

Tree Talk – 1st Grade Day Session

Purpose:

- To provide a fun and exciting learning experience.
- To explore the characteristics and properties of trees as examples of plants.
- To encourage children to protect our trees and forests.

Science Standards of Learning Addressed:

1. See specific activity descriptions
2. 1.8 – The student will investigate and understand that natural resources are limited. Key concepts include
 - identification of natural resources
 - factors that affect air and water quality; and
 - recycling, reusing, and reducing consumption of natural resources.

Outline:

Opening (~45 mins) – Welcome, Introductions, Policies and Guidelines
Tree Talk

Station Rotations + Lunch (~2.25 hours) –

1. Looking at Leaves
2. Earthwalk
3. My Friend the Tree
4. Conservation

Large Group (~30 mins) – Scavenger Hunt

Closing (~30 mins) – Sharing and Review from the Day
Campfire Story – “The Lorax” by Dr. Seuss

Take Home:

Outdoor School Brochure
Brethren Woods Summer Brochure
Wildflower Seed and Planting Guide (Spring)
Birdseed and Pinecone Birdfeeder Instructions (Fall)

Follow-up Activities:

Activity Sheet
Teacher Evaluation

Tree Talk

Science Standards of Learning Addressed –

- 1.1 – The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
 - objects or events are classified and arranged according to characteristics or properties;
 - inferences are made and conclusions are drawn about familiar objects and events.
- 1.4 – The student will investigate and understand that plants have basic life needs and functional parts and can be classified according to certain characteristics. Key concepts include
 - plants can be classified based on a variety of characteristics.

Supplies – Tree cards

Activity –

1. Help students to get into groups with an adult leader (~1:7 ratio).
2. Play a name game asking students to think of something that they might see in the woods that starts with the same letter as their name. Students following should repeat the information from previous students before adding their own.
3. Ask several children to share what their name is. If you say someone's name, does everyone know whom you are talking about? See if anyone has the same name. Does that mean they are the same?
4. Explain that we are going to be talking a lot about trees today and that it's important to learn the names of the trees so that we will know who we are talking about. Unlike humans, trees that share the same name will always have certain things in common like their size, the shape and type of their leaves, and what kind of fruit they bear.
5. Give each group a tree card that has the name of a tree on it, a leaf from the tree, and some information about the tree.
6. Ask each group to come up with a special way to remember the name of the tree. Allow time for groups to work.
7. Invite each group to share their tree and their memory device with the group. (It's okay if more than one group has the same tree because their devices will probably be different.)
8. Recollect the tree cards before dismissing groups to their stations.

Looking at Leaves

Science Standards of Learning Addressed –

1. 1.1 – The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
 - the senses are used to observe differences in physical properties;
 - objects or events are classified and arranged according to characteristics or properties;
 - simple tools are used to enhance observations;
 - inferences are made and conclusions are drawn about familiar objects and events;
 - a question is developed from one or more observations;
 - predictions are made based on patterns of observations;
 - observations and data are recorded, analyzed, and communicated orally and with simple graphs, pictures, written statements, and numbers; and
 - simple investigations and experiments are conducted to answer questions.
2. 1.4 – The student will investigate and understand that plants have basic life needs and functional parts and can be classified according to certain characteristics. Key concepts include
 - plants need nutrients, air, water, light, and a place to grow;
 - basic parts of plants; and
 - plants can be classified based on a variety of characteristics.
3. 1.6 – The student will investigate and understand the basic relationships between the sun and Earth. Key concepts include
 - the sun is the source of energy and light that warms the land, air, and water.

Supplies – Straws, eyedroppers, bucket of water, empty tub, leaf shapes, bags of leaves, leaf shape poster, crayons, bookmarks, magnifying glasses

Activity –

1. Have students sit in table groups (6-8 per table).
2. Invite students to share what plants need to live (nutrients, air, water, light, and a place to grow – habitat). Remind students that the sun is the source of energy and light for all plants on the land, in the air, and in the water.
3. Invite students to share what the different parts of a plant or tree are (seeds, roots, stems, leaves, blossom, and fruit). Explain that the following activities will be investigating and experimenting with one of those parts – leaves.
4. Ask students to share why they think leaves are the shape that they are. Explain that a simple experiment will help us to understand why leaves are

shaped like they are because we'll see what happens to leaves when it rains.

5. Invite students to come up and help with a simple experiment – two at a time. Give one student a large eyedropper and give the other one of the leaf shapes (round, rectangular, smooth leaf-shape, toothed leaf-shape) with a straw. Have the students with the eyedroppers put water down into the straws so that it runs out over the leaves. After each pair, ask the students what they have observed and explain what is happening. (The round and rectangular leaves will begin to give way because the water cannot run off of them like it can off of the leaf shapes. True leaf shapes allow them to funnel water to the base of the tree to be absorbed by the roots.) Thank the helpers with a round of applause as they return to their seats.
6. Explain that different trees have different shapes of leaves. (The Sassafras Tree actually has three different leaf shapes on the same tree!) Invite a student to hold the poster of leaf shapes and talk about the different leaf shapes. Explain, or invite students to help define, differences like needles vs. leaves and deciduous vs. evergreen.
7. Give each table a bag of leaves and challenge them to work as a group to sort the leaves into groups by shape. Encourage students to feel the leaves and look at them closely with the magnifying glasses. Monitor groups and affirm their work. The process of arranging the leaves is more important than making sure that every leaf is in the exact right pile – some may be difficult to group.
8. Invite children to make a bookmark to remember what they've learned about leaves. They can use the leaves on the table to make crayon rubbings on their bookmark. Demonstrate the process (remember to rub leaves vein side up!) and share some examples.
9. Ask students to clean up their tables and return the crayons to the storage containers.
10. Allow time to review the key points of the lesson and for students to ask questions.

