for leaves (Activity

1). Each student will create a few leaves to attach to the branches of the Tree Model. Refer to the teacher references on pages 35–36 (Leaves, Tree Model with Leaves) to see examples of different kinds of leaves students can make and what the Tree Model will look like once the leaves are attached.

- For each leaf, you will need to provide the following materials:
  - 1 piece of tissue paper (cut to approximately 6" x 6")
  - 1 pipe cleaner
- Provide enough tissue paper and pipe cleaners for each student to make 1–3 leaves.
- Create three different sample leaves, making sure to leave several inches of pipe cleaner at the end of each leaf so it can be attached to a branch of the Tree Model. In Activity 1, Step 3, you

will need to demonstrate for students how to make each leaf.

- Poke the pipe cleaner through the piece of tissue paper in various places.
- Wrap the pipe cleaner around one end of the tissue paper.
- Crumple up the tissue paper and wrap the pipe cleaner around the middle of the tissue paper.

9. **Search for sound recordings on the Internet.** You will need to play sound recordings for students in several activities (listed below). Make sure there are no background noises in the sound recordings that will distract students. If you use the audio from video clips, make sure students cannot see the video when you play the sounds. Use the suggested search terms (in parentheses below) to find the sound recordings. Be ready to play these from a computer or other device. (Keep all sound recordings handy as you will need to replay some of the recordings in subsequent Explorations.)

#### • Kickoff Discussion, Shared Drawing and Discussion

- woodpecker (“woodpecker drumming”)
- squirrel making a nest (“crunching leaves”)
- **Activity 2**
  - car horn (“car horn honking”)
  - barking dog (“barking dog sounds”)



- whistle (“whistle sound”)
- roaring lion (“roaring lion sounds”)
- quacking duck (“quacking duck sounds”)
- mooing cow (“mooing cow sounds”)

**10. Prepare to list noises that students identify (Activity 2).** As students identify the noises you play, you will record them on the board or on a sheet of chart paper.

**11. Assemble Science Notebooks (Activity 2).** Throughout the unit, students will draw their ideas in Science Notebooks. You may collect notebooks after students compose each entry to review their work. You will need to assemble one Science Notebook for each student and one for yourself.

- **Science Notebook cover.** Make enough copies of the Science Notebook Cover copymaster so each student will have a cover.
- **Science Notebook pages.** Make 20 copies of the Science Notebook Page copymaster for each student.
- **Combine cover and pages.** For each notebook, staple the cover and the 20 pages on the short left-hand side.

**12. Review *The Noisy Tree* (Activity 3, Shared Drawing and Discussion).** Preview pages 9–15.

**13. Preview Shared Drawing and Discussion activity (Shared Drawing and Discussion).** Throughout the unit,

you will add to a shared drawing and accompanying writing on two separate sheets of chart paper. You will draw (using colored markers) and write with student input during the Shared Drawing and Discussion activity at the end of each Exploration. Refer to the teacher references on page 38 (Shared Drawing: Exploration 1) and page 39 (Shared Writing: Exploration 1) to see what the shared drawing and writing will look like at the end of Exploration 1. Post two sheets of chart paper next to each other. Alternatively, instead of one sheet of chart paper, you could use a sentence strip each time you add to the shared writing.

**14. Have on hand the following materials:**

- **Kickoff Discussion:** Science Question 1, *The Noisy Tree*, vocabulary card: *evidence*, masking tape, sound recordings
- **Activity 1:** Tree Model, prepared sample leaves, tissue paper, pipe cleaners
- **Activity 2:** sound recordings, vocabulary card: *senses*, masking tape, Science Notebooks, crayons, optional: chart paper
- **Activity 3:** *The Noisy Tree*, vocabulary card: *observe*
- **Activity 4:** Tree Cards
- **Shared Drawing and Discussion:** prepared Science Idea 1, *The Noisy Tree*, sound recordings, colored markers



## Teacher References

### Suggestions for Flexible Implementation: Exploration 1

Activities 1, 2, and 4 can be implemented flexibly to incorporate a science center with an adult-led introduction and wrap-up. Activity 3 requires adult facilitation. Refer to the following suggestions about how to modify these activities to incorporate a science center into Exploration 1:

#### Activity 1: Getting to Know the Tree Model

- **Introduction:** Follow Steps 1–3 to introduce the Tree Model and to demonstrate making leaves for the Tree Model.
- **Science center (Step 4):** Students work independently to create leaves to add to the Tree Model.
- **Wrap-up:** Once all students have completed the center activity, gather the class at the Tree Model and follow Steps 5–7 to synthesize student learning.
- **Materials adjustments:** *n/a*
- **Visual Directions Cards:** *make* (affix a leaf sample to the card)

#### Activity 2: Classifying Noises

- **Introduction:** Follow Steps 1–4 to introduce the Science Notebook and to demonstrate how to listen to the sound recording and draw on a notebook page. Use any routines you have in place to remind students how to work at a listening center.
- **Science center (Steps 5–8):** Students work at the center to listen to each sound, discuss with a partner, and then draw what they think made the sound.
- **Wrap-up:** Once all students have completed the center activity, gather the class with their notebooks and follow Steps 9–11 to synthesize student learning.
- **Materials adjustments:** *n/a*
- **Visual Directions Cards:** *listen, share, draw and write*

**Activity 3: Reading *The Noisy Tree***

- This activity requires adult facilitation. Follow all steps as written.

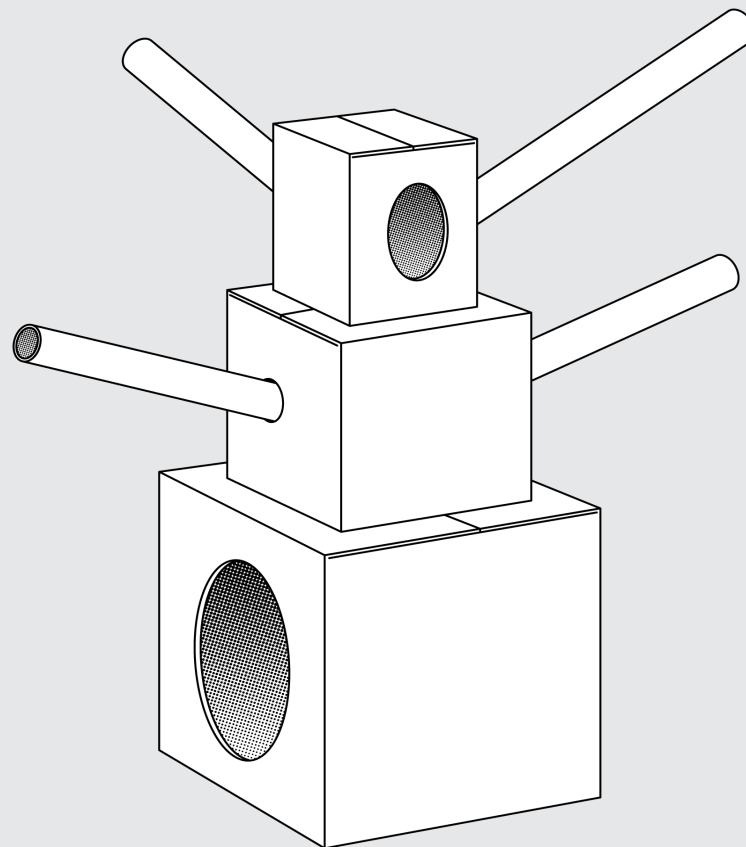
**Activity 4: Gathering Evidence from Pictures**

