



Tall Trees – Activity Guide

Introduction

This activity allows students to identify and investigate the characteristics of different species of trees. It works particularly well when there are opportunities for using different methods of measuring tree height and can be used as an enquiry based activity to test certain assumptions about the trees within a given area e.g. which are the oldest, tallest etc. All the techniques listed below are very simple to execute and work best where students work in groups of three.

Equipment

- Tape measure
- ID key pdf
- Tree passport pdf
- Calculating tree age sheet pdf
- Tree facts pdf
- Tape measure
- Clinometer (not essential)
- Crayon for bark rubbing
- Paper and pencils for recording
- Clipboards

Tasks

1. Choose a tree – look for one with plenty of space to walk around it
2. Identify your tree using the ID keys
3. Measure the girth at waist height by running a tape measure around the trunk – the result should be recorded in centimetres
4. Use the age calculation sheet to work out how old the tree is – is it older or younger than you thought?
5. Do a bark rubbing
6. Stick double sided tape onto the distinguishing feature section of the passport and use this to stick seeds and leaves etc
7. Repeat for a different species!

How to measure tree height

A. Use the clinometer to find a 90° angle between the ground and the top of the tree – students work in groups of three, one (the marker) uses the clinometer to check the angle whilst walking backwards, carefully guided by the another student who acts as their safeguard. The third student measures the distance from the marker's feet to the trunk of the tree and the height from the floor to their eyes. Add these two figures together and you get the height of the tree (basic trigonometry!)

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If you do not have access to clinometers there are two other very simple ways of getting this measurement:

- b. Look through your legs! – By bending over and looking through your legs back towards the tree you recreate a 90° angle. Measure the distance from this point as above.
- c. Hold a pencil at arms length and carefully walk backwards away from the tree, using a friend to guide you safely. Stop when the tree appears to be the same height as the pencil. Turn the pencil sideways until it is parallel with the ground making sure you keep one end on the bottom of the trunk. The third student walks sideways from the tree. Shout 'stop' when he/she is level with the end of the pencil. Measure the distance from this student to the real tree.

It is a good idea to try out different methods of measuring tree height and compare to assess accuracy of different methods.

Follow up ideas

- Draw up tree passports to make displays of work
- Draw graphs to compare different tree heights and girths
- Draw graphs to demonstrate the different age and height between different species – which are the fastest growing?
- Create a living display of leaves, seeds, bark rubbings etc