

#### **NGSS Standards**

**2-LS4-1** Make observations of plants and animals to compare the diversity of life in different habitats.

### **Crosscutting Concepts**

**Patterns** Observed patterns in nature guide organization and classification and prompt questions about relationships and causes underlying them.

**Structure and Function** The way an object is shaped or structured determines many of its properties and functions.

#### **Related Resources**

**Pair With** Local Plant Studies Lesson; Microhike Lesson; Sense Test

### **Overview**

It is important to use all of your senses when observing the natural world.

# **Objectives**

- Students will use senses other than sight to observe and recognize a tree.
- Students will become familiar with differences and similarities between trees.
- Students will compare the diversity of trees in different habitats.

### **Materials**

- ☐ Bandanas or Pieces of Fabric that can be used as Blindfolds (1 per student)
- $\square$  Paper or Science Notebooks
- □ Pencils
- ☐ Colored Pencils, Crayons, and Markers

# **Background**

This activity is meant to foster sensory exploration of the natural world and encourage students to use all of their senses to increase their awareness of the environments around them. They will also explore patterns of biodiversity in different habitats/parts of a habitat. By gaining hands-on experience with natural objects, students will be prepared for future lessons about ecosystems and habitats.

### **Notes**

## **Preparation**

Choose an area that exists at the edge of two habitats (meadow to forest, where a drier forest shifts to a wetter forest/wetland, etc.). Look for a place with a diversity of trees and few or no hazards (large roots, holes, etc.).

# **Introducing the Lesson**

Ask students to think about their favorite tree. It could be a type of tree (i.e. apple tree if they love to eat apples), a specific living tree (i.e. their favorite climbing tree), or a tree from a movie or book. Have students describe their tree to the group. You may also choose to have them quickly sketch their tree. Ask students to think about what that tree feels, smells, sounds, and maybe even tastes like – not only what it looks like. Explain that sight is only one of our senses and it is important to use other senses when observing nature.

# **Activity**

- 1. Explain to students that they are going to explore a new tree today and that you are going to test how well they can examine a tree without their sense of sight.
- 2. Demonstrate how you will cover each student's eyes with the fabric and will help move them carefully to their trees. Show the students how to carefully and slowly move about a tree, always keeping one hand on its trunk.
- 3. Remind students to touch the tree, smell the tree, listen to the sounds of the tree and surrounding area. Explain to students that they should make note not just of the tree itself but of the habitat it is in. What does the dirt at the base of the tree feel like or smell like? If it is winter, what is the quality of the snow around the base of the tree? What sounds do they hear coming from around the tree?
- 4. This will only be possible if students remain quiet throughout the whole activity. Tell students that when they have memorized the feel, smell, and sounds of their tree, they should sit quietly at the base of the tree with their blindfold on and think of a descriptive name for their tree (i.e. Fuzzy Bark).
- 5. Have all students cover their eyes with the fabric so that they can't see; check the fabric to make sure it is secure and comfortable. Carefully lead each student to a tree. This activity will be easier for the students if you lead them to unique trees: multiple trunks,

mossy spots, exposed roots, holes in the trunk, skinny trunks, wide trunks, etc.

>>Educator Tip: If the group can handle it, you can choose to partner the students and have the first partner lead the other to a tree. Then you will have to lead all of the first partner students to a tree. Or, you could do the activity in two rounds. One partner is able to see but keeps the secret about which tree belonged to their partner. Then this partner can confirm at the end if they found the correct tree. Then they switch roles. This saves you from having to remember all the trees!

- 6. Place each student's hands on their tree and warn them of any hazards like low-hanging branches. Remind students to stay quiet, keep their eyes covered, and memorize the details of the tree, and that when they are done, they should quietly sit at the base of the tree and think of a name for it. Give students a few minutes to sit at the trunk before carefully bringing them back to your beginning circle. Once all students have returned, have them remove the fabric and open their eyes.
- 7. Send students back out to find their tree. Give hints to students that are having trouble. Ask students to make sure it is their tree by sitting in the same spot against the trunk; does it feel, smell, and sound right? Does the habitat around the tree match what they observed?
- 8. Confirm that all students have found their tree, and then assign students to partners or small groups. Each group should tour the trees in their group, with each student describing his or her tree, pointing out special aspects of it, showing where he or she sat, and explaining the tree's name.

## Wrap-up

Have students share what they noticed about the forest and individual trees when they were unable to see. Ask them to explain how senses other than sight helped them to understand their tree. As a group, discuss how the trees were different based on type of tree, age, where it is living, etc.

### **Assessment**

Working with their partner, students draw a map of the area where their trees are located. Have them label their trees and draw some of the other trees and plants in the area. Then have them use colors or symbols to mark the different types of trees or plants (for example: a triangle next to spruce trees, an X next to alder trees, etc.). Have each student draw an arrow pointing the part of their map that seems to have the highest biodiversity of trees and plants. Assess these maps to see if students have drawn an arrow to the part of the map that illustrates higher biodiversity of trees and plants. Ask the partners to explain their reasoning —even if their arrow points to a different part of the habitat than you expected, listen carefully to this verbal explanation. Students who demonstrate understanding will be able to explain (at an age-appropriate level) how they are defining biodiversity and the patterns of biodiversity they noticed, even if these patterns are different from what others noticed.

### **Pair With**

- Microhike Lesson Plan
- Local Plant Studies Lesson Plan
- Sense Test Lesson Plan