- **Introduction:** Follow Steps 1–5 to introduce the Tree Cards and the language frame. When demonstrating the activity, set expectations for observing multiple Tree Cards and using the language frame cards to complete the language frame after each observation.
- **Science center (Steps 6–8):** Students work at the center to observe Tree Cards and practice sharing their observations with the language frame and language frame cards.
- **Wrap-up:** Once all students have completed the center activity, gather the class together and follow Step 9 to synthesize student learning.
- **Materials adjustments:** Prepare one language frame with language frame cards for each pair of students working at the center.
- **Visual Directions Cards:** *observe, share, explain*



### Tree Model: Setup

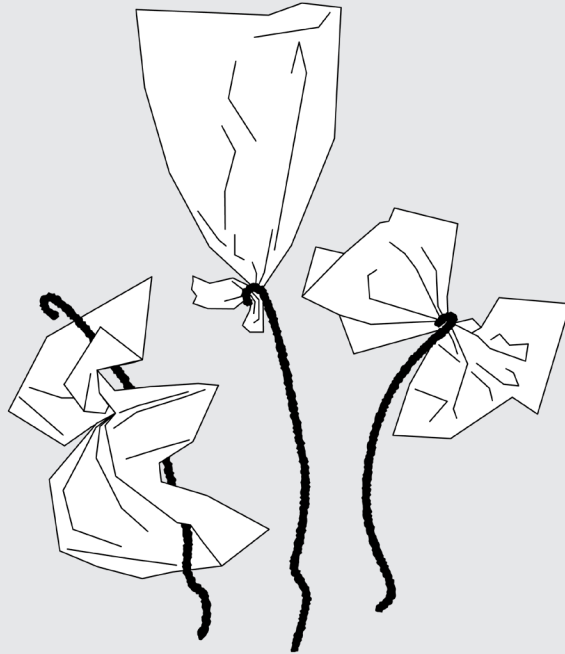
Before beginning to teach the activities in Exploration 1, you will create a basic Tree Model for the class to use throughout the unit. You will create the Tree Model by stacking three different-size boxes on top of one another. You will also make holes in the boxes to represent holes in the tree trunk, and you will make smaller holes for inserting cardboard tubes to represent branches. Below is an example of how the basic Tree Model will look.





## Leaves

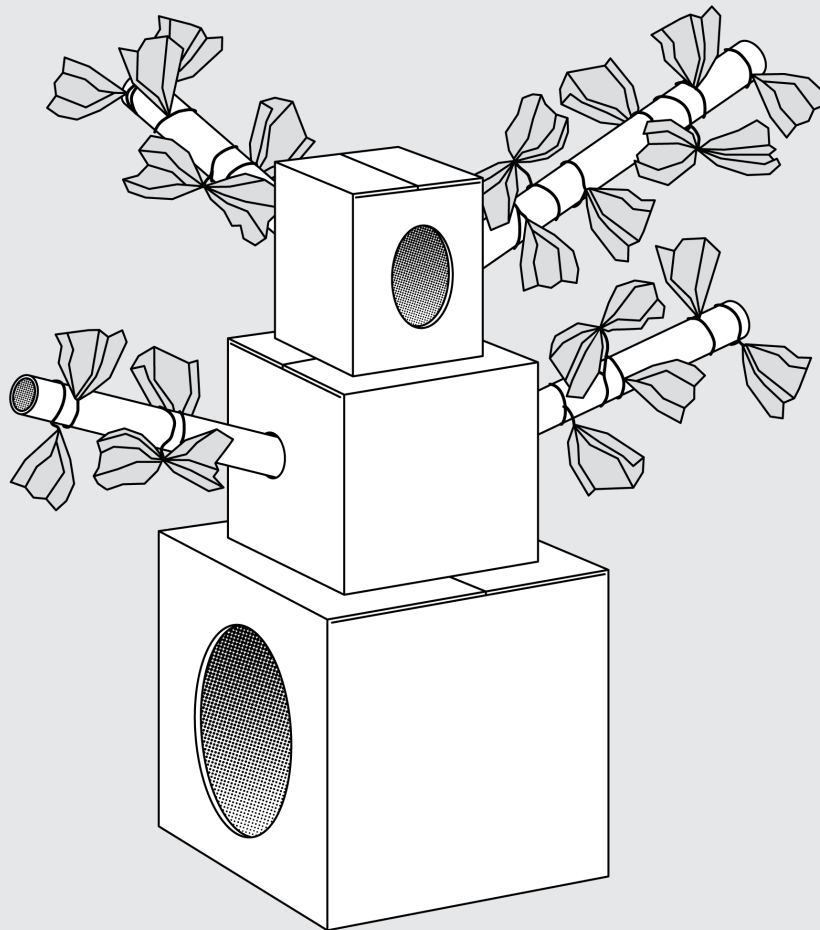
In Activity 1, students will create leaves made from pipe cleaners and tissue paper to attach to the branches of the Tree Model. Before beginning to teach the activities in Exploration 1, you will want to create three different sample leaves to show students. In Step 3 of the activity, you will need to demonstrate how to make each leaf. Below are examples of the sample leaves you will create.





### Tree Model with Leaves

In Activity 1, students will attach their leaves to the branches of the Tree Model by twisting the stems/pipe cleaners around the branches/cardboard tubes. Below is an example of how the Tree Model will look once the leaves are attached.

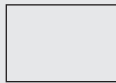




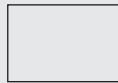
**Language Frame 1**

On one or two sentence strips, write the language frame shown below. Place the language frame in a pocket chart or attach it to a whiteboard with magnets. Place the cards in the pocket chart beneath the language frame. Make sure the cards are turned over so they are not revealed to students until you discuss them in Activity 4.

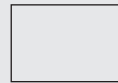
There is a \_\_\_\_\_ in the tree.



