CFS CANADIAN FOREST SERVICE
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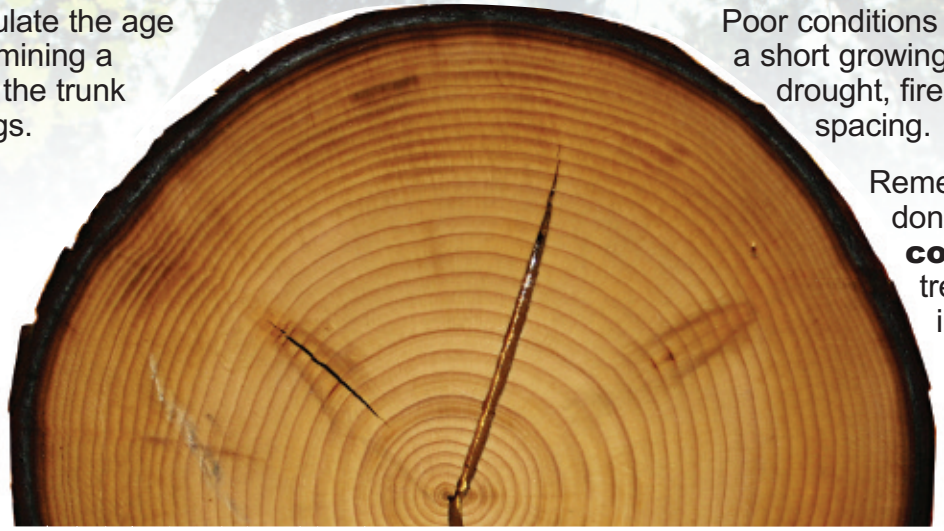
forests up-close

Calculate the Age of a Tree!

It is easy to calculate the age of a tree by examining a cross section of the trunk and counting its rings.



How are rings formed?

In Canada, tree growth comes to a halt during the winter months when growth cells become dormant. In the springtime, the growth cells become active again. During this time, thin-walled cells form light coloured rings called earlywood or springwood. Later in the summer, growth cells with thicker walls form darker rings know as latewood or summerwood. In tropical climates, cells continue to grow during the winter. The continuous growth makes the rings less visible, so it is harder to count rings in tropical trees.

One can determine the length of the growing season by the distance between rings. A long growing season results in more tree growth. Narrow distance between rings means that the growing conditions were poor. Poor conditions may be due to a short growing season, drought, fire, or tree spacing.

Remember trees don't **heal**, they **conceal**. The tree keeps its injuries and builds around them.

Fire scars are present on the tree after a fire. Some trees do not die in a fire and have the ability to grow new layers the very next year. The result is the presence of a fire scar in the cross section.

What species can withstand fire?

Species such as pine have thick bark that protects the tree in case of fire. Other species such as paper birch burn easily during a fire.

Pan-Canadian Learning Outcomes:

Grade 3: 100-29 identify and investigate life needs of plants and describe how plants are affected by the conditions in which they grow

Grade 4: 300-2 compare the structural features of plants that enable them to thrive in different kinds of places

Grade 7: 304-3 describe conditions essential to the growth and reproduction of plants and microorganisms in an ecosystem and relate these conditions to various aspects of the human food supply

Did you know?

Researchers at the *Canadian Forest Service* National Tree Seed Centre study trees during their earliest stages. Researchers collect and store seed from almost every species imaginable.

To learn more visit:
http://www.atl.cfs.nrcan.gc.ca/SeedCentre/seed-center-e.htm

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How Old is that Tree?

Count the rings and find out!

Materials Needed:

- Many small cross-sections, or one large cross-section.
- Try to use a variety of tree species.

Directions:

1. Remember that each ring on a cookie represents one year of a tree's life.
2. Start counting the rings from the outside and work your way towards the centre of the cookie.
3. After you have determined the age of the tree, figure out what ring corresponds with what year and identify some events during that time frame. For example: the year you were born, Armstrong's walk on the moon in 1969 or the Calgary Olympics in 1988.
4. Try to imagine how big the tree was when you were born, and calculate how much older the tree is than you.

Duration of activity:
30 minutes plus time for a discussion concerning tree growth.

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