

CHILDREN'S FOREST OF CENTRAL OREGON

CURRICULUM KITS FOR FIELD EXPERIENCES IN CENTRAL OREGON

Science Observation Skills: Characteristics of Plants and Animals

Grades K-1

Developed for Skyliners Lodge

**CHILDREN'S
FOREST**



**CENTRAL
OREGON**

The Children's Forest of Central Oregon provides a network of outdoor places and programs dedicated to moving all children along a continuum of learning, exploration, and healthy living through engagement with nature.

childrensforestco.org

Table of Contents

The Children’s Forest of Central Oregon has the mission of providing opportunities for ALL children in Central Oregon to learn, play, and explore in nature. In addition to providing a network of high quality environmental education programs for K-12 students, one of our strategies is to provide teachers skills and resources to implement field experiences themselves. This curriculum kit is intended to provide teachers everything that they would need to plan a field trip for their classroom or grade level. Included in the kit is:

Field Trip Overview.....	3
Planning for the Field Trip.....	4
• Suggested Timeline.....	4
• Site Location and Information.....	4
• School Engagement Fund.....	5
• Packing list.....	5
• Tips for Group Management in the Outdoors.....	5
Sample Itinerary.....	7
Activities	
• Observation Skills.....	8
• Life Cycle of a Tree.....	11
• My Plant.....	14
• Oh Deer!.....	18
Student Handouts/Materials	
• Observation Scavenger Hunt.....	10
• Life Cycle of a Tree Cards.....	14
• My Plant Data Sheet.....	16
• Oh Deer! Cards.....	20
Materials List.....	21

Field Trip Overview

Field Trip Goals:

- Provide students opportunities to explore and build connections with the natural world
- Apply and expand on science concepts learned in the classroom to investigate real-world examples in nature
- Provide opportunities for students to develop inquiry skills, making observations and collecting data about the natural world to develop an understanding of interconnections between living and non-living things
- Provide students time for physical activity and reflection in an outdoor setting

Suggested Timeframe:

- We recommend 4-5 hours in the field, to provide adequate time for in-depth exploration, questions, and reflection.
- Each lesson can also be taught independently in your school yard, neighborhood park, or other location.

About Skyliners Lodge:

- The curriculum kit was specifically developed for Skyliners Lodge, located 8 miles west of Bend on Skyliners Road.
- The lodge is leased by HDESD and available for educational use at no charge. The lodge must be reserved in advance (we recommend at least 6 months in advance to guarantee your preferred date). For reservation information, visit hdesd.org/about/skyliner-lodge.
- The kit could easily be adapted for other locations in Central Oregon. Note that we have also developed kits for Shevlin Park (Bend) and the Dry Canyon (Redmond).

Standards:

Oregon State Science Standards	<i>K.1P.1 Compare and contrast characteristics of living and non-living things</i> <i>K.3S.1 Explore questions about living and non-living things and events in the natural world</i> <i>K.3S.2 Make observations about the natural world</i> <i>1.1L.1 Compare and contrast characteristics among individuals within one plant or animal group</i> <i>1.2L.1 Describe the basic needs of living things</i> <i>1.3S.2 Record observations with pictures, numbers, or written statements</i>
Common Core State Standards	CCSS.ELA-LITERACY.SL.K.1, CCSS.ELA-LITERACY.SL.K.5, CCSS.ELA-LITERACY.L.K.5.C, CCSS.ELA-LITERACY.SL.1.1, CCSS.ELA-LITERACY.SL.1.5, CCSS.ELA-LITERACY.L.1.1.F, CCSS.ELA-LITERACY.L.1.5.C, CCSS.MATH.CONTENT.K.MD.A.1
Next Generation Science Standards	<i>K-LS1-1 Use observations to describe patterns of what plants and animals need to survive</i> <i>K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live</i> <i>1-LS3-1: Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like their parents.</i> <i>1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.</i>

Planning for the Field Trip

Suggested Timeline

- ✓ 3-4 months in advance
 - ✓ Check with transportation department and Skyliner Lodge availability
 - ✓ Confirm field trip date, reserve bus, and reserve Skyliners Lodge
 - ✓ Reserve curriculum kit with Children’s Forest of Central Oregon (if you’d like to use materials)
 - ✓ Apply to the School Engagement Fund if you need funding for transportation or substitutes

- ✓ 1 month in advance
 - ✓ Send permission slips home
 - ✓ Recruit parent chaperone volunteers
 - ✓ Review curriculum with grade level team and determine responsibilities

- ✓ 2 weeks in advance
 - ✓ Confirm reservation with transportation department
 - ✓ Meet with school nurse to compile a list of medical issues, allergies, and necessary medications for all students attending. If students have severe allergies and epi-pens, find out if the student can self-administer or if you need to do it.
 - ✓ Make list of student groups (if you are splitting the group) and divide emergency contact/medical information into groups

- ✓ 1 week in advance
 - ✓ Discuss field trip behavior rules with your students
 - ✓ Give students a list of required items of the field trip
 - ✓ Confirm itinerary with parent chaperones
 - ✓ Make copies of any necessary data sheets
 - ✓ Pick up curriculum kit with Children’s Forest of Central Oregon
 - ✓ Make nametags for students

- ✓ Day before
 - ✓ Review field trip behavior rules with your students
 - ✓ Pack items on the teacher packing list (below)

Site Location and Information

Skyliners Lodge is located 8 miles west of Bend on Deschutes National Forest. The lodge is on the National Historic Registry and holds 60-70 students indoors. The lodge has easy access to Tumalo Creek, a great spot for stream exploration, and hiking trails through forest that lead all the way to Tumalo Falls. There are 2 outdoor restrooms, as well as 2 indoor restrooms. The lodge has a kitchen, refrigerator, tables, and a fireplace. Just outside of the lodge are benches and views of Tumalo Creek.

