

Environmental Youth Connection Lesson Plan

Title: Forest Plots

Submitted by: Mary Kaye Ristow

Age level: Elementary-Middle School

Natural Environment required for teaching activity: Outdoors area with trees.

Location: School Nature Trail or any natural site with at least five trees.

Directions: None if using school site. Contact park prior to visit.

Accessibility: Check with each school or park.

Other possible locations: Local parks, natural resource areas, and wetland areas.

Related Subjects: Science, Language Arts

Materials: Clipboards, Tape measurer that is at least 20 feet, 4 flags or cones per group, 6 pieces of yarn per group, Project Leaf 2-3 Field Enhancement #1 "I Can Be a Forester" *Student Activity pages 1, 2.*

Additional Necessary Supplies: Students need to wear outdoor clothing. Each student should have a clipboard with an attached pencil. Tree identification guides may be helpful.

Objectives: Meet a forester and learn about his/her occupation.
Observe and record data collected from a forest plot.
Use tape measurer and other tools foresters use.

Curriculum standard connection: Science: C4.1, 4.4, 4.5, 4.6, 4.7, F.4.1, 4.2, 4.3, 4.7, 4.8, G.4.2, 4.3 Language Arts: F4.1-1, 4, B4.1 Math

Background Information: This lesson could be taught during an *occupations* unit, *measurement* unit or *plants* unit. Students will need to be familiar with the following vocabulary: deciduous, coniferous, seedling. It is helpful to have a forester talk to the class about his/her occupation and duties prior to this lesson.

Management: Chose a time in which there are still leaves on the trees for this lesson. Visit the site ahead of time in order to locate a 40ft. area with a variety of trees, including dead ones and seedlings. Make sure that you identify the area with cones or flags. Check for hazards such as poison ivy, stinging nettles and hanging branches. You may select one plot 20ft. X 20ft. for a class to use or several plots, depending how you want to group your class.

Procedure:

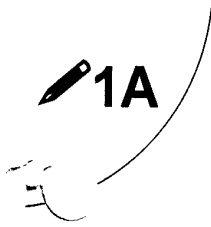
1. Have a forester visit your class. They need to explain the variety of jobs that they do. Examples of data collected, pictures, tools, etc. would be helpful. *If a forester is not available go website: <http://www.lawrencegoetz.com/zoo/>
2. Take students to the designated area. Demonstrate how to select a plot and measure it, using a tape measurer. Each plot should be 20ft X 20ft. Place a flag or cone at each corner.
3. Have them fill out Student Activity page one. (Each student needs to complete his or her own page.) They will look for and sketch 3 different kinds of leaves, seeds and crown shapes inside their plot.
4. Next have them walk around the plot to determine the total number of seeds. Record an estimate, using Student Activity page 2.
5. Introduce the vocabulary "seedling". Explain that a forester describes a seedling as a tree that has just come out of the ground up to a tree with a circumference of less than 1 inch. Demonstrate how you can use your thumb and forefinger wrapped around the trunk to determine if the tree circumference is less than 1 inch. Students will walk around their plot and mark a tally for each seedling that they see. Record a group average on Student Sheet 2.
6. On Student Sheet 2, have them count and record the number of dead trees in their plot.
7. Review the vocabulary: deciduous and coniferous. Select 6 trees of any size or species in your plot. Tie a piece of yarn on each selected tree and assign a number to each tree.
8. Select tree #1. Help students determine if the tree is deciduous or coniferous and the size compared to their body. Complete the bottom of Student Sheet 2.
9. Discuss each group's findings. Graphs can be made back in the classroom with the data.
10. Discuss the school skills a forester needs to know in order to complete their job successfully.

Evaluation of lesson plan by teacher:

How easy was this to use?

Are there tasks missing or information that needs to be updated?

Are there components or verbiage you would add or change to make this easier to use?



I AM A FORESTER

Find and draw 3 different types of leaves.

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Find and draw 3 different types of seeds.

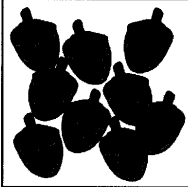
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Find and draw 3 different crown shapes.

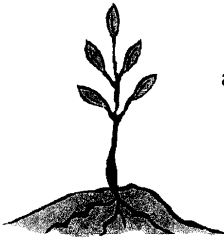
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I AM A FORESTER

How many seeds are on the ground in your plot?

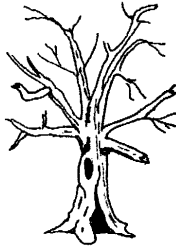


How many seedlings are in your plot?

































Total _____

How many standing dead trees are in your plot?



Total _____

Tree	Deciduous	Coniferous	Small	Medium	Big
1					
2					
3					
4					
5					
6					
TOTALS					

