



Pathfinder's Name _____

Forestry

- 1. Have the tree honor.
- 2. Learn the proper use of the following common forestry tools and practice using them on trees in a forest. Record the information for each tree giving also the common name of each tree.
 - a. DBH (diameter at breast height) tape – measure the diameter of trees (or measure the tree circumference and calculate the diameter).
 - b. Clinometer or Tangent height gauge – measure the height of trees.
 - c. Increment borer – count the growth rings to determine age.
 - d. Prism or angle gauge – estimate the basal area per acre or hectare.
- 3. Use the information gathered in #2 to determine the board foot volume of the trees in the forest you measured.

- 4. Calculate the basal area of a tree from the diameter (dbh) or circumference measurement. What is basal area per acre or hectare?

- 5. Study five tree species important to forestry in your area and give the following information about each.
 - a. common and scientific name.
 - b. range of tree
 - c. height and diameter of tree at maturity.
 - d. common use and importance of tree.
 - e. habitat of tree, forest zone, and elevation.

- 6. List the benefits of forests to the environment, water quality, air quality, wildlife, and recreation.

- 7. List the uses of wood produced in the forests in your area, and which tree species are important for each use.

- 8. What methods are used to insure reforestation of a harvested area? Participate in a reforestation project.

- 9. How are forests managed to reduce the damage from insects and disease? What factors influence fire behavior? Considering that wildfires produce both benefits and destruction, what treatments could reduce wildfire severity?

- 10. Explore the biblical stories in Genesis 1-3 and Revelation 22 that talk about the tree of life. In your discussion, discover the role of trees in God's perfect environment, and our responsibility to take care of our environment.

Date completed _____

Answers to suggestions:

- 11.** Board foot volume is determined by using volume tables. They are specific for each species.

Example: Douglas-fir Board Foot Volume Table

Total Height in Feet	60	70	80	90	100	110	120	130	140	150	160
DBH in Inches											
12	50	69	87	105	124	140					
14	74	101	129	155	175	201	225				
16		136	170	205	235	265	296				
18		174	215	257	294	329	367	410			
20			262	311	355	397	440	494	558		
22			309	367	420	470	520	584	658	732	
24				426	489	545	607	676	758	848	950

- 12.** Reforestation methods

Site preparation by mechanical, chemical or burning.

Planting with seedlings, seed or cuttings.

Reducing competition from weeds and damage by animals

13. Forest Damage

Reduced by planting the correct tree specie for the site, thinning crowded trees, salvaging diseased trees

Fire behavior influenced by fuels(material that can burn), weather and topography.

Fire severity reduced by thinning, pruning, prescribed burning, salvage dead trees and control undergrowth.

Tree	DBH (diameter at breast height)	Clinometer or Tangent height	Increment borer	Prism or angle gauge

Tree	common and scientific name	range of tree	height and diameter of tree at maturity	common use and importance of tree	habitat of tree, forest zone, and elevation

Forestry, Advanced

- 1. Have the tree honor and forestry honor
- 2. Define the following terms:
 - a. basal area

b. bole

c. DBH (diameter)

d. Seed tree cut

e. selective cutting

f. shelterwood cut

g. silviculture

h. canopy

i. crown

j. pulpwood

k. succession

l. thinning

m. rotation

n. sawtimber

o. climax forest

p. habitat

- ❑ 3. Study five tree species important to forestry in your area and give the following information about each.
 - a. common and scientific name.
 - b. range of tree
 - c. height and diameter of tree at maturity.
 - d. common use and importance of tree.
 - e. habitat of tree, forest zone, and elevation.
 - f. common age of rotation (harvesting) for various uses

4. On a map of your country, draw the forest areas and indicate the types of forest in each area.

Date completed _____

5. Write a short report (250 words or more) on the importance of the forests in your country.

Date completed _____

6. Tour one of the following, or write a report with diagrams about operations:

- a. Sawmill
- b. Pulpmill
- c. Furniture factory

Date completed _____

7. Do one of the following in forest regeneration:

- a. Tour a forest seedling nursery
- b. Plant forest seedlings or forest seed

Date completed _____

8. Do a forest survey in a typical forest for your area. Using a prism, mark all trees large enough to be counted “in”, and record the following data for each “in” tree, and record the basal area by species for the whole plot:

- a. common and scientific name
- b. DBH
- c. Height
- d. Age (determined by increment borer)

Date completed _____

Instructor's Signature _____

Tree	common and scientific name	range of tree	height and diameter of tree at maturity	common use and importance of tree	habitat of tree, forest zone, and elevation	common age of rotation (harvesting) for various uses

Tree	common and scientific name	DBH	Height	Age (determined by increment borer)