

Introducing the Outdoor Classroom and Parts of a Tree

Grade(s): 2-5	Topic: Introduction, Parts of a Tree	Season: Fall
Timing: 60 minutes: 10 minute introduction, 10 minute overview on expectations and safety, 15 minute outdoor stewardship or observation activity, 20 minute indoor observation and discussion, 5 minute conclusion		
Objectives: <ul style="list-style-type: none">• Students can compare and contrast their indoor classroom with their outdoor classroom: the rules are the same in both places, but in the outdoor classroom they use special tools and may be challenged to ask and answer questions in new ways• Students can summarize the rules and expectations of Outdoor Classroom use• Students begin to assume the role of a nature detectives, looking more closely at nature and noticing details• Students help create a feeling of community with teachers in the Outdoor Classroom• Students begin to explore and learn about the orchard and how they can be stewards of it, and begin classifying materials found in it• Students are introduced to the parts of a tree and act out the functions of each tree part		
Materials: <ul style="list-style-type: none">• Letter to parents (optional)• Living, Once-Living, and Never-Living signs• Living, Once-Living, and Never-Living definitions (see resources at the end of the lesson)• Parts of a tree roles and titles listed on cards to help you remember• Parts of a tree diagram written on board or labeled on a tree outside•		
Degree of need for extra teacher or parent helper? High		
Journal Prompt: What are some ways you can use or enjoy trees?		
Lesson Sequence: Introduction, Expectations & Safety: (10 Minutes) Outdoor learning can be powerful or it can be chaos. To avoid chaos, you must make your expectations very clear. Remember, be firm in the beginning and you will have fewer discipline problems as the year progresses. Here are some important points to be sure you include: <ol style="list-style-type: none">1. You will be taking the class outdoors when the weather allows it.2. They need to wear outdoor clothing when going outside.3. When the class goes outside it is not recess. All classroom rules apply. (Have them go over what the classroom rules are.)4. Have the children come up with a list of other rules. If they participate in this process, the rules will have meaning to them. Be sure to mention the five senses, and that in each lesson, you will let them know which senses to use in order to be safe with themselves and each other, AS WELL AS with the things they find residing outside.5. Differentiate between picking and observing – there will be times for each. Introduce the rule of 100. When we are picking, we pick only items that you can see at least another 12 of, so that we are sure to always be leaving some for other people, animals, and plants to use and enjoy.6. Talk about treating materials with respect, like the gloves we will be using today.		

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- Bee respect:** Introduce/remind students that bees are not mean or bad but that they only sting when they are scared or mad. Ask the students what might happen if a bee is flying near them and they start screaming and waving their arms around. (Chances are the bee will get mad or scared and will sting.) The thing to do to avoid being stung is to stand still. Ask the children to repeat after you – “See a bee, be a tree.” If you are standing still like a tree, a bee isn’t likely to sting you.
- Summarize: RESPECT. Respect for oneself (comfortable clothing), each other (listening, staying close, not interrupting, not pushing...), and plants and animals (no grabbing, pulling off, ripping, breaking...). Anyone who can’t follow these rules will have to leave the outdoor classroom

“What is Nature?” Exploration and Discussion (10 minutes)

Ask the children to think about the question “What is nature?” Can we find nature in our own schoolyard? When we think about nature, we can think about three categories of things we might find: living, once-living, and never-living. Review the three categories and then tell students that they will be going outside to select something they think of as nature and put it into one of the three categories. Ask if they think we will find all three out in the orchard. Before going out, make sure to review the rule of 100 as well as basics of behavior in the outdoor classroom.

Give students only 90 seconds to select their piece of nature and then have them quickly share which category (living, once-living, never living) it belongs in and what it is (if they can identify it).

For the next few weeks we will be focusing on the orchard and the things that grow and live in our orchard. We will learn about the parts of the trees and their jobs as well as the ways that we can use and enjoy them!

Build a Tree (20 Minutes)

(Adapted from Joseph Cornell’s Sharing the Joy of Nature, Dawn Publications: Nevada City, CA. 1989 Page 62.)

Ask the children “What do trees do? They look so still and quiet. Is there anything going on inside the tree? Let’s become a tree and find out. Tell the children that they will be building a tree and will see how the different parts of a tree work together to keep the tree alive and healthy. They will act out the many important parts of a tree. When you select students to play the parts, give them their action and slogan to chant. Have them practice once or twice before you assign other students their roles.

Heartwood: Choose a student to represent the center of the tree that supports it and gives it its strength. This child should stand in the center of what will be the tree, flex her/his muscles and chant, “I support! I support!”

Taproot: Select a student to be the taproot. Have this child sit at the heartwood’s feet. Tell her/him that a taproot sinks deep into the earth anchoring the tree into the ground and bringing up water from deep underground. Be sure to tell him/her that not every kind of tree has a taproot, but that this one does. The taproot says, “I anchor”

Surface Roots: Ask for two students to be the tree’s surface roots. The surface roots

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should sit (or lie) down on the ground with their arms and hands spread out. Tell them that they are the surface roots and that there are hundreds of them growing underground. They grow out all around the tree. They use their tiny root hairs to sense water and grow toward it. These roots suck up water and nutrients from the soil. The surface roots make a slurping sound.

Sapwood/Xylem (in the stem or trunk): Ask 3 students to be the sapwood, part of the stem or trunk of the tree. The xylem surrounds the heartwood. Explain that the xylem carries water up to the leaves. Without the sapwood water from the roots would not get to the rest of the tree. These children should chant “Water up!” while squatting and standing up.

Phloem (in the stem or trunk): The phloem, part of the stem or trunk, is the pipeline that passes food (carbohydrates) from the leaves to the rest of the tree. Select 4 students to stand up and squat as they chant “Food down! WHOOooooo!”

Leaves: In the leaves the tree produces its food through a process called photosynthesis. Choose 5 students to stand with their arms extending fluttering their hands saying, “Food from the sun!”

Bark: The trunks’ bark protects the inside of the tree from insects, disease and weather. Have the remaining students to encircle the rest of the tree, holding hands, facing outward, and chanting “Protect the tree!”

Once all the roles have been assigned, ask the children to say their part as you call out their role. After running through all the parts once, on the count of three have the students chant and make their actions at the same time. Let the symphony go on 30 seconds to a minute, then quiet the group. Explain that you are a bark beetle that will try to bore into the bark of the tree to feed and lay eggs. Start the tree chanting again, and then gently “attack” the bark. After you calm the laughing group, take the students over to one of their classroom orchard trees to conclude.

Conclusion: (10 minutes)

Gather the class around their class tree. Review the parts of the tree by looking at the class tree. “What does the bark look like on your tree?” “Can you find the tree’s roots?” If you are going to create a Tree Through the Seasons book, explain that the class is going to adopt this tree to take care of it and learn about it throughout the school year (see Class Tree Through the Seasons lesson).

Vocabulary

Bark
Heartwood
Leaves
Living
Natural
Nature
Non-living
Orchard
Phloem

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Sapwood
Surface Roots
Taproot
Xylem

Vocabulario

Albura
Corteza
Duramen
Hojas
Huerto
Líber
Natural
Naturaleza
No-vivo
Raíces superficiales
Raíz principal
Vivo
Xilema

Extensions / Homework Ideas:

- Read the article about bark beetles to the class and discuss as a class
- Identify the parts of the tree on at least one other of the orchard trees and have everyone draw and define each of the parts in their journal