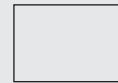
owl



raccoon



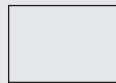
bear



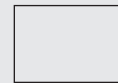
koala



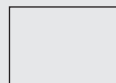
wasp



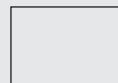
butterfly



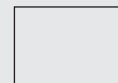
gecko



bat



monkey



bird



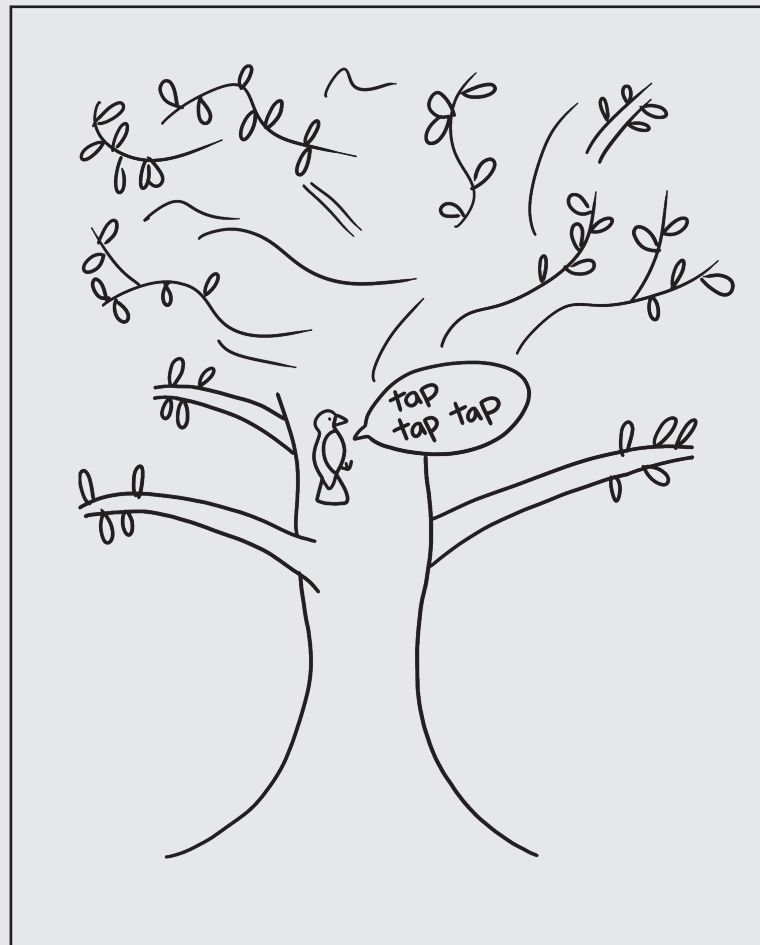
porcupine



### Shared Drawing: Exploration 1

Throughout the unit, you will add to a shared drawing on a sheet of chart paper. You will create this, with student input, during the Shared Drawing and Discussion activity at the end of each Exploration. Keep the drawing relatively simple and leave room for additional animals and tree parts. You will add additional details during Explorations 2 and 3. Below is an example of how the shared drawing for Exploration 1 will look. Using colored markers, be sure to include the following:

- a large tree with high branches and leaves
- a woodpecker tapping at the tree with a speech bubble to indicate the tap-tap-tapping noise it is making



**Shared Writing: Exploration 1**

On a separate sheet of chart paper (posted next to the shared drawing), you will create a shared writing, with student input, during the Shared Drawing and Discussion activity at the end of each Exploration. Below is an example of how the shared writing for Exploration 1 will look. Alternatively, instead of one sheet of chart paper, you could use a sentence strip each time you add to the shared writing.

There is a woodpecker in the tree.



## Kickoff Discussion: Listening to the Tree Noises

### What?

The class reviews what happened in the first section of *The Noisy Tree* and then listens to sound recordings of noises that are similar to the ones the girl in the book heard. The class is introduced to Science Question 1 and discusses their initial ideas in response to this question.

### Why?

Listening to noises like those described in the book deepens students' connection to the unit phenomenon and motivates them to figure out more about these sounds. Introducing and discussing Science Question 1 models how scientists approach a problem.

### How?

1. **Display *The Noisy Tree*.** Invite students to share what they remember from reading the first section of the book in the Introductory Activity.
2. **Revisit page 8.** Remind students that the girl in the book observed a tree carefully and heard noises coming from it. Read aloud the text on the page.
3. **Play the sound recordings of the woodpecker and the squirrel making a nest.** As you play each recording, connect it to how the girl in the book described the noise. Make sure you do not reveal what is making each noise.

💬 One noise the girl heard coming from the tree was a tap-tap-tapping noise.

Play the woodpecker recording.

💬 Another noise the girl heard coming from the tree was a crunchy noise, like crinkling paper.

Play the squirrel recording.

4. **Introduce Science Question 1.**

💬 Just like the girl in the book, we are wondering about the noises coming from the tree. When scientists wonder about things, they ask questions.

Post Science Question 1 to the classroom wall and read it aloud.

💬 Why are so many noises coming from the tree?

5. **Invite students to share their ideas about Science Question 1.** Provide the Shared Listening prompt and give students time to engage in the Shared Listening routine with partners.



Take turns sharing why you think there are so many noises coming from the tree.

**6. Introduce *evidence*.**

To help answer questions like this one, scientists gather evidence. The girl in the book gathered evidence as she looked and listened closely to the tree.

Use the Vocabulary routine to introduce *evidence*: things you see, hear, or read that help you answer a question.

**7. Wrap up the activity.** Let students know they will continue working to figure out an answer to the question.

## Teacher Support

### Instructional Suggestion

#### Science Practice: Gathering Evidence

The concept of evidence and the idea that scientists base their ideas on evidence is central to science. For young learners, it is important to reinforce this idea with concrete examples. Make sure your students know that they can find evidence to answer questions by making observations directly with their senses or by gathering information in books and other secondhand media. Consider talking students through a few examples of gathering evidence to answer questions. You could think aloud by saying, “I have a question: *Is it raining outside?* I could gather evidence with my senses to find out if it was raining. I could listen closely for the pitter-patter sound that rain makes, I could look outside and see if there were raindrops falling. Or, I could go outside and feel if it was raining.” Think aloud by saying, “Here’s another question: *Are all bananas yellow?* I could gather evidence by getting a bunch of bananas and looking closely to see if they were all yellow or if they were different colors. I could also read about bananas in a book to figure out if they are all yellow.” Then, have students provide ideas for how to gather evidence for another question such as *What happens when you mix dirt with water?* In this unit, students will gather evidence from *The Noisy Tree*, from photographs, and from sound recordings and videos.



## Activity 1: Getting to Know the Tree Model

### What?




Students become familiar with the Tree Model by observing the model and making and adding leaves to it.

### Why?

Interacting with the Tree Model helps students develop an understanding of the parts of a tree and prepares them to use the model in later Explorations. Discussing the Tree Model introduces students to the scientific practice of modeling.

### How?

#### 1. Display the Tree Model.

-  This is a model of a tree. Scientists make models to show their ideas.
-  A model is similar to the real thing but not exactly the same. Our Tree Model is similar to a real tree but not the same as a real tree.
-  We will use our Tree Model as we try to figure out more about the noises the girl heard coming from the tree.

**2. Have students observe and discuss the Tree Model.** Encourage students to share their observations about the parts of the model and their characteristics. [There are boxes with holes in them. There are long tubes sticking out of the boxes in all directions.] Students may notice that the Tree Model has a trunk and branches but no leaves.

**3. Display the three leaf samples you created.** Let students know that they will each make a few leaves to add to the Tree Model. Show students how to make the three kinds of leaves by using one pipe cleaner and one piece of tissue paper for each leaf.

**4. Give students time to make leaves for the Tree Model.**

**5. Attach leaves to the Tree Model.** After students have finished making their leaves, have them attach the leaves to the Tree Model by wrapping one end of the pipe cleaner around a branch. Provide assistance with this process as needed.

**6. Compare the Tree Model to a real tree.** Have students reflect on how the Tree Model is similar to and different from a real tree. Then, have students share their ideas with one another. As needed, display page 26 of *The Noisy Tree* and point out the parts of the tree.



[The Tree Model has a trunk, branches, and leaves like a real tree. The Tree Model is smaller than a real tree. The Tree Model is made of cardboard boxes and tissue paper, but a real tree is not. The Tree Model is inside, and most trees are outside.]

- 7. Conclude the activity.** Let students know they will come back to the Tree Model as they continue to investigate the noises from the tree.