Reserving the Lodge:

Skyliners Lodge is leased by HDESD and available for educational use at no charge. The lodge must be reserved in advance (we recommend at least 6 months in advance to guarantee your preferred date). For reservation information and forms, visit hdesd.org/about/skyliner-lodge. School groups using the lodge do not need to supply a Certificate of Insurance.

Address and Directions:

Skyliners Lodge is located at 16125 Skyliners Road, west of Bend. From Bend, head west on NW Galveston Avenue, which turns into Skyliners Road. Stay straight through the last roundabout (with Mt. Washington Drive). Continue 8.7

miles on Skyliners Road (FS Road 4601), past the Skyliner community. Turn left into the driveway for Skyliner Lodge (High Desert ESD is on the sign). If you cross Tumalo Creek, you've gone too far! There is a bus turnaround in front of the lodge.

Emergency Information:

Closest medical facility: BMC Urgent Care - Bend Westside Clinic, 1080 Mt Bachelor Drive, (541) 550-4400

Skyliners Lodge phone: (541) 693-5695

Skyliners Lodge Facility Manager: Bob Martin, (541) 280-3108

School Engagement Fund

Children's Forest of Central Oregon has a School Engagement Fund that teachers can apply to receive funds for transportation or substitute costs associated with field trips. Funds are prioritized for field trips that are inclusive of students with disabilities, aligned with standards, and for Title I schools. To download an application, visit childrensforestco.org/educator.

Packing List

For Teachers:

- Copies of emergency contact information and medical information for all students
- Phone numbers for your school and emergency services (there is no cell service at the lodge)
- Copy of student groups and schedule
- First aid kit
- Plenty of extra pencils
- Hand sanitizer
- Camera

For Students:

- Day pack
- Water bottle (with water)
- Closed-toe shoes
- Sunscreen
- Lunch with extra snacks
- Ziplock bag with pencil and field journal

Tips for Group Management in the Outdoors

Before You Go...

- **Discuss field trip behavior rules with your students beforehand.** Students should understand that the same rules that apply in school, apply on the field trip. Explain the consequences of inappropriate or unsafe behavior. Emphasize that they are representing their school's reputation when they are off-campus and that we want to present our best behavior to the outside world.
- **Prepare your students before the trip.** Discuss the subject matter they will be learning in the weeks before the field experience. Give the students a list of questions they will be looking to answer during the field experience. This will keep them focused, informed, and engaged in learning all day long.
- **Choose parent chaperones wisely.** Field trips require extra eyes and ears. Depending on the site, recruit one chaperone for every 5-10 students. The ideal chaperone is one who is engaged, responsible, and caring. Be sure that chaperones understand that they are there to manage their entire group, not just to spend time with their son or daughter.
- **Establish a signal to get students' attention.** This could be a simple call and response such as "One, Two, Three. Eyes on Me!" and students respond "One, Two. Eyes on You!"

- **Give your chaperones the tools they need to be successful.** Make nametags for all chaperones and students. Create a “cheat sheet” of the day’s itinerary, special rules, and the names of all kids in each chaperone’s group. Give chaperones tips for managing challenging students beforehand.
- **Be considerate when creating student groups.** Avoid grouping students who tend to have problems when together. Assign problem-prone students to chaperones with good management skills or to your group. Field trips can also be a great time to allow students from different classes to get to know each other.
- **Make sure you have all necessary medications.** Talk to the school nurse in advance and gather any medications that your students take during the day. Students with severe allergies need to always have immediate access to their epi-pen. Find out from your school nurse if the student is able to self-administer their epi-pen or if you need to do it.

In the Field...

- **Travel responsibly and safely.** When hiking, travel in a “chaperone sandwich” with an adult in the front and back of the group. Students should stay on designated trails (when appropriate) and should be instructed not to run. When doing activities that require students to spread out, establish clear boundaries before you start and ensure that all students are always in sight.
- **Establish the “Rule of Threes” or “Buddy Rule”.** Anytime that students leave the larger group, they should travel either with another student and an adult (rule of threes, for younger students) or with another student (buddy rule, for older students).
- **Count all day.** Your biggest responsibility as a teacher is keeping track of each student. Chaperones should count the students in their group, but also be sure to get a head count any time the whole group is gathered.
- **Environmental Factors.** Regularly check-in with students to make sure they are staying warm (or cool) and dry, drinking water, and using the restroom. Many student complaints can be avoided by staying hydrated!
- **Leave No Trace.** All students should understand to be respectful of the living and non-living things they encounter. A good rule of thumb is to “leave nothing but footprints and take nothing but pictures.” To find more information about Leave No Trace Principles, visit Int.org.