Earthwalk

Science Standards of Learning Addressed –

1. 1.1 – The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
 - the senses are used to observe differences in physical properties;
 - observations are made from multiple positions to achieve a variety of perspectives and are repeated to ensure accuracy;
 - objects or events are classified and arranged according to characteristics or properties;
 - inferences are made and conclusions are drawn about familiar objects and events;
 - a question is developed from one or more observations.
2. 1.4 – The student will investigate and understand that plants have basic life needs and functional parts and can be classified according to certain characteristics. Key concepts include
 - plants need nutrients, air, water, light, and a place to grow;
 - basic parts of plants; and
 - plants can be classified based on a variety of characteristics.
3. 1.5 – The student will investigate and understand that animals, including humans, have basic needs and certain distinguishing characteristics. Key concepts include
 - basic needs include adequate air, food, water, shelter, and space (habitat);
 - animals, including humans, have many different physical characteristics; and
 - animals can be classified according to a variety of characteristics.
4. 1.6 – The student will investigate and understand the basic relationships between the sun and Earth. Key concepts include
 - the sun is the source of energy and light that warms the land, air, and water; and
 - the sun's relative position in the morning is east and in the late afternoon is west.
5. 1.7 – The student will investigate and understand weather and seasonal changes. Key concepts include
 - changes in temperature, light, and precipitation affect plants and animals, including humans;
 - there are relationships between daily and seasonal changes; and
 - changes in temperature, light, and precipitation can be observed and recorded over time.

Supplies – See specific earthwalk options

Background –

Design an earthwalk experience using activities below that are appropriate for the size of the group, time limit, and area of camp being used.

Activity –

1. Explain that the group is going on an earthwalk. An earthwalk is similar to a hike, but along the way we'll stop to look around and do some activities. Remind everyone to keep alert!
2. Set some ground rules including staying on the path (unless otherwise instructed) and staying together as a group. Ask an adult leader to take up the rear. Please do not allow students to play on any of the cooperation course elements.
3. Possible activities and items of interest:
 - a. Terrific Trees –
 - Sassafras Tree (three shapes of leaves, let kids smell a leaf),
 - Red Bud Tree (heart-shaped leaf, bud colors),
 - Tulip Tree/Yellow Poplar (two names, leaf shape),
 - Red Maple Tree (leaf shape, stem color),
 - Evergreens (needles, # of needles in a bundle).
 - b. Clone Hunt – Give each child an item from the bag of natural objects (if there aren't enough items, have children pair up). Challenge them to find a clone of their item as the group journeys along. When they find their clone, they should alert the group so that everyone can see it. (Don't collect the clones!) If you want to play again, have children switch objects to look for another clone. Have children share any differences they can find between their objects and the clones (size, color, texture, shape, etc.).
 - c. Mayapples – Invite students to peak under the umbrella.
 - d. Leaf Slides – Ask each student to choose a leaf for the slide show and place it inside the slide frames. Show them how to hold up their slides to the sky (not the sun!) to see the veins and colors. You can also hold the slide close to your face and then slowly move it away and watch the blur become clear. To see the whole slide show, ask participants to circle up. Each time they hear you say "click," they should pass their slide to the left until they get their slide back or until you've. Be sure to recollect the slide frames and have students return their leaves to the trail.
 - e. Plant and Animal Needs – Use a plant or animal you find along the trail as an example. Ask students to name the things that plants (nutrients, water, air, light, and a place to grow) and animals (food, water, shelter, air, and space) need to survive. Ask students to share different parts of the plant. Discuss different characteristics that plants and animals have that can be used to classify them.
 - f. Sun – Remind students that the sun is the source of energy and light that warms the land, air, and water. Ask students how the sun's energy and light affect the area around the trail. Note the East and West directions. Ask students where the sun will be in the morning (East) and in the late afternoon (West).
 - g. Seasons/Weather – Discuss the current season and weather with students. Ask students how changes in temperature, light, and precipitation are affecting the weather and season. Invite students to name ways that these changes can be observed and recorded.

