

<b>Title of Lesson Plan</b>	Tree Identification
<b>Prepared By (first and last name)</b>	Ruth Marie Retasket
<b>City and State</b>	Ferndale, WA
<b>Grade Level(s)</b>	5th
<b>Keywords (subjects covered)</b>	Sustainable forestry, forest sustainability, deciduous, coniferous, dichotomous, dendrology, alternate, economic use, ecological impact, growth cycle
<b>Brief Description</b>	The purpose of this activity is designed to increase student's awareness and knowledge of trees. They will be involved with the world around them at home and school and to be part of sustainable environments.
<b>Total Time Required</b>	4 to 6 hours (depending on class schedules)
<b>Setting</b>	Classroom and field work
<b>Lesson Objectives/Goals</b>	Students will be able to identify a tree by its features, learn the difference of deciduous and coniferous trees, the age of a tree and its value to the environment and the economy
<b>Materials Needed</b>	Computer (internet), paper, pencil, tree identification materials, woodland stick, clinometers, measuring tape, increment bore Volunteer help (parents, local forestry, etc.)
<b>Standards Addressed</b>	<ol style="list-style-type: none"> <li>1. System: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living system.</li> <li>2. Inquiry: The student knows and applies the skills, processes, and nature of scientific inquiry.</li> <li>3. Application: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</li> </ol>
<b>Procedure</b>	<p>KWL Chart: On Trees</p> <p>Review of Key words</p> <p>Key objectives: before teaching lesson- do lesson on "Meet a Tree". (<a href="http://www.learnforestry.com">www.learnforestry.com</a>)</p> <p>Build Background: The importance of, value to</p>

**Lesson Plan Disclaimer**

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ecosystems, total environment and economical.

1. Take students on a nature walk to observe the stands of forests, collect samples of leaves, and take rubbings of bark, draw a picture of it.
2. Take samples back to classroom, classify according to deciduous and coniferous and mount on paper. Using one of the samples, students do research of a particular tree.
3. Model how to take height and diameter of tree.
4. Determining age of tree, are the tallest trees necessarily the oldest? To study this, locate 4 to 7 trees of the same species growing near each other that are no more than 14 inches diameter.
5. Measure the heights of the trees using a clinometer, a tangent height gauge or woodland stick.
6. Measure the diameter of the trees using a diameter tape or a log scale stick.
7. Use these measurements to determine value of tree in board feet.
8. Capture a core sample using an increment core holder. Bore the tallest tree at about 4.5 feet above the ground.
9. Store core in increment holder (remind students to handle gently, as they are fragile)
10. Count rings of bored tree(s). When counting rings, it is helpful to use a pen or marker to not every five or ten rings on older trees. If rings are difficult to see, wet them with water.
11. Once the rings are counted, 5 to 10 years is often added to the total age of a tree. This makes allowance if the very center of the tree is missed during boring. For this exercise add 8 years to the age of each tree.

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<b>Assessment</b>	Students will be quizzed on the difference between deciduous and coniferous trees, how the age of a tree is determined using core samples as well as other characteristics. Students will be able to explain how to determine the merchantable value of tree.
<b>Literature Cited/References</b>	Forestry Suppliers, Inc. Science Education, Trees of the Dungeness, Sustainable Forestry Teacher Resource Center, Tree Identification – Wisconsin K-12 Forestry Education Program ( <a href="http://www.uwsp.edu/cnr/leaf">www.uwsp.edu/cnr/leaf</a> , LEAF –Tree Key, What Tree is That? (western), Learn Forestry.com (Meet a Tree Booklet.
<b>Forestry Tour Attended</b>	Portland, OR 2007

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