

Measuring and calculating

Counting rings

You can tell how old a tree is by counting the rings on the inside of a trunk after the tree has been felled. Each ring represents a year of its growth. We don't want to cut down our trees though so how else can we find out how old the tree is?

Activity 1

Here is a way to calculate the age of a tree without cutting it down:

What to do:

1. Choose a tree
2. Do you know what sort of tree it is?
3. Estimate how old the tree might be.
4. Now use this method to calculate the approximate age of the tree:
 - Measure 1.5 metres up the trunk and mark the spot.
 - Measure the girth (all the way around the trunk) of the tree at this height.
 - Write down the girth in cm.
 - Use a calculator to divide the number of centimetres by 2.5. This gives you the approximate age of the tree.
 - Write down your answer.
 - What is the difference between your estimate and the measured age of the tree?
 - During which year was the tree planted?

Activity 2

Measuring the height of a tree.

What to do:

1. Choose a tree
2. Do you know what sort of tree it is?
3. Estimate how tall the tree might be.
4. Now use this method to calculate the approximate height of the tree:
 - Take a pencil and move several meters away from the tree.
 - Outstretch your arm and hold the pencil so that it is pointing to the sky.
 - Close one eye and adjust the pencil up or down so that you can sight the very top of the tree at the top of the pencil.
 - Move your thumb up or down the pencil so that the tip of your thumbnail is aligned with the tree's base.
 - Rotate your arm so that the pencil is horizontal (parallel to the ground). Keep your arm held straight out at the same distance, and make sure your thumbnail is still aligned with the tree's base. The thumb should be even with the centre of the bottom of the tree.
 - Note where the distance measured by thumb hits the earth and measure the distance from this point to the tree. This is the height of the tree.

