



“TREE”MENDOUS! PREVISIT MATERIAL

In this program, students will learn about: tree structures and their functions; classification of trees; what trees need in order to survive; and why trees are an important part of the ecosystem. Please use the following material to help prepare your class for their visit.

VOCABULARY:

Cambium – thin layer of tissue that makes cells, so that the trunk, branches, and roots of a tree grow thicker.

Chlorophyll – green plant pigment that absorbs the sunlight needed for photosynthesis.

Coniferous trees – trees whose seeds develop in cones. Examples are: pine, spruce and hemlock.

Deciduous trees – trees that lose all of their leaves each year. Examples are: maple, oak and ash.

Evergreen trees – trees that do not lose all of their leaves each year. Examples are: pine, spruce and fir.

Heartwood – the central core of the tree trunk, made up of dense dead wood. It provides strength for the tree.

Phloem – (also called the inner bark) the pipeline of cells that carries sap to all parts of the tree.

Photosynthesis – process in which plants use the sun’s energy to turn water and carbon dioxide into sugar (food for the plant).

Sap – sugar and nutrients dissolved in water. It flows through and feeds the tree.

Sapwood – (also called the xylem) layer of wood in the trunk that brings water and nutrients up from the roots to the leaves.

ACTIVITIES:

Imaginary Trees

Read *The Lorax*, by Dr. Seuss to your class. This old classic is still very applicable to today’s world. Discuss what happened to the environment once the truffula trees were cut down. How did it affect the animals that lived there? How can they relate to what may be happening in the students’ own community? Talk about why trees are important. Be sure to include: Trees provide homes for wildlife. Trees give off oxygen for us to breathe. Trees provide people and animals with food. Trees prevent erosion (soil washing away). Trees give us shade. Trees provide us with products such as wood, paper, and charcoal. Trees are beautiful. After the discussion, have each student design and build their own imaginary tree. Use materials such as cotton balls, popsicle sticks, pipe cleaners, yarn, fabric or felt scraps, construction paper, scissors and glue. What is it good for? What animals may need it? Give it a name, and then display their special trees in the classroom.

Adapted from *450 More Story Stretchers for the Primary Grades*, Raines, 1994.

Tree Word Search

Use copies of the activity sheet entitled “Trees” to help students learn or review vocabulary words and tree parts. Answers to tree trunk labels, from top to bottom: *bark, phloem, cambium, sapwood, hardwood*.

Adopt-a-Tree

Have students make “Adopt-a-Tree” notebooks for recording information. Explain that each person will choose his or her very own special tree to observe. Where there’s a shortage of schoolyard trees, you might have teams, or the whole class, adopt a tree or you may choose to have students adopt a tree near their home. Students will observe their trees on a regular basis for however long you decide to conduct the activity. For the first visit or two, have students record answers and /or do drawings for some of the following:

Where is your tree? Draw a map to its location.

Does your tree reflect the current season in any way? Tell or draw how. (Are branches bare?; are there buds, leaves, or blossoms?; is it covered with ice, snow or raindrops?, etc.)

Is your tree alive? How can you tell? Is it healthy? How can you tell? In what ways are people helping it or hurting it? Is the weather affecting it? How?

How is your tree different from other trees? What is one especially interesting thing about your tree?

Draw a picture of your tree. Draw another picture from a different view (from a distance, from underneath looking up, from really up close, etc.)

Draw a picture of a leaf from your tree; or do a leaf print rubbing; or press, dry and mount a leaf. Tell how the leaf feels and smells.

Does your tree have any fruits, nuts, or seeds? Draw or describe them.

Make a rubbing of your trees bark. How does it feel and smell?

Do you know what kind of tree you have adopted? Use the leaves, fruits, nuts, seeds and bark to try to identify your tree from a guide.

Are there any animals on or near your tree? Be sure to look closely for insects, spiders and other small animals.