Sample Itinerary – 1 class (or each teacher stays with their class)

Time	Activity
9:15	Depart School
10:00	Arrive Skyliners Lodge
10:00 – 10:15	Restroom break, divide into groups
10:15 – 11:00	Observation Skills
11:00 – 11:45	My Plant
11:45 – 12:30	Lunch
12:30 – 1:15	Life Cycle of a Tree
1:15 – 2:00	Oh Deer!
2:00 – 2:15	Restroom break, load bus
2:15	Depart Skyliners Lodge

Sample Itinerary – Multiple classes (station model)

Time	Activity	Lead
9:15	Depart School	
10:00	Arrive Skyliners Lodge	
10:00 – 10:15	Restroom break, divide into groups	
10:15 – 11:00	Rotation 1: Group 1: Observation Skills Group 2: My Plant Group 3: Life Cycle of a Tree Group 4: Oh Deer!	Teacher 1 (or volunteer) Teacher 2 Teacher 3 Teacher 4
11:00 – 11:45	Rotation 2: Group 1: Oh Deer! Group 2: Observation Skills Group 3: My Plant Group 4: Life Cycle of a Tree	Teacher 4 Teacher 1 (or volunteer) Teacher 2 Teacher 3
11:45 – 12:30	Lunch	
12:30 – 1:15	Rotation 3: Group 1: Life Cycle of a Tree Group 2: Oh Deer! Group 3: Observation Skills Group 4: My Plant	Teacher 3 Teacher 4 Teacher 1 (or volunteer) Teacher 2
1:15 – 2:00	Rotation 3: Group 1: My Plant Group 2: Life Cycle of a Tree Group 3: Oh Deer! Group 4: Observation Skills	Teacher 2 Teacher 3 Teacher 4 Teacher 1 (or volunteer)
2:00 – 2:15	Restroom break, load bus	
2:15	Depart Skyliners Lodge	

Grade Level: K-1

Duration: 45 minutes

Time of Year/Day: Any

Ideal Location: Any

Materials Needed:

Clipboards, pencils,
Observation Scavenger
Hunt

Objectives:

- Students will tune into their observation skills by spending quiet time in nature
- Students will develop a connection with the place they are spending the day

Science Standards:

Oregon State Science Standards:

K.1P.1 Compare and contrast characteristics of living and non-living things

K.3S.1 Explore questions about living and non-living things and events in the natural world

K.3S.2 Make observations about the natural world

Next Generation Science Standards:

K-LS1-1 Use observations to describe patterns of what plants and animals need to survive

Observation Skills

Rotation 1

Background:

During field experiences it is important to integrate sensory awareness and nature immersion activities as often as you can into all the curriculum areas. Paying attention to our senses while walking down the trail or using a sit spot are easy yet incredibly powerful ways to create this deeper connection to nature and tune-in students' observation skills. Rather than rushing along a trail without necessarily tuning in to anything going on around them, sit spot time is sedentary time alone in the forest, a unique opportunity for many people, especially children. One sit spot can be powerful, but getting to know one spot over time is life-changing. We can introduce the routine here, but we're hoping they take this concept home with them to find a sit spot near home.

Activity 1: Sensory Awareness Skills (15-20 minutes)













1. As your group is heading out on the trail, share with them that while they are on our field trip, we encourage them to learn as much about nature as they can, and one way to do that is to tune into their senses. Ask students to name their 5 senses. Explain that in using our senses, we can learn a lot from the animals that call this place home.
2. Owl Eyes: Ask the students if they can think of an animal that has excellent vision. After the students have identified owls, share that owl's big eyes are literally stuck in place, so they turn their heads all around when they want to focus. They spend most of their hunting time open eyed and gazing widely, waiting to notice the tiniest movement in the field that would be their food. Ask the students to imagine that they are owls perched on a tree. Have the students stand spread out in a circle or a line. While looking straight ahead with their eyes glued on a single point, have students reach their hands straight out in front of their face and wiggle their fingers. Continuing to look forward and instructing them to soften their gaze, students should spread their arms apart horizontally, continuing to spread them until they can't see their fingers wiggling. Repeat by having students spread their hands vertically. Have students share their observations about how much more they can see when they try to incorporate a wider field of vision. Encourage students to maintain this gaze as you continue down the trail.
3. Deer Ears: Have the students stand quietly and tune into their sense of hearing. Share that deer ears have huge muscles that can turn about like satellite dishes to focus on different sounds. Next, have the students try using "deer ears", cupping their hands around their ears, in the shape of deer ears. Practice listening taking their deer ears off and on. If there is moving water around or other groups talking, try facing them with the deer ears on and off. Ask the students to share their observations. Encourage students when they hear sounds in the forest to practice using their deer ears to improve their sense of hearing.
4. Fox-Walk: Ask students how many of them would like to see wildlife. Can they think of an animal that is really good at sneaking up on other animals? Next, demonstrate the fox-walk. Bend your knees a little, relax your body, then gently step forward with one foot, toes first. Place your foot somewhere without leaves or twigs that will snap and make noise. Once the foot rests quietly on the ground, shift your weight into that foot, and repeat with the other foot. Imagine with each step, you check out the ground like a fox to see if you can step quietly. Have the students

practice fox –walking on their own, trying to be as quiet as possible. Once they have some practice, see if they can also use their owl eyes while fox walking. As you continue on the trail, remind students to travel using fox-walking, owl eyes, and deer ears.