## Teacher Support

### Instructional Suggestion

#### Going Further: Embodying Tree Noises

If you have additional time, you may want to invite pairs of students to work with the Tree Model to recreate the phenomenon introduced in *The Noisy Tree*. One student could use the Tree Model to recreate noises they read about in the book and heard in the sound recordings. Students might choose to tap the tree, rustle the leaves, or vocalize the noises while their partners listen. After one partner has had a turn embodying the noises, the two can switch roles.

### Instructional Suggestion

#### Going Further: Thinking More About Models

This activity engages students in the science and engineering practice of *Developing and Using Models*. Students' use of the Tree Model throughout the unit is authentic to one of the ways scientists use models—to show their ideas. The Tree Model, like many scientific models, is similar to the thing it represents in important ways and different in many other ways. While explicit instruction on modeling is beyond the scope of this unit, there are opportunities for deeper discussion around modeling. For example, consider bringing in real leaves and having students discuss the ways the leaves on the Tree Model are similar to and different from a real tree's leaves. Thinking about how models represent scientific ideas in this basic and concrete way prepares students to engage with more complex and abstract models in later grades.



## Activity 2: Classifying Noises

### What?

Students listen to different noises and make drawings of their ideas about what made each noise. Students look for patterns in the data they've recorded and discover that many of the noises they listened to are made by animals.

### Why?

Listening to a variety of noises and discussing what makes the noises provides students with evidence that many noises are made by animals. This activity also provides an opportunity for students to practice making observations and analyzing data to look for patterns.

### How?

1. **Set purpose.** Let students know that they will listen to several noises and think about what makes each noise in order to help them figure out why so many noises were coming from the tree.

2. **Introduce senses.**

💬 We are going to gather evidence when we hear different noises. Hearing is one of our five senses.

Use the Vocabulary routine to introduce *senses*: sight, hearing, smell, touch, and taste.

3. **Introduce the Science Notebook.**

💬 When scientists gather evidence to figure something out, they often draw and write their observations and ideas to keep track of them.

Display a copy of the Science Notebook.

💬 As we work as scientists, we will draw and write our ideas in this notebook. You will each get your own notebook.

Open to the first page.

💬 On these pages, we will draw our ideas about what's making the noises we hear.

Show students that all the pages are the same. Then, show students where they will write their names on the cover.

4. **Play the first sound recording you selected and model thinking and drawing.** Think aloud to model considering what makes the noise by providing an example.


💬 That noise sounds a lot like the noise I hear when my neighbor's dog barks. I think a dog is making that noise. I'm going to draw a dog in the box on this page.





Model making a quick drawing of your idea on the first page of your sample Science Notebook.

5. **Distribute materials.** Distribute one Science Notebook and one set of crayons to each student. Have students write their names on the front cover of their notebooks.
6. **Play the next sound recording.** Invite students to turn to a partner to share what they think made the noise. Then, have students make a quick drawing of their ideas on the first page of their notebooks.
7. **Invite students to share their ideas.** After students have completed their drawings, invite volunteers to share ideas about what made the noise. Encourage students to use the thumbs-up signal to indicate if they agree with their classmates' ideas. Guide the group to consensus and then record (on the board or a sheet of chart paper) what made the noise.
8. **Repeat Steps 6 and 7 for the remaining sound recordings.** Have students use a new page in their notebooks for each drawing.
9. **Consider patterns in what made the noises.** Ask students to look at their drawings to see what they notice about the kinds of things that made the noises. Invite volunteers to share what they notice. Accept all responses and guide students to recognize that many of the noises were made by animals.
10. **Have students put a star next to each drawing of an animal.**
11. **Conclude the activity.**

 We observed noises, and we noticed that there are many kinds of things that make noises. One kind of thing that makes noises is animals.

## Teacher Support

### Instructional Suggestion

#### Providing Additional Support: Analyzing Data

In this activity, students are gathering data as they record their ideas about what made each noise and then analyzing the data as they review their drawings. Some students may need additional support to analyze the data. If you anticipate that your students will need additional support, consider having students record their ideas about what made each noise on individual index cards or small pieces of paper. After you have played each sound recording, give students time to review and sort their cards. Physically manipulating the cards may help students notice that several of the sounds were made by animals. After students have sorted the cards, they can share what they noticed about the different kinds of things that made the noises. Support students in looking at their cards to conclude that many of the noises were made by animals.



## Activity 3: Reading *The Noisy Tree*

### What?

The teacher reads aloud the next section of *The Noisy Tree* in which the girl makes new observations of the tree in the park.


### Why?

The girl's actions model how scientists observe to gather evidence. Her observations provide students with evidence that there are animals in the park.

### How?

1. **Set purpose.** Remind students that they are trying to figure out why so many noises are coming from the tree in *The Noisy Tree*. Explain that the class will read a new section of the book to gather evidence to help them answer this question.
2. **Display *The Noisy Tree*.** Invite students to share what they remember about the book. As needed, lead a picture walk of pages 4–8 to remind students that the book is about a girl who visits a park and wonders about the noises she hears from a tree.
3. **Open to page 9 and display the picture for students.**
  - 💬 In the next part of the book, the girl makes new observations at the park. She pays close attention to what she sees and hears.
  - 💬 Even though we are not at the park, we can read about her observations and use them to help answer our question. Scientists work together. They use ideas from other scientists. Often, they learn about those ideas by reading.
4. **Read aloud page 9.** Pause after you have finished reading and point out the green leaves and the high branches on the tree. Ask students to think of a time they have seen a tree with green leaves and high branches. Encourage students to imagine the tree.
5. **Continue reading aloud through page 11.** Pause after you have finished reading and invite students to share their ideas about the questions on the page.
6. **Continue reading aloud through page 14.** Pause after you have finished reading and invite students to share their ideas about the noise the bird on this page makes. Encourage students to think about the noises they have already listened to and if this bird might make any of those noises.
7. **Continue reading aloud through page 15.** Pause after you have finished reading and ask students to look at the photographs on this page and reflect on the kinds of things the girl observed in the park. If students do not mention it, point out that she observed many animals.

**8. Introduce *observe*.**

 The girl in the book looked closely at the tree and listened closely to the noises coming from the tree. She observed the tree closely with her senses.

Use the Vocabulary routine to introduce *observe*: to use any of the five senses (sight, hearing, smell, taste, touch) to learn more about something.

**9. Formative Assessment Opportunity.** Remind students that they are reading to gather evidence that will help them answer Science Question 1: *Why are so many noises coming from the tree?* Provide the Shared Listening prompt and give students time to engage in the Shared Listening routine with partners.

 Take turns sharing why you think so many noises are coming from the tree.

As students share with their partners, circulate to listen to their ideas. Look for students who make the connection between the animals in the park and the noises the girl hears. These students may describe in general that animals could be making the noises, or they may try to identify the specific animals that make the focal noises in the text—the tap-tapping and crunchy noises described on page 8. Students do not need to identify specific animals at this point in the Exploration, but those who are building toward an understanding of Science Idea 1 (*Trees often have lots of animals in them. Animals make noises.*) will discuss animals as the source of the noises.



## Activity 4: Gathering Evidence from Pictures

### What?

Students observe pictures of trees and notice that there are animals in many of the trees. They use a language frame to describe their observations.

### Why?

Observing pictures of trees builds students' dexterity with describing trees and provides students with evidence that many kinds of animals can be found in trees. Using a language frame to describe observations provides students with a structured opportunity to share ideas the way scientists do.