Are there signs that animals have used your tree in the past? Look for holes, nests, trails and other animal signs.

How do animals depend on your tree? How do they harm it?

On each additional visit students should review their notes from previous visits and record how their trees have changed. Additional ideas for Adopt-a-Tree are included in the postvisit materials. Adapted from *project Learning Tree*, American Forest Foundation, 1993.

SUGGESTED TEACHER RESOURCES:

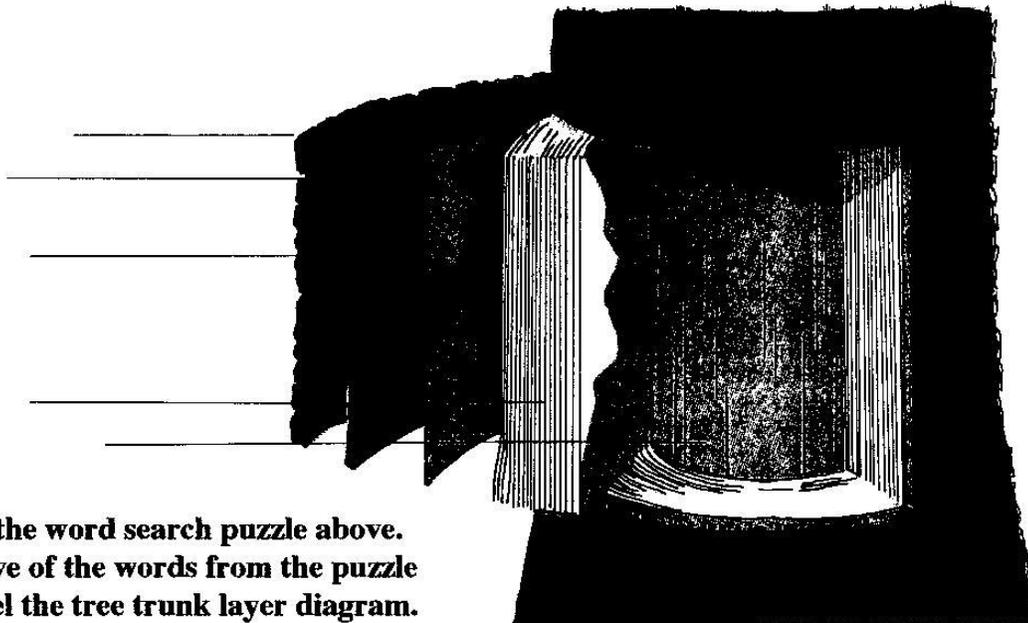
Keepers of the Earth and *Keepers of Life*, both by Michael Caduto and Joseph Bouchac. These two books use Native American tales as the springboard for many fine activities on trees and plants, as well as wildlife.

Crinkleroot’s Guide to Knowing the Trees, by Jim Arnosky, 1992. This is a wonderful introduction to the types of trees, tree parts, and importance of trees.

Trees

S B U D S F S A F D F Y M S D R
X T E C N E E R G R E V E E K E
L A O K H S B S C W O M C H N C
S N R O F L F R V G H I V C U O
D A U Y R Q O L E O D T O N R N
B O P V V W J R R U W U L A T I
P S O W N C K F O U T I U R F F
H Q K W O O H U C P L L J B N E
L P H O T O S Y N T H E S I S R
O S P S T R D B V R D Y A N A O
E A S M J C A M B I U M L F A U
M P H F Z C S E H Z O D A L D S
P Z Z B M K L Q H A G U I B A F

BARK
BRANCHES
BUDS
CAMBIUM
CHLOROPHYLL
CONIFEROUS
CROWN
DECIDUOUS
EVERGREEN
FRUIT
HEARTWOOD
LEAF
PHLOEM
PHOTOSYNTHESIS
ROOTS
SAP
SAPWOOD
TRUNK



**Solve the word search puzzle above.
Use five of the words from the puzzle
to label the tree trunk layer diagram.**