Name:_____

Lab: Forestry and Conservation MAKEUP ASSIGNMENT

Remember: As per GHHS Policy, you have two days for each day absent to makeup assignments.

Background: To develop a sensible approach to conservation of trees, it is helpful to get an idea of the amount of wood in a tree. It is also important to know the amount harvestable per acre and the size of the area that must be logged to provide the lumber for a specific purpose, such as building a house. The amount of lumber that can be harvested from a tree depends upon the height and diameter (dbh) of the tree. A useful measure of tree volume is a unit called the board foot. One board foot has a volume equal to that of a block of wood that is 12 inches long, 12 inches wide, and 1 inch thick. The Biltmore Stick, which originated in the mid 18th century, is one way to easily measure the height and dbh of a tree. The Biltmore Stick is pre-marked for determining the number of 16 foot logs in a tree while standing at a distance of one chain (66 feet).

What We Did in Class:
Students first determined their pace (how many steps it takes to reach 66 feet). Once that was complete, students could determine the amount of wood harvestable from any tree in the universe by using a Biltmore Stick.

Data:

Tree Species	DBH (in)	Height (16 ft lengths)	Height (ft)	Board Feet
Loblolly Pine	*14*	*3*	*48*	*175*
Loblolly Pine	*16*	*4*	*64*	*285*
White Oak	*10*	*2*	*32*	*60*
Red Maple	*8*	*1*	*16*	*20*

Analysis:

1. A 2,000 square foot home framed would contain about 20,000 board feet of lumber. Including cabinets would add another 3,000 board feet to the estimate. Based on the average number of board feet in your four trees, how many trees would be necessary to build a home? _____

2. How many trees would be needed to build an average 100-home development? _____

3. What could be done to reduce the number of trees needed for construction? (stop building homes is NOT an option)

4. What could be done to reduce the effects of tree harvesting on the forest ecosystem? (think types of harvesting)

5. Compare the effects of harvesting trees from a tree farm, a secondary growth forest and an old growth forest.

Watch the video https://www.youtube.com/watch?v=oX6YSebzZp4 and answer the following

6. What is the diameter of the tree measured in the video?

7. What portion of the tree is valuable to a sawmill?

8. How is board feet calculated using a Biltmore Stick?

9. What have you learned from this makeup lab?