5. After heading down the trail, introduce the concept of the sit spot. Find a quiet location with a large enough area for everyone to spread out. Explain that we will be doing a sit spot and taking some time to use our senses to observe nature. Explain that students will simply sit quietly by themselves and enjoy using each of their senses.
6. Optional: Have the students do a sound map for the first sit spot. Give each student a clipboard, paper, and pencil. Tell them to mark an “x” in the middle of their page that represents where they are sitting. As they sit quietly listening, they should mark down every sound that they hear on the map. If they’d like to use symbols for what they are hearing, they can do that.
7. Have students spread out within viewing distance of you or drop students off along the trail, with enough space between them. Students should be far enough away from each other so they don’t distract each other. Give students 5 or so minutes to be quiet.
8. Come back together and debrief your experiences. Did they enjoy the quiet time? What did they observe? Do they think they would have noticed these things if we were walking quickly down the trail?

Activity 2: Observation Scavenger Hunt (25 minutes)

- Break the students into groups of 2 or 3 students and hand out copies of the scavenger hunt to each group. Provide the students boundaries for the activity, and explain that they can explore anywhere inside the boundaries, as long as they are respectful of what lives here.
- Give students 15-20 minutes to explore the area in their teams, assisting groups as needed.
- Regroup the students and guide discussion about the following:
 - Did they find anything living? Did they find anything non-living? What are the differences between the two?
 - Did they find any plants? How about any animals? What are the differences between the two?
 - Can they come up with any questions about anything they observed?

<p>Find a tree and give it a hug</p> 	<p>Find a tree stump</p> 	<p>Something A Bird would eat</p>	<p>A cone from an Evergreen Tree</p> 	<p>Find a smooth rock</p> 	<p>1 Camouflaged Animal</p>
<p>Find a spider web</p> 	Large empty area for the scavenger hunt				<p>Find an insect</p> 
<p>Find something you like!</p>					<p>Smell A Flower</p> 
<p>Find a prickly leaf</p> 					<p>Something that makes A Noise!</p> 
<p>Can you find water?</p> 					<p>find an animal house</p> 
<p>Find a Tree Shorter than you</p>					<p>Stop and Smell the air. What do you smell?</p> 

Grade Level: K-1

Duration: 45 minutes

Time of Year/Day: Any, without snow on the ground

Ideal Location: Forested area with a diversity of tree life stages

Materials Needed: Tree life cycle cards, color pencils

Objectives:

- Students will recognize that organisms change throughout their life time.
- Students will identify all the life stages of a tree in a natural setting

Science Standards:

Oregon State Science Standards:

K.3S.1 Explore questions about living and non-living things and events in the natural world.

K.3S.2 Make observations in the natural world.

1.1L.1 Compare and contrast characteristics among individuals within one plant or animal group

Next Generation Science

Standards:

1-LS3-1: Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like their parents.

1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

Connections to FOSS Kits:

Trees, New Plants

Life Cycle of a Tree (adapted from Project Learning Tree Activity #79)

Rotation 2

Preparation:

- Find a relatively flat forested area that has a variety of life stages: cones, seedlings, saplings, mature trees, snags, downed woody debris. Mark boundaries of the area, or be prepared to have volunteers stand at natural boundaries.

Background:

From PLT Activity 79

Trees, like all living things, have a life cycle that includes birth, growth, injury and disease, aging and death. As trees go from birth to death, their physical form changes, as well as their role in the forest ecosystem. You can learn about past changes in environmental conditions by looking at the growth rings in a cross section of a tree.

Most trees begin as seeds. With favorable soil, climate, and nutrient conditions, a seed germinates and begins to grow. This tiny tree is called a seedling.

As the tree grows, it starts to get taller, its trunk begins to thicken and it begins to develop branches. A sapling is a young tree more than about 4 feet high and up to 4 inches in diameter at breast height. As part of the understory of a forest, young saplings must compete with other trees for sunlight, nutrients, water and space. In dense forests, many young trees must wait for years for older trees to fall and leave openings in the canopy into which they can grow.

A mature tree is one that is fully developed, and is usually more than 4 inches in diameter at breast height. The length of time it takes a tree to reach maturity depends on the species of tree. Mature trees continue to grow as long as they live. Mature trees have many different roles in the forest community depending on their age and size. Their leaves, bark, seeds, flowers, fruit, and roots provide food for many kinds of animals. Trees also provide roosts, shade and shelter to many living things. For example, holes in older trees and around their roots provide shelters for nests and dens.

Trees usually produce many more seeds than can possibly survive. Most seeds will be destroyed by fungi or other decomposers, or eaten by birds or mammals, leaving only a few seedlings to survive and become mature members of the forest community.

Like all living things, trees are subject to disease and injury. Physical damage may not kill the tree, but may provide holes and openings in which animals and insects can live and feed. Eventually, trees weakened by injury and disease will die, fall down, and be decomposed. When they die, trees return

their nutrients and other elements back into the soil to be recycled through the forest ecosystem.

Activity:

In a flat natural setting, have the class make a circle and explain that today they will be exploring the life cycle of a tree- how trees grow and develop over their life time.