### How?

1. **Set purpose.** Let students know that they will observe pictures of trees to figure out if there is anything in the trees that could be making noises.
2. **Model observing a Tree Card.** Hold up Tree Card 12. Think aloud to model observing the tree and making note of the koala in the tree.
3. **Introduce the language frame.**

🗣️ Scientists share their ideas with other scientists. We can use these words to help us talk about and share our ideas when we observe something in the tree that could be making noises.

Point to the language frame and read it aloud.

🗣️ There is a \_\_\_\_\_ in the tree.

4. **Model using the language frame.** Think aloud to model describing the tree on Tree Card 12 by using the language frame.

🗣️ There is a koala in the tree.

Point to the words of the language frame again and have students join you in reading the completed sentence aloud: *There is a koala in the tree.* Then, think aloud to model describing the tree on Tree Card 2 and then point to the language frame.




🗣️ I don't see anything in this tree that could be making noises so I don't need to use these words to describe this picture.

5. **Explain the procedure for observing Tree Cards.** Hold up a few Tree Cards and let students know that they will work in pairs to observe the trees in the pictures. If students observe something in the tree that they think could be making noises, they can use the language frame to describe what they see.



6. **Distribute materials.** Distribute several Tree Cards to each pair of students.
7. **Students discuss pictures.** Once students have had a chance to discuss their Tree Cards, have them trade with another pair. Do this a few times so each pair has a chance to discuss several of the pictures.
8. **Invite students to share by using the language frame.** For each picture:
  - Display the picture.
  - Invite a volunteer to share what they observed in the picture.
  - If the volunteer observed something that could be making noise, invite them to place the corresponding language frame card in the blank in the language frame (e.g., a student sharing their observation of Tree Card 21 would choose the *raccoon* card and place it in the language frame).
  - Point and read the completed frame together (e.g., *There is a raccoon in the tree.*).Repeat with additional pictures as time permits.

9. **Synthesize observations.**

-  What was something we observed in many trees?  
[Animals.]
-  Were there animals in every tree?  
[No.]
-  We looked at pictures and gathered evidence to figure out that there are animals in many trees, but not in all trees.

## Teacher Support

### Instructional Suggestion

#### Going Further: Recording Observations

To provide more experience with making and recording close observations, have students choose one of the trees they observed and draw it in their Science Notebooks. Encourage students to draw details they observed in the tree picture, including any animals if they are visible. Ask students to use the language frame to describe orally what they drew.



## Shared Drawing and Discussion: Animals Making Noises in the Tree

### What?



The class discusses why so many noises are coming from the tree and then represents their ideas in a shared drawing. Students use the language frame to describe the shared drawing in an oral and written explanation.

### Why?

Participating in the shared drawing and accompanying discussion helps students apply their understanding that trees often have lots of animals in them and that animals make noises. This collaborative activity also reinforces students' understanding that scientists draw, write, and talk in order to share their ideas.

### How?

#### 1. Review the activities in Exploration 1.


-  We have been working as scientists to gather evidence to help answer this question:  
*Why are so many noises coming from the tree?*
-  Remember that evidence is things you see, hear, or read that help you answer a question.

Invite students to share some of the ways they have gathered evidence to help answer this question.

#### 2. **Students share ideas about noises from the tree.** Invite volunteers to share their ideas about why so many noises are coming from the tree. Guide the class to conclude that the noises from the tree were made by animals. As needed, use artifacts from the activities in Exploration 1 (e.g., Tree Cards, *The Noisy Tree*) to review two key ideas:

- There are often animals in trees.
- Animals make noises.

#### 3. **Introduce the Science Ideas section of the classroom wall.**

-  As we learn new science ideas, I will post them here on the wall.

#### 4. **Introduce Science Idea 1.** Hold up Science Idea 1 and read it aloud.

-  Trees often have lots of animals in them. Animals make noises.

Remind students that they have gathered evidence from many activities to figure out this idea. Post Science Idea 1 on the classroom wall.

**5. Display page 15 of *The Noisy Tree*.**

💬 We have figured out that there were noises coming from the tree because of the animals in the tree. The girl in the book observed many animals. I wonder if we can figure out which animals were making the noises.

**6. Replay the sound recordings of the woodpecker and the squirrel making a nest.** Have students reflect on what could have made each noise. Guide them to recognize that the tap-tap-tapping noise is a woodpecker.**7. Turn back to page 14 of *The Noisy Tree* and read it aloud.** Pause after you have finished reading and discuss the noises from the tree.

💬 We think this woodpecker made a tap-tap-tapping noise when it hit its beak against the tree.

💬 We're not sure what made the crunchy noise. We will keep trying to figure out which animal made the crunchy noise.

**8. Introduce shared drawing.**

💬 We know that scientists share their ideas by talking and listening to one another. Scientists also draw and write to share what they learn and to remember their ideas.

💬 Each time we learn something new about what is going on in the tree, we will draw and write what we have figured out.

💬 As we draw what we have learned, we will think about the ideas together. You will help me decide what to draw.

💬 Today we will draw to explain what we have figured out about why so many noises are coming from the tree.

**9. Lead shared drawing of what is in the tree.** Elicit and then synthesize students' ideas. Use colored markers to draw the following on a sheet of chart paper:

- a large tree with high branches and leaves
- a woodpecker tapping at the tree with a speech bubble to indicate the tap-tap-tapping noise it is making

Keep the drawing relatively simple and leave room for additional animals and tree parts. You will add additional details during Explorations 2 and 3.

**10. Revisit the language frame.**

💬 We just drew our ideas about what is happening in the tree. Scientists draw, write, and talk to share their ideas.



Point to the language frame.

💬 We used these words to share our ideas about what we observed in pictures of trees.

💬 Now we can use these words to help us talk about and write our ideas about what is going on in the tree in the book.

- 11. Lead shared writing.** Point to the woodpecker on the drawing and then to the language frame as you model building a sentence.

💬 If someone asked us what is making the noise, we could say, “There is a woodpecker in the tree.”

Invite students to repeat this sentence with you. Then, write this sentence on the sheet of chart paper (or sentence strip) next to the shared drawing.

- 12. Conclude the Exploration.** Let students know that they will continue working to explain what is going on in the tree.

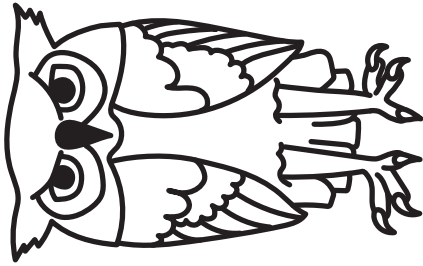
## Teacher Support

### Rationale

#### Pedagogical Goals: About the Language Frame Cards

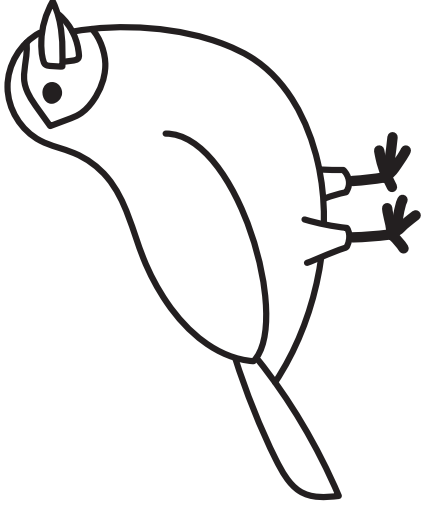
To support students in describing what they observed on the Tree Cards, Language Frame Cards: Set 1 includes all the kinds of animals shown on the Tree Cards. The language frame cards include only one card to represent each kind of animal. For example, there is one language frame card for gecko, rather than two for each of the two kinds of geckos in the Tree Cards. The *owl* and *bird* language frame cards are an exception. Even though owls are birds, owls look distinct enough that we have chosen to include two separate language frame cards. In order to avoid promoting a misconception that owls are not birds, you may want to mention explicitly that owls are a kind of bird.