My Friend the Tree

Science Standards of Learning Addressed –

1. 1.1 – The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
 - the senses are used to observe differences in physical properties;
 - observations are made from multiple positions to achieve a variety of perspectives and are repeated to ensure accuracy;
 - inferences are made and conclusions are drawn about familiar objects and events;
 - a question is developed from one or more observations;
 - predictions are made based on patterns of observations;
 - observations and data are recorded, analyzed, and communicated orally and with simple graphs, pictures, written statements, and numbers.
2. 1.4 – The student will investigate and understand that plants have basic life needs and functional parts and can be classified according to certain characteristics. Key concepts include
 - plants need nutrients, air, water, light, and a place to grow;
 - basic parts of plants; and
 - plants can be classified based on a variety of characteristics.

Supplies – Blindfolds for every pair of students

Activity –

1. Explain that trees are plants. Invite students to name what plants/trees need (nutrients, air, water, light, and a place to grow). Discuss the basic parts of plants/trees (seeds, roots, stems, leaves, blossom, and fruit).
2. Explain that different trees have different characteristics. These characteristics are useful when you are learning about different trees and trying to learn the types and names of trees.
3. Explain that in this activity students are going to meet a new friend – a tree! Partners will go exploring together. One will be blindfolded and the other will guide their partner to a tree friend. The blindfolded partner will examine the tree and use their senses (except sight and taste) to learn as much about it as they can. (Use the teacher as your partner to demonstrate what they will do.) Using a different route, the sighted partner will guide them back to the starting point where they can take off their blindfold and try to find their tree friend again! When the friend has been found, the pair returns to the starting point and the partners switch roles.

4. Encourage partners who can see to formulate and ask questions to help their blindfolded partner while they are examining their tree. Ideas for questions include,
 - Hug your friend. How big is the tree?
 - Use your fingers to “see” your friend. Is it rough? Is the bark in huge chunks? Can you feel any leaves? Are they large or small? Do they have hairs? Can you feel any branches? Are they broken? Are there any buds?
 - Smell your friend. What does it smell like? Does it remind you of anything?
5. Define some boundaries for the activity and ask adult leaders to help monitor the pairs. Safety is an important concern! Reinforce the need to be a good partner that can be trusted to keep your blindfolded partner safe.
6. When all of the groups have each had a turn, discuss the following questions:
 - Was it easy or hard to locate your tree friend? Why or why not?
 - What senses or skills did you use?
 - Name some of the characteristics that helped you locate your friend.
 - Did you trust your partner? How did it feel to be blindfolded?
 - What was it like to lead your blindfolded partner?
7. Please note that some students may feel scared to be blindfolded and will prefer to just close their eyes. It is important for partners to be honest in this activity. You may need to call a time to switch partners if the first round is taking too long.

Conservation!

Science Standards of Learning Addressed –

Primary SOL 1.8 The student will investigate and understand that natural resources are limited. Key concepts include: recycling, reusing, and reducing consumption of natural resources.

Related SOL 1.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

- b) observations are made from multiple positions to achieve a variety of perspectives and are repeated to ensure accuracy;
- c) objects or events are classified and arranged according to characteristics or properties;
- f) inferences are made and conclusions are drawn about familiar objects and events;
- i) observations and data are recorded, analyzed, and communicated orally and with simple graphs, pictures, written statements, and numbers;
- j) simple investigations and experiments are conducted to answer questions.

Background Information

Earth's resources are limited. Conservation measures are ways these resources can be protected and preserved for later use. *Reducing* simply means to limit the amount of a product or resource one uses. *Reusing* is when a product is used, and then used again, in either the same way or in a new way. *Recycling* is a means of taking an item that has been used and through processing, turns that product into a new one. It is always good to try to reduce and reuse first, and if that cannot be done, then try to recycle.

Vocabulary

natural resources, reduce, reuse, recycle

Supplies

- Popsicle Sticks (10 bags of 100 sticks each)
- Scrap Paper
- Pencils

Overharvesting

1. Have class divide into five groups. Give each group a bag containing 100 popsicle sticks. The sticks represent trees/lumber. (Sticks are tools, not toys.)
2. Ask the whole group what do trees give us?
 - a. Oxygen, air, animal habitats, supplies/resources, prevents erosion,

etc.

3. Round One:
 - a. Have students dump the entire bag of sticks onto the ground (just let them lay flat; don't allow students to stick them into the ground). This is their forest.
 - b. On your count, have one student cut down one tree, then two trees, then three trees, etc., until the whole forest has been cut down.
 - c. Have each group write down what happened to their forest. Where did it go?
4. Round Two:
 - a. Give each group a second bag of sticks.
 - b. Empty one bag of sticks onto the ground as before and designate a different student to cut down the trees. The second bag will be held by another student who will be planting four trees at a time.
 - c. On your count, have one student in each group start to cut down trees, and one student plant four at a time.
 - d. Have each group write down what happened to their forest. Were the results different the second time?
5. Talk about conserving natural resources and how we are using them faster than they are being made. What are the natural resources that you can think of? How can you save them?
 - a. Renewable
 - i. Trees
 - ii. Wind
 - iii. Solar power
 - iv. Water power
 - v. Fresh water
 - b. Non-renewable
 - i. Coal
 - ii. Oil
 - iii. Natural gas
6. How do we help the earth? How do we use fewer resources?
7. Here at camp, we only use the trees that have fallen down. We use them for firewood, building trails in the woods, and for seats around a fire.