1. Plant personification:

- Ask students if trees are alive. How do they know? (They grow.) How are trees born? (From a seed.) Do they die? (Yes, but they can live a long time.)
- Ask students to imitate your movements as you enact the life cycle of a tree.
 - Curl up in a tight ball- you're a seed.
 - Uncurl and kneel-you've sprouted.
 - Stick one arm up in the air (fist clenched) - you've grown a branch.
 - Stick the other arm up-you've grown another branch.
 - Wiggle your fingers- you've grow lots of leaves.
 - Stand up (feet together) – you grow tall.
 - Spread feet apart – you spread out lots of roots.
 - Wiggle your toes- you grow lots of little roots (rootlets).
 - Start scratching all over- you're attacked by insects and fungi.
 - Make a loud noise- you get hit by lightning and loose a limb.
 - Smile and sigh- you become a home for wildlife in your old age.
 - Make a hammering noise and vibrate-woodpeckers peck into your dead wood.

2. Life cycle of a Ponderosa pine:

- Divide the students into small groups. Give each group an envelope with parts of a Ponderosa pine lifecycle.
- Ask the students to arrange the cards in a circle to show the life cycle of the tree.
- Give the students a few minutes to organize the cards and then review the correct order: pine cone (holds the seeds), seedling, sapling, mature tree, snag and rotting log.
- Tell the students that now they will find all the parts of the life cycle in the area. Remind them to leave all living things were they are, don't bring items back. Show the students the boundaries of the searchable area; ask parent volunteers to stand at the boundaries.
- Show the class a picture of a pine cone: ask them to find a pine cone and stand next to it.
- Show the class a picture of a seedling: ask them to find a seedling and stand next to it.
- Show the class a picture of a sapling: ask them to find a sapling and stand next to it.
- Show the class a picture of a mature tree: ask them to find a mature tree and stand next to it.
- Show the class a picture of a snag: ask them to find a snag and stand next to it.
- Show the class a picture of a downed log: ask them to find a downed log and stand next to it.

3. Assessment:

This portion can be done in the field or back in the classroom. Have the students circle up for instructions. Have students draw and label the life cycle of a ponderosa pine tree with colored pencils.



Grade Level: K-1
Duration: 45 minutes
Time of Year/Day: Any
Ideal Location: Any
Materials Needed: My Plant Data Sheet, blindfolds (optional), rulers, clipboards, pencils, colored pencils

Objectives:

- Students will make observations of plants to learn about their adaptations
- Students learn about the different plant parts and their role in plant survival and growth

Science Standards:

Oregon State Science

Standards:

K.3S.2 Make observations in the natural world.

1.2L.1 Describe the basic needs of living things

1.3S.2 Record observations with pictures, numbers, or written statements

Next Generation Science

Standards:

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans)

and the places they live

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Connections to FOSS Kits:

Trees, New Plants

My Plant

Rotation 3

Preparation:

- Make copies of My Plant Data Sheets (1 per student)

Background:

From Project Learning Tree

There's a lot of variety in plants all over the world. The world's tallest trees grow to more than 360 feet tall, while other trees only grow to reach 15 feet. Tree leaves can be needle-shaped, broad and flat, or made of little scales. Tree bark can be rough, smooth, shaggy, or deeply furrowed. Branches may spread out to form a huge, broad crown or may rise narrowly like a column. Regardless of the type of tree, all trees have the same basic parts, all of which help it to function and grow.

Leaves are the food factories of a tree. Using energy from the sun, which they capture with a pigment called chlorophyll, leaves convert carbon dioxide and water into oxygen and sugar (food!), through a process called photosynthesis. Tree **trunks** and **branches** contain the trees "pipes" – the tubes that transport water and nutrients to the leaves, and sugar from the leaves to the rest of the tree. They also contain the growing layer of a tree that makes the trunk, branches, and roots thicken each year. **Bark** protects the tree from injury caused by insects and other animals, other plants, disease, and fire. **Roots** help anchor the tree in the ground. They also absorb water and nutrients from the soil. As the roots grow away from the tree, the branch into finer and finer roots called rootlets, which are covered by even finer root hairs.

Activity

1. Explain that today the students will be learning about some of the plants that are found in the area. Ask students what they already know about plants. Can they list the different parts of plants? Guide students into understanding that plants have different parts including the stem, bark, leaves, flowers, and fruits. Explain that scientists make observations about the different parts of plants in order to identify them.
2. Next, explain that students are going to make observations about a plant in the area. Their group gets to become the expert on a plant, recording observations with pictures, numbers, and written statements.
3. Hand the My Plant Data Sheet to students and explain that they will be making observations about the stem, bark, leaves, flowers, and fruits. Remind students that they can observe size, color, texture and either write descriptions or draw pictures. When drawing pictures, encourage students to be as detailed as possible. Explain that not all plants will have all these parts right now. For example, not all plants will have flowers or fruits right now and some plants (like grasses) don't have bark. *Note: You may choose to have students just focus on trees, rather than allowing them to choose other types of plants.*

4. Have students choose the plant they want to observe within boundaries that you determine. Teachers can also assign students to plants. Give the students 10-15 minutes to make observations about and draw their plants. Optional: if the teacher knows the name of the plants the students are studying, they can share that with the students after they have made observations.

Extension Activity 1:

- Group students into groups of 5-6 students and have them go on a mini-tour, learning about other plants from the other students in their groups.