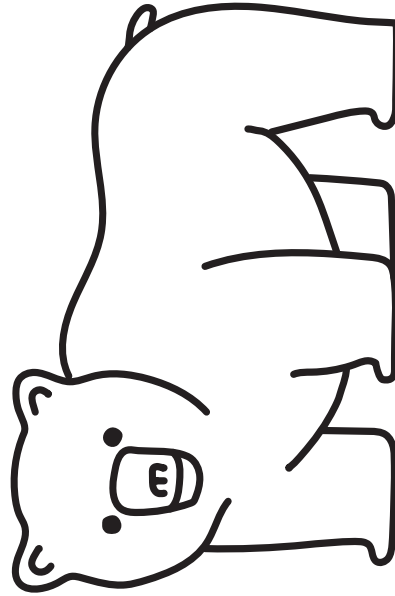
**owl**

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**bird**

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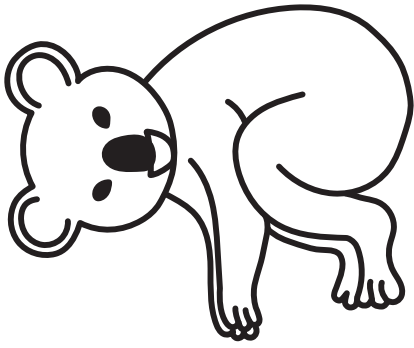
**bear**

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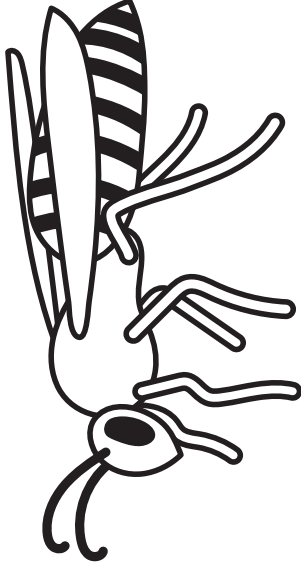
**raccoon**

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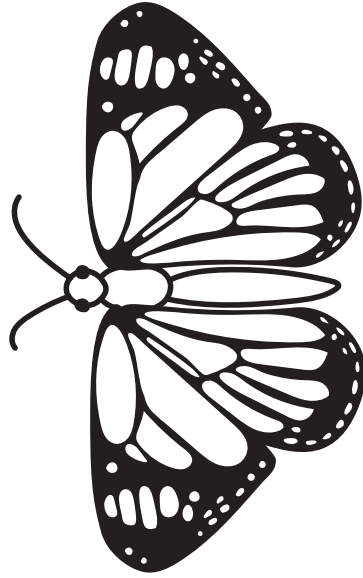
**koala**

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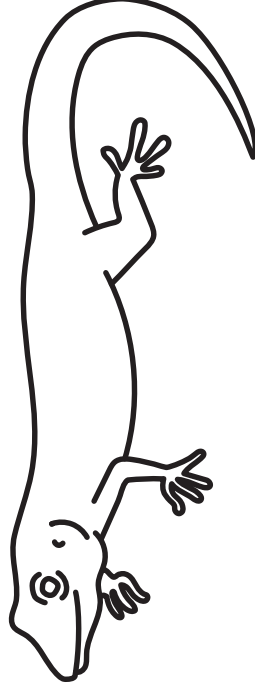
**wasp**

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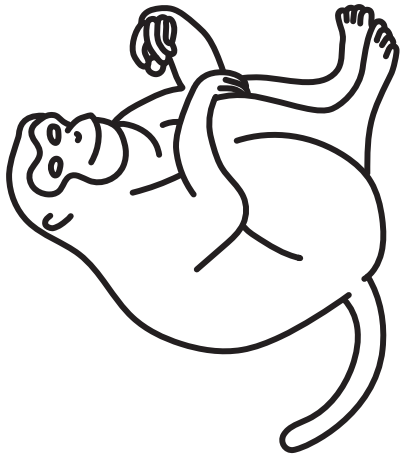
**butterfly**

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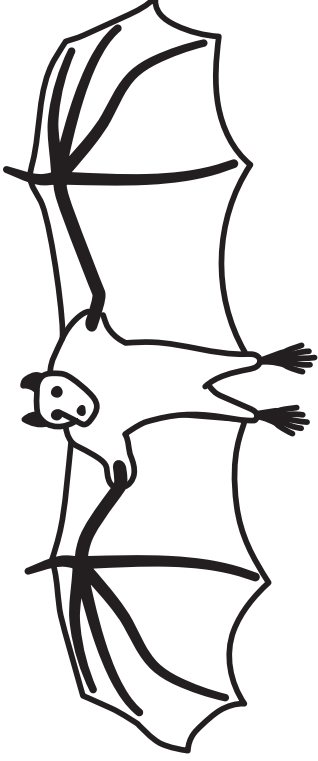
**gecko**

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**monkey**

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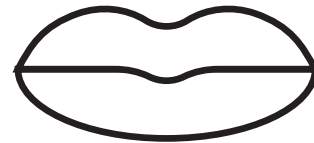
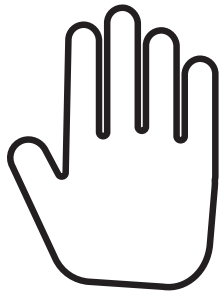
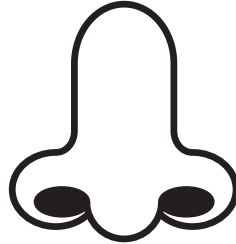
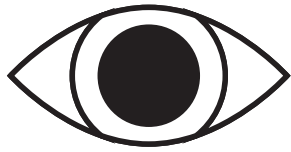
**bat**

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**porcupine**

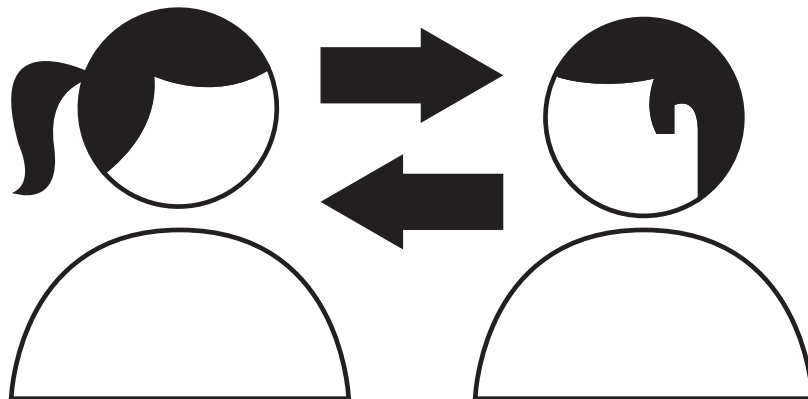
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# observe

