

How Old is Your Tree?

Background

How could you estimate the age of your tree, without cutting it down to count its rings? Think about this question. What other ways could you measure your tree to get a good indication of its age?

Knowing the age of a tree can help us all appreciate trees. Normally a forester will take a core-boring into a tree and count the annual rings if he or she would like to know the age of a tree. Unfortunately, this method can be very harmful to a tree, since the boring will leave a hole in the tree which insects may enter. The method for aging trees described below was developed by the International Society of Arboriculture. This method will give a good estimate of a tree's age.

Try This!

- Draw an age ring diagram of your tree.
- Mark the rings of your tree by writing in the year on various lines (i.e. mark the lines corresponding to the decades...1990, 1980, 1970, etc.)
- Find years of historic importance--both nationally and locally in your own city--and mark it on your diagram next to the year it occurred.
- Students could ask their parents for the year of a significant event in their past, or for a significant event that occurred in a specific year plotted on your tree line.
- Next, students could ask their grandparents for the year of a significant event in their past, or for a significant event that occurred in a specific year plotted on your tree line.
- How does your rate of growth (human growth) compare to the rate and direction of tree growth? What factors can influence both of these rates?

How to Estimate Age:

1. Students should work in groups of 3 or 4.
2. Determine the species of your tree. Make sure it is on the list below.
3. With a tape measure, find the circumference of the tree (in inches) 4 1/2 feet above the ground.
4. Determine the diameter of your tree.

Formula:

$$\text{Diameter} = \text{Circumference divided by } 3.14 \text{ (pi)}$$

5. Calculate the age of the tree.

Formula: Diameter X Growth Factor

Tree Species	Growth Factor	Tree Species	Growth Factor
Red Maple	4.5	White Oak	5.0
Silver Maple	3.0	Red Oak	4.0

Sugar Maple	5.0	Pin Oak	3.0
River Birch	3.5	Linden or Basswood	3.0
White Birch	5.0	American Elm	4.0
Shagbark Hickory	7.5	Ironwood	7.0
Green Ash	4.0	Cottonwood	2.0
Black Walnut	4.5	Dogwood	7.0
Black Cherry	5.0	Redbud	7.0
		Aspen	2.0

Credits:

Lesson provided by Jim Gilbert & Cathie Plaehn
 Drawn from the International Society of Arboriculture

Jim Skiera of the International Society of Arboriculture provided these important notes about the accuracy of this method:

"The figures in your chart are taken for **forest grown** trees. In a landscape setting, where trees are being provided additional care, these figures probably would need to be adjusted to get an accurate estimate. Growth has to do with the location of the tree and the type of care it has received. Trees in the landscape tend to grow faster and develop wider growth rings more quickly because the competition from other trees is usually less and the additional water and fertilizer that is provided by the home owner will also increase growth. If you are working on school projects you may also want to visit the [ISA website](#) and look in the publications area under consumer tree care information."