

# **FOREST EDUCATION LESSON PLAN**

## **How Much Money Grows in Trees?**

**Related Subjects:** Science, Math, Communications

**Grade Level:** 7 – 12

**Time Required:**

1 period - Tree identification and measurement

1 period – Calculations and discussion

### **Lesson Objectives**

- The students will identify various NWT Trees.
- The students will identify whether the trees are marketable.
- Measure height, diameter and determine the age of trees.
- Compute useable board feet in their measured trees.
- Determine market value of the trees.

### **Materials Required:**

Madison Lumber Reporter prices

Tree field guides

Increment borers – one per group

Clinometer

DBH tape

Calculators

Data Gathering Sheet

Pens, pencils, notebooks

## **Procedures:**

Preparation:     Select a site near the school for the activity.  
                    Transport the class to the site.  
                    Explain the exercise to the class.  
                    Divide the class into two groups.  
                    Have each group supervised by a teacher or ENR staff member.

Co-ordinate the activity with other teachers, if possible. This has strong links to Math, Science and English subjects.

### 1. Start with a large group discussion:

- Gather students in one group near a tree.
- Ask them to identify different types of trees. Explain a little about each tree.
- Explain what they will be doing. Ask the question – can you tell by looking at these trees how much money grows in trees? We are going to find out by using this equipment- explain what each type is used for; clinometers, DBH Tapes, increment borers. Let each student look into clinometer, handle DBH tape and increment borer.
- This equipment will be used to find out the age, height and diameter of these trees. We then need to find out the volume of the trees and then we will use a wood products price list to find out what each tree would be worth.
- Keep explanations simple and check for understanding.
- Identify three merchantable tree species; aspen, birch and spruce.

- Demonstrate how to use the increment borer to age trees – have a student try it out. Get the whole group to count rings.
- Demonstrate how to use the clinometer.
- Demonstrate the use of the DBH tape.

2. Divide class into two groups:

- Give a set of equipment to each group.
- Select a tree for each group to analyse.
- Ask them to record height, diameter and age on the data sheet.
- If they have enough time ask them to record data for three trees.

3. Return to classroom.

- Show students how to calculate volumes using the two methods; volume of a cone, from stand stock tables.
- Show them the Madison Lumber reporter price list – help them to select a relevant price.
- Have them calculate the worth of the tree.

4. Deliver pop quiz.

5. Summarize learning.