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# share

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# listen

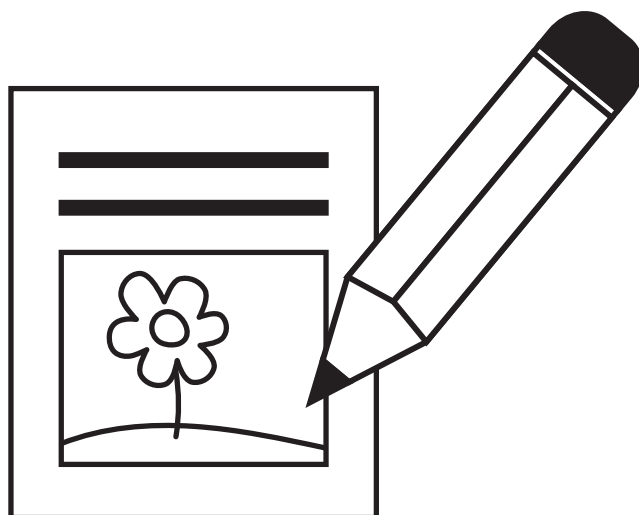
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# make

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# draw and write

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# read

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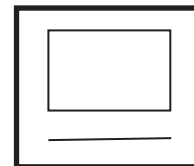
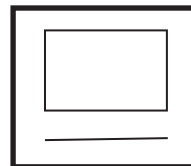
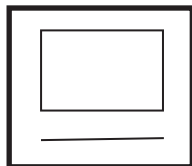
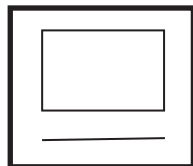
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# think

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# explain

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'S

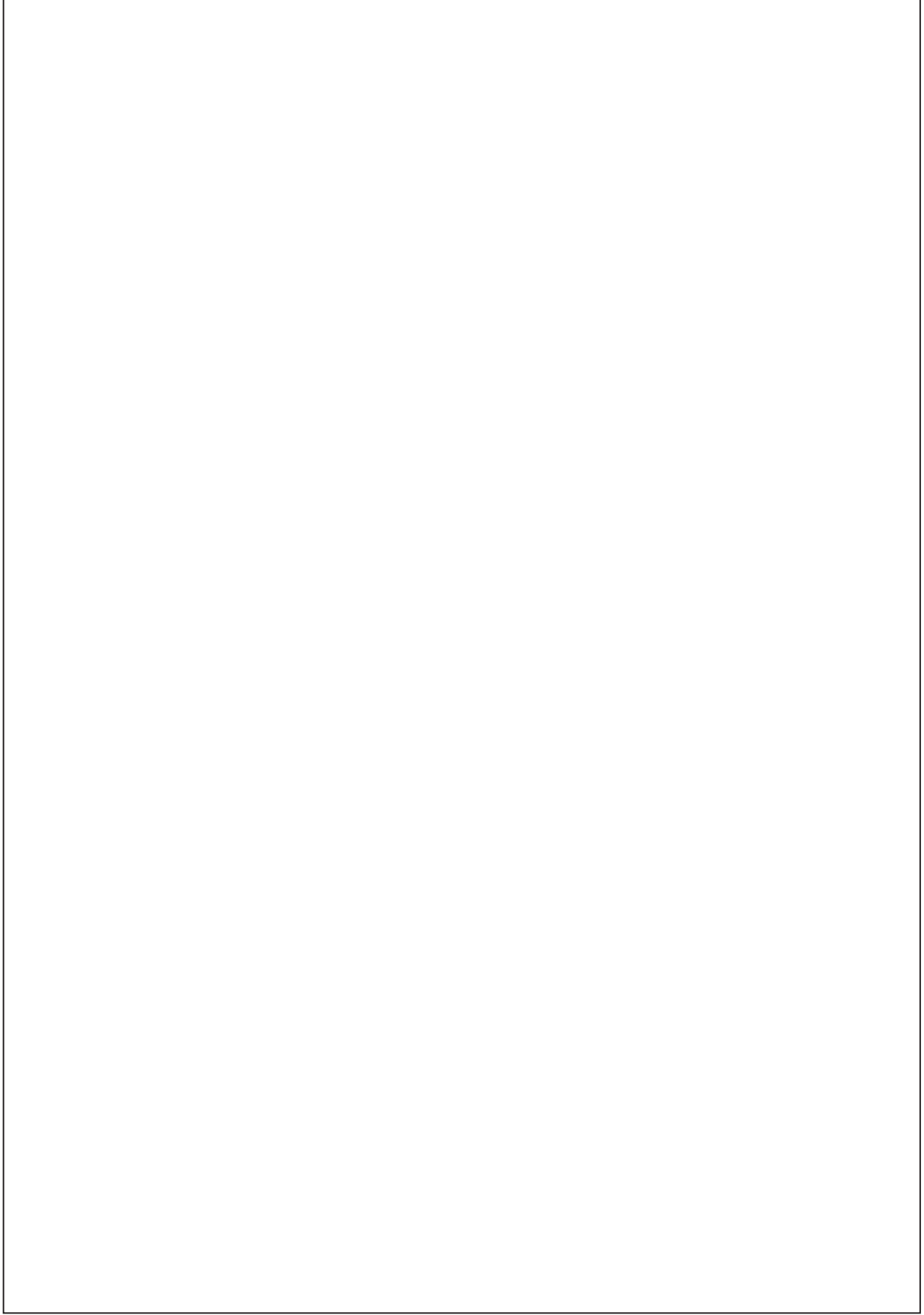
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# Science Notebook

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Name: \_\_\_\_\_ Date: \_\_\_\_\_



# Guided Unit Internalization Planner

## Part 1: Unit-level internalization

Unit title:

What is the phenomenon students are investigating in your unit?

Exploration Questions:

Student challenge:

What science ideas do students need to figure out in order to explain the phenomenon?

What evidence sources do students engage with across the unit?

Part 2: Exploration-level internalization

Exploration 1 Question:	
What do students learn in Exploration 1?	What is the purpose of Exploration 1?

# Exploration Note Catcher

Unit Name:

Flexible Implementation Structure:

FOCUS AREAS	Introductory Activity	Exploration #1	Exploration #2	Exploration #3	Culminating Activity
Science Question					
What will students learn? (objectives)					
Key Vocabulary					
Multiple Modalities (Do, Talk, Read, Write, Visualize)					
Assessments and/or Differentiation Opportunities					
Other Noticings					

# Amplify Science TK ACTIVITY Center Notes

**UNIT:** \_\_\_\_\_ **EXPLORATION:** \_\_\_\_\_

Use this organizer to record notes on how to structure the Activities in your classroom for each Exploration. Decide where/how you will set up the stations (part of LA or Math, or general Learning Centers? Part of Free Choice Centers?), ideas for visual arts & music, extension & home opportunities

<b>Station one:</b>	<b>Station Two:</b>
<b>Station Three:</b>	<b>Station Four:</b>

Use this to page plan additional Activity Centers/Stations - ones you may want to coordinate with math, with your language arts centers, or with your free-choice centers (visual arts, music, home activities, etc.), to support your students in learning this Exploration's Science Concept.