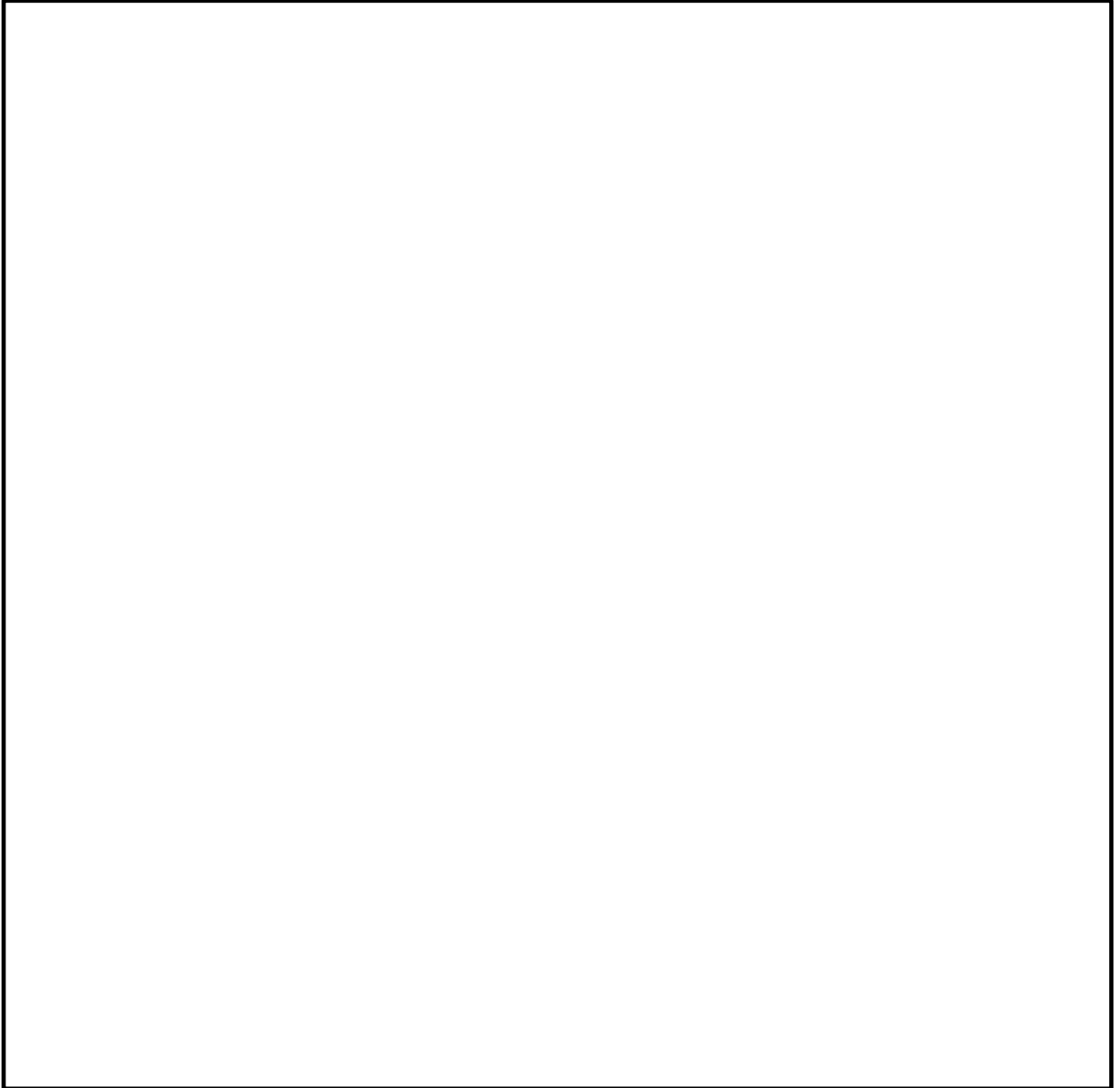
Extension Activity 2: Meet a Tree

- After students have learned about a few plants, pair them up with a partner and have one student close their eyes or be blindfolded. The other partner will guide (CAREFULLY) the blindfolded student to a plant nearby. The blindfolded partner will take a few moments to feel the plant and make observations about the plant, using their sense of touch. Next the non-blindfolded student will guide the student away from the plant, making turns, etc. to make it more challenging. The blindfolded student will take off their blindfold and then go and try and find the plant they were observing. Repeat by switching roles.

Name: _____

My Plant

Draw your plant in the box below. Label the different parts of your plant (leaves, trunk, bark, roots, seeds, flowers).

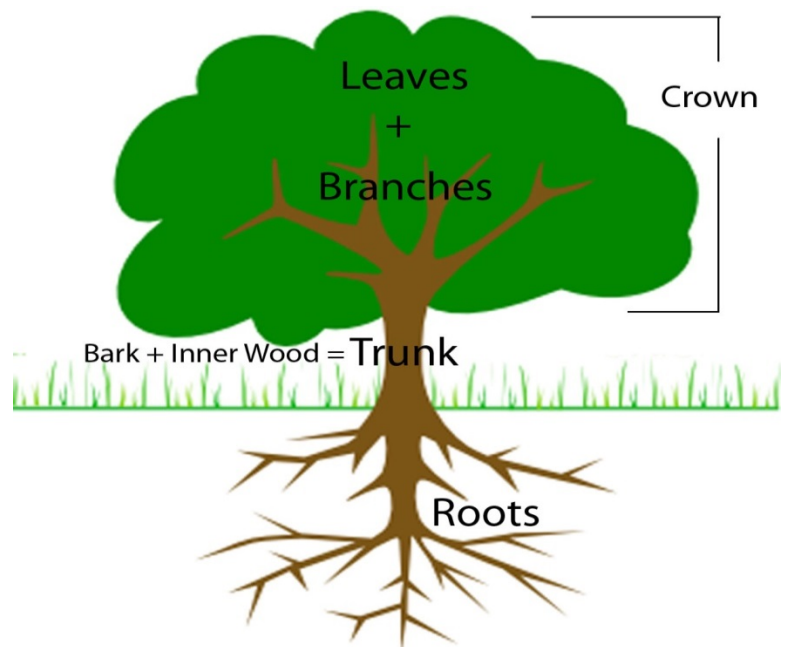
A large, empty rectangular box with a black border, intended for a student to draw a plant. The box is currently blank.

