Title: A Tree is Nice
Time 60 Minute (Could be divided into two session)

Objectives

- Listen to gain knowledge and share information and perform a task (relating to parts of trees and uses of parts of trees).
- Identify the different parts of trees and the purposes they serve.
- Understand that trees have features (trunk and leaves) to help them live in different environments.

Standards

Language Arts Standard 8: Use listening and speaking strategies for different purposes.

- Benchmark # 1: Make contributions in class and group discussions.
- Benchmark # 2: Ask and respond to questions.
- Benchmark # 5: Use grade level appropriate vocabulary in speech (e.g., terms related to parts of tress).

Science Standard 14: Understands how human actions modify the physical environment.

- Benchmark #1: Knows how people affect the environment in negative (e.g., cutting trees, burning forests) and positive (e.g., becoming stewards of environment) ways.

Science Standard 5: Understand the structure and function of cells and organisms.

- Benchmark #2: Know that plants and animals have features that help them live in different environments.

Materials

- A copy of “A Tree is Nice” by Janice May Udry
- Drawing utensils
- Glue sticks
- "A Tree is Nice" matching activity worksheets provided below
- Drawing paper
- Tree poster

Description

Trees are the main feature of forests. Forests have trees of many different species, sizes, and ages. Trees have four basic parts: roots, trunk, branches and leaves. The roots absorb water and nutrients from the soil, anchor the tree to the ground, and store food materials. The trunk holds the tree upright and transports nutrients and water from the roots to the leaves. The branches help carry materials from the trunk to the leaves. The leaves make its own food from the sun.

Trees and forests are located worldwide. Tropical rain forests are located near the equator in South America, Central America, Africa, Southeast Asia, and Australia and neighboring islands. Temperate rain forests are located along the Pacific coast of the US and Canada. New Zealand, Tasmania, Chile, Ireland. Scotland, and Norway are also homes to temperate rain forests.

Trees are wildlife habitats and useful resources for humans, Trees prevent soil erosion, produce oxygen and reduce carbon dioxide in the atmosphere by means of photosynthesis, and moderate ground

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298

temperature. Trees provide food such as nuts and fruit. Additionally, trees in forests supply people with raw materials for wood, paper, and cardboard products. Fuel for cooking and heating and fats, gums, and oils for manufacturing are also derived from trees. Trees also give humans scenic beauty, shade, and recreational areas for camping, hiking, hunting,and bird watching. However, forests are changing and trees are being destroyed due to damaging human activities and habits.

Despite their usefulness and importance, trees and forests throughout the world are being harmed by human behavior. Deforestation, the clearing of trees, happens in areas of rapid population growth for farms, cattle ranches, towns, and timber. In tropical rainforests trees are cut to clear land for growing crops and raising livestock. Destructive agricultural procedures not only destroy trees but also deplete soil in burned forests of nutrients and reduce biodiversity when only one crop is planted on farmland. In addition, deforestation causes a loss of topsoil and plant roots which can lead to harmful flooding in affected areas. Logging is another prime cause of deforestation around the world. Trees are cut for lumber, paper, and cardboard and used heavily in the packaging of manufactured goods. Deforestation has also caused many species of plants and animals to become endangered or extinct.

Industrial pollution also hurts trees and forests when automobiles, power plants, factories, agricultural and household chemicals release harmful substances into the environment. Acid rain can disrupt photosynthesis in plants. It weakens them causing them to be more susceptible to disease. Smog can damage plant proteins and reduce the production of seeds making plants less resistant to drought and diseases. Pesticides from farming and yards can enter waterways that flow to trees and forests. The chemicals in these pesticides can kill trees or impair their growth. Oil and toxic spills contaminate forest soils preventing plant or tree growth in polluted areas.

Many scientists believe that human activities are the prime cause of climate change and global warming. Fossil fuels burned by factories, power plants, and motor vehicles release carbon dioxide as they burn. Global warming is caused when greenhouse gases, such as carbon dioxide, accumulate in the atmosphere of the Earth trapping the heat of the sun. Trees help prevent global warming by absorbing and using carbon dioxide during photosynthesis. However, deforestation means significantly less trees are available to remove carbon dioxide from the air and release oxygen. Carbon makes up half of the weight of the tree. When trees are burned in rain forests to clear land, carbon is released and this also adds to the global warming problem.