<b>Center One:</b>	<b>Center Two:</b>
<b>Center Three:</b>	<b>Center Four:</b>

# Hybrid Learning: Amplify Science TK

## Questions to consider:

- What adaptations will you make for hybrid learning?
- What materials will you need to teach the lessons?
- What materials will your students need to engage in the lessons?
- Will you make interdisciplinary connections? If so what/how?
- How will you engage families?

## Part 3: Amplify Science TK, Hybrid Learning Pacing and Planning Tool

Directions: Use your class schedule to complete the first row of the table. Then follow the directions to map your week in the bottom row.

Day 1	Day 2	Day 3	Day 4	Day 5
Minutes for science:  Instructional format: <input type="checkbox"/> Asynchronous <input type="checkbox"/> Synchronous	Minutes for science:  Instructional format: <input type="checkbox"/> Asynchronous <input type="checkbox"/> Synchronous	Minutes for science:  Instructional format: <input type="checkbox"/> Asynchronous <input type="checkbox"/> Synchronous	Minutes for science:  Instructional format: <input type="checkbox"/> Asynchronous <input type="checkbox"/> Synchronous	Minutes for science:  Instructional format: <input type="checkbox"/> Asynchronous <input type="checkbox"/> Synchronous
Use your Teachers Guide to familiarize yourself with upcoming lessons. Refer to Suggestions for Synchronous Time on the next page to consider the best format for different parts of the lesson(s). Then, map your week in the row below.				

<p>Lesson:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Students work independently</li> <li><input type="checkbox"/> Teach live lesson</li> <li><input type="checkbox"/> Preview</li> <li><input type="checkbox"/> Review</li> </ul> <p>Notes:</p>	<p>Lesson:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Students work independently</li> <li><input type="checkbox"/> Teach live lesson</li> <li><input type="checkbox"/> Preview</li> <li><input type="checkbox"/> Review</li> </ul> <p>Notes:</p>	<p>Lesson:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Students work independently</li> <li><input type="checkbox"/> Teach live lesson</li> <li><input type="checkbox"/> Preview</li> <li><input type="checkbox"/> Review</li> </ul> <p>Notes:</p>	<p>Lesson:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Students work independently</li> <li><input type="checkbox"/> Teach live lesson</li> <li><input type="checkbox"/> Preview</li> <li><input type="checkbox"/> Review</li> </ul> <p>Notes:</p>	<p>Lesson:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Students work independently</li> <li><input type="checkbox"/> Teach live lesson</li> <li><input type="checkbox"/> Preview</li> <li><input type="checkbox"/> Review</li> </ul> <p>Notes:</p>
<p>Use this row to make notes about student work, including what students will work on, timing, how they will submit work, and how you will respond or provide feedback. This is also a good place to begin thinking about family projects.</p>				

### Suggestions for Synchronous Time

Online or in-person class
<ul style="list-style-type: none"> <li>• Discussions</li> <li>• Hands-on investigations (option for teacher demo)</li> <li>• Interactive read-alouds</li> <li>• Shared Writing</li> <li>• Co-constructed class charts</li> <li>• <u>Preview</u>: Go over what students will experience/do in upcoming asynchronous lessons/family activities so they are prepared.</li> <li>• <u>Review</u>: Revisit activities from previous asynchronous lessons/family activities to help students make sense of them.</li> </ul>



# Preparing to Teach

Directions: Begin looking through your teacher guide to prepare your first lesson

## Things to consider

### Lesson purpose

- What is the purpose of the lesson?
- How do the activities in this lesson fit together to support students in achieving this purpose?

### Preparing

- What materials do you need to gather?
- What materials do you need to prepare?
- What grouping structures (flexible implementation) will you utilize for the activities?
- Are there activities you need to practice before showing students?
- Are there space considerations to think about (e.g., outside observation, stations, whole-group floor space)?
- Are there documents you need to review?

### Timing

- How will teaching this lesson fit into your class schedule?
- How will you pace these activities over the course of your week? Month? quarter?

### Teaching the Lesson

- Are there specific steps you have questions about?
- What challenges might you encounter in teaching this lesson, and how might you address these challenges?

### Supports and challenges

- What might be challenging for your students?
- What additional supports can you plan for individual students?

## Suggestions for synchronous time

The following are some ideas for making the most of synchronous time with your students. As a general rule, the best way to use your synchronous time is to provide students opportunities to talk to one another, or to observe or visualize things they could not do independently.

Online synchronous time	Notes
<p><b>Online discussions:</b> It's worthwhile to establish norms and routines for online discussions in science to ensure equity of voice, turn-taking, etc.</p> <p><b>Digital tool demonstrations:</b> You can share your screen and demonstrate, or invite your students to share their screen and think-aloud as they use a Simulation or other digital tool.</p> <p><b>Interactive read-alouds:</b> Screen share a digital book or article, and pause to ask questions and invite discussion as you would in the classroom.</p> <p><b>Shared Writing:</b> This is a great opportunity for a collaborative document that all your students can contribute to.</p> <p><b>Co-constructed class charts:</b> You can create digital charts, or create physical charts in your home with student input.</p>	

# Adapting Amplify Science for Hybrid Learning

## Student talk options

- Talk to someone in their household about their ideas.
- Talk to a stuffed animal or pet about their ideas.
- Call a friend or classmate and discuss their ideas.
- Talk in breakout groups in a video class meeting.

## Student drawing/writing options

- Draw, have family members/friends take dictation &/or write in a designated science notebook. Photograph drawing/writing and submit digitally.
- Complete prompts in another format. (Teachers can convert prompts so they are completed in an online survey or an editable document that students can submit digitally like SeeSaw, ClassDojo, &/or Schoology).
- Submit audio or video responses digitally (text, email, SeeSaw, ClassDojo, &/or Schoology), rather than submitting a written response.
- Share a response orally with a family member or friend with no submission required.

## Student reading options

- Engage students in read alouds during synchronous in-person or synchronous remote lessons.
- Watch a video of the unit big book read aloud using a digital device (phone, tablet, or computer).
  - [The Noisy Tree](#)
  - [How Engineers Make Buildings](#)
  - [Puddles Almost Everywhere](#)
  - Unit related literature, especially non-fiction, read alouds - [TK Unit 3:"Wondering About Puddles" Unit Video ReadAlouds & Songs](#)

## Hands-on activity/project options

- Do the activity/project with simple materials students are likely to have at home. OR send home baggies of materials for students to use. Have students share projects online &/or in-person, &/or via photo/video and post in class gallery
- Demonstrate hands-on activities with student input during synchronous in-person or synchronous remote lessons.

## Classroom wall options

The classroom wall provides an important reference for students to track and reflect on their developing understanding of the unit's anchor phenomenon and content. When in the classroom, students can engage with the classroom wall in the usual way. When remote/asynchronous these suggestions will enhance the student experience:

- Create a personal science/engineering wall for students. This would include all of the unit questions, vocabulary words and potentially language frames. You could then have students:
  - Highlight or color in each question or word as it is introduced.
  - Cut out each question or word to post on a large sheet of paper or the refrigerator at home.
  - Illustrate each word that is introduced to create a picture glossary.
  - Have students practice weekly language frames with family members &/or friends
- If you are meeting with your class remotely, you could create a virtual Science/Engineering Wall on a slide.

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.