Name of my plant (optional): _____

Describe the different parts of your plant. Remember, not all plants will have all of the parts below.

	Color	Texture	Size
Stem or Trunk			
Leaves			
Flowers			
Seeds, cones, or fruit			
Bark			

Something I wonder about my plant is:



Grade Level: K-1
Duration: 45 minutes
Time of Year/Day: Any
Ideal Location: Large open area
Materials Needed: Oh Deer! Cards (1 for every student)

Objectives:

- Students will learn about the basic needs of living things
- Students will make observations about how habitat and wildlife are related

Science Standards:

Oregon State Science Standards:

K.3S.2 Make observations in the natural world.
1.2L.1 Describe the basic needs of living things
Next Generation Science Standards:
K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live

Connections to FOSS

Kits: Animals Two by Two

Oh Deer! (Adapted from Growing Up Wild)

Rotation 4

Preparation:

- Print Oh Deer! Cards
- Set-up playing field with cones (or backpacks) for boundaries

Background:

All animals need food, water, shelter and space to live. Every animal needs a home. But a home is not just a house, for many animals, a home, means the outdoors. The environment in which an animal lives is called a "habitat". A Habitat is a special place where a plant or animal lives. Just like you have a home or place to live, so do animals and plants. When we talk about an animal's or a plant's home it is more like a neighborhood than a "house." An animal needs five things to survive in its habitat: food, water, shelters and enough space in a special arrangement for the animals needs. An animal will be affected if any of the components of the habitat are missing.

All habitats have four important components (parts) for wildlife: shelter, water, food, and space. Most of the time, people only think of shelter when considering habitat, but the other three components are just as important, and an organism cannot survive without all four.

Shelter describes the structures which an organism lives near, around, on top of, or inside. A home can be considered shelter, such as a burrow, tree cavity, or space beneath an old log. A nest is also shelter, such as a bird's nest or beehive. Another type of shelter is "cover." Cover may not be a home or nest, but simply an arrangement of plants, rocks, dead leaves, water, or shade that an organism can hide in or move undetected by other organisms. Shelter can also be anywhere that an organism uses to escape weather or other dangerous conditions.

Water is important to all forms of life, and without getting enough water in some way, an organism will die.

Food is also essential. Food comes in many forms for many different organisms. Food may be a plant that a rabbit munches on; or, to a hawk, the rabbit is the food.