However, human activity can fortunately help trees and forests with mindful changing of behaviors. People can plant trees. Less trees will be destroyed when people reduce reuse, and recycle wood and paper products. Although rainforests may be far away from our homes the negative impact of their decline has far reaching effects. It's not too late to make a difference.

Kid's Speak: Trees have 4 main parts. Trees have roots to absorb water and nutrients from soil and hold them in the ground, store food materials. The trunk gives the tree upright support and brings water and nutrients from roots to leaves. The branches bring materials from the trunk to leaves. The leaves make food for tree. People use and need the different parts of the tree.

Eco-fact: For every ton of paper that is recycled, rather than thrown in the trash, seventeen trees are saved.

Before Conducting Activity:
Teacher asks students what they think is the oldest living thing on earth. Teacher listens to responses.

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298

Teacher next asks what students think is the biggest plants on earth. Again listen to responses. Teacher tell students that the answer to both questions is trees. Trees are the oldest living things and largest plants on Earth.

- Teacher then says," I think trees are nice. I also think that they have different parts that are useful, fun, and important. Trees are very important to Planet Earth. We must be kind to trees so that they will be on earth for a long time. I have just the book to share with you that shows what I mean."

Teacher then introduces and reads aloud "A Tree is Nice" by Janice May Udry.

Conducting Activity:
After reading the book "A Tree is Nice" teacher will lead a discussion about the parts of trees and the use of each part to the tree. Teacher will also discuss the concept of being a "tree steward."

- Teacher will display poster of a tree and ask students to identify parts that they see. Responses will include leaves, branches, trunk, bark. (Note: class may go outdoors and observe trees in schoolyard instead of using a poster to identify parts.)
- Teacher will then ask students if there are parts to the tree that they don't see. Response will include roots.
- Teacher will list parts of the tree on chart like sample included. Teacher will record 4 main parts of tree (roots, trunk, branches, leaves) on chart.
- Teacher will label parts on the tree poster with arrows pointing to appropriate part.

- Teacher will next ask students to tell the purpose of each part for the tree. Teacher will restate and record correct answers on chart.
- Roots: absorb water and nutrients from soil, hold tree in ground, store food materials
- Trunk: upright support, brings water and nutrients from roots to leaves
- Branches: bring materials from trunk to leaves
- Leaves: make food for tree

- Teacher says that she noticed in the book that people were enjoying the trees and that one person was planting and caring for the tree. The people in the book were keeping the land near the trees beautiful by not littering. They were not hurting the trees. They were being friends to the trees. They were taking care of and treating the trees with respect so that the trees will be around for a long time.
- Teacher will write the word steward on the board. Teacher will explain to students that people who take of, treat with respect, and do not harm things are stewards of those things. Tell students that they can be "tree stewards" like the people in the book.

- Teacher says we also saw in the book "A Tree is Nice" that people also use and need the different parts of the tree. Let's remember back to the book and see if we can list how people use the different parts of the tree. Can you think of other ways people use parts of the tree that were not mentioned in the book. These ideas can also be added to chart.

After Conducting Activity:
Teacher explains to students that we will now do two activities to show what we have learned about the parts of trees and how these parts are used by both trees and people. Explain to students that we now know about trees and can be good tree stewards.

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298

Part 1: Students will draw and label the parts of a tree. First, students will use a brown crayon or marker to draw a line about three inches up from the bottom of drawing paper. This line represents the ground. Next students will draw a tree trunk, branches, leaves, and roots. They will label each part by writing the words trunk, branches, leaves, and roots on their papers and drawing an arrow from the word to the corresponding tree part.

Part 2: Students will do a matching activity provided below. Students will have a grid paper with 4 columns: trunk, branches, leaves, and roots. They will have a second worksheet with twelve boxes describing properties of each part of the tree both anatomy and ideas presented in A Tree is Nice." Students will cut out the twelve boxes and glue them in the appropriate column. This activity can be done independently, in pairs or whole class.

Adaptations:
- Parts of this lesson (the teacher read aloud) could be conducted outdoors sitting under a tree. Class may go outdoors and observe trees in schoolyard instead of using a poster to identify parts.
- Children could look closely at leaves through a hand lens.

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298