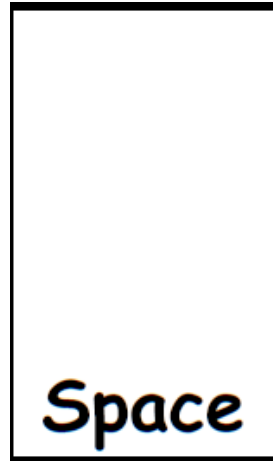
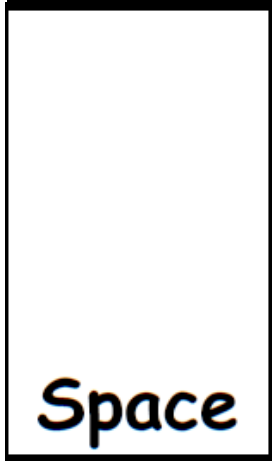
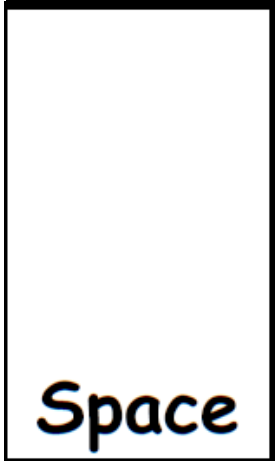
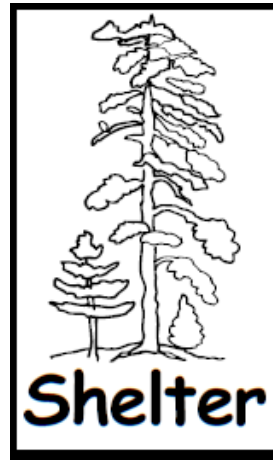
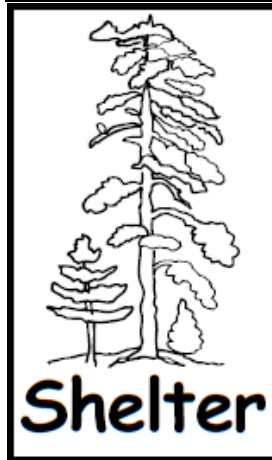
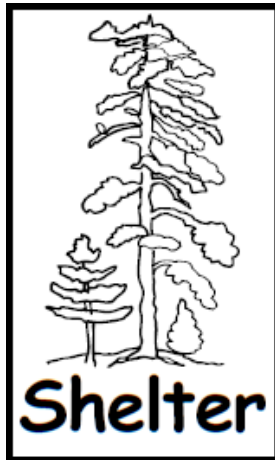
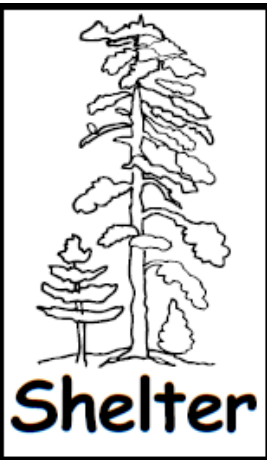
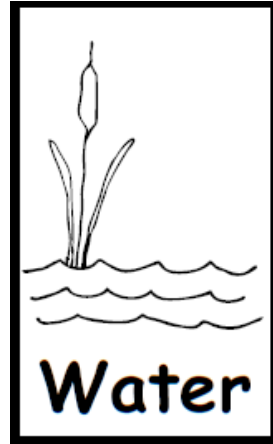
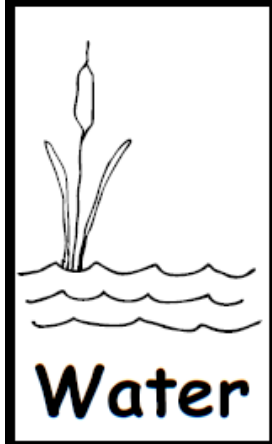
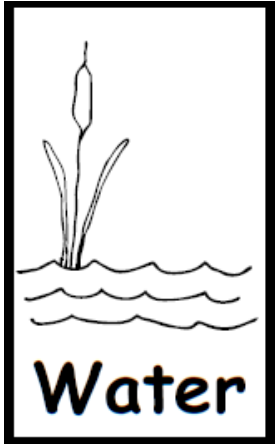
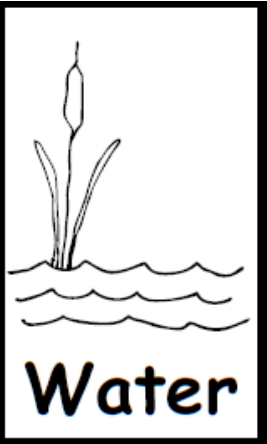
Space is often overlooked as a component of habitat, but all organisms must have it to be healthy. If too many of one kind of animal lives in the same area eating the same kinds of food, using the same shelter, and drinking the same water, these things will soon be used up and none of the animals will survive.

Activity:

1. Ask students: "Have you ever seen a deer?" "Where was it?" "Was it (in a zoo, in the wild, on TV)? What was it doing?"
2. Ask students what deer and other animals need to stay alive. If they name one of the things on a FOOD, WATER, SHELTER SPACE cards, hold up the card for the group to see. Ask questions to help them come up with all Oh Deer! four things.

What does a deer need to keep safe? What does a deer need so that it has room to move? (Explain the terms, “shelter” and “space” as needed).

3. After identifying the four needs, ask “Where might a deer find everything it needs to live?” Introduce or review the term “habitat”, a place that has all of an animal’s needs. Explain that a deer’s habitat should have the food, water, shelter and space it needs to live.
4. Divide children into five groups. The first group should form a line on one side of a large playing area. They are the deer.
5. Assign a habitat part (food, water, shelter, or space) to each remaining group of students. Give each student a habitat card for their group (i.e. every student in the shelter group should get a SHELTER card). After all the students have habitat cards, allow them to intermingle and then sit in a line on the opposite side of the playing area. Together they are the deer’s habitat. Students should hold their habitat card up so the deer can see it.
6. Give each of the deer a habitat card, so the 4 habitat needs are assigned equally (or close to it). This is what they will be looking for in the first round.
7. For the game, tell the “deer” to find the habitat part they need. Remind children to behave like deer. How quietly can they move? When the deer finds a match, they bring that person back with them to the deer side and the new person becomes a deer for the next round. If the deer can’t find a match, they become habitat and stay on the habitat side for the next round. Record the number of deer at the end of the round.
8. Play five rounds by repeating Steps 6 and 7. Begin each round with the same deer and habitat that ended the previous one.
9. Talk with the children about the number of deer for each round. Why did it change?
10. Next, spend some time making observations of the area around you. Do the students think that this could be good habitat for deer? Could they meet all their basic needs for life here? If students see an animal, like a bird or chipmunk, spend some time quietly observing it. What is it doing? How much space does it need to find everything it needs for life?



Science Observation Skills: Characteristics of Plants and Animals (K-1st grade) Curriculum Kit

Materials List

If you plan on doing all of the activities, listed below are the recommended materials. All materials are available through Children’s Forest of Central Oregon. To reserve materials, email katie@childrensforestco.org.

Item	Quantity
Clipboards and pencils	60-75 (for station model)
Observation Scavenger Hunt	1 per 2-4 students
Tree Life Cycle Cards (sets)	6
Colored pencil sets (optional)	6
My Plant Data Sheet	1 per student
Rulers	30
Blindfolds	15
Oh Deer! Cards	1 per student