

MATHS learning springboards

Drawing to scale: measuring the height of trees and presenting the data

Find tree dimension facts from the *Pappus* Plant ID sheets

Aim: Measure the height and estimate the age of a tree in the locality, find relevant facts from the *Pappus* Plant ID sheets, and decide how best to present the data. Show comparisons between trees with very different longevity and stature.

Activity 1:

Estimate height of a local tree

There are many different ways to measure the height of a tree, using estimating, measuring and calculating and even looking between your legs - yes really! Find these through internet searches, and on the Science and Plants for Schools website, www.saps.org.uk – there is a download in the *Pappus* resource library.

Include your local tree(s) in the chart in Activity 2 below.

Activity 2:

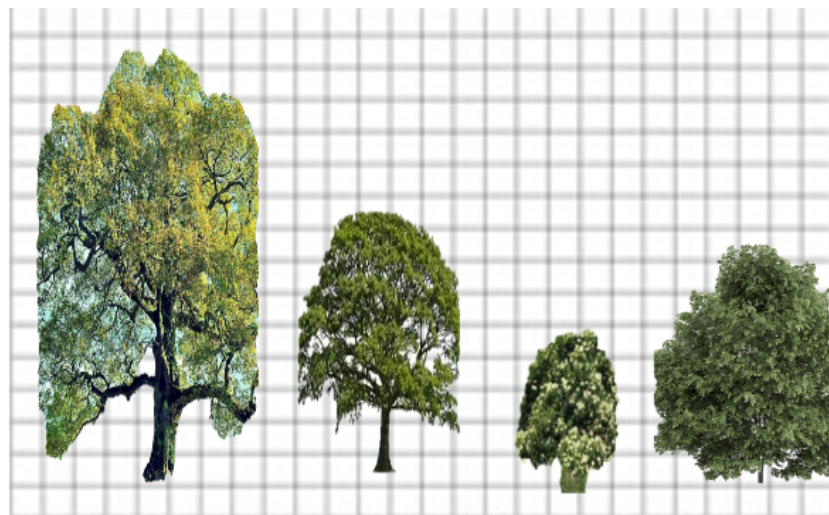
Draw the trees to scale on squared paper, using the data collected

- Pupils need to think about the largest and smallest dimensions that will be recorded and decide on an appropriate scale to use.
- Annotate each tree with interesting information about the oldest known specimen and typical maximum height etc.
- If there is time, prepare a second chart recording the girth of the largest tree. Compare trees' height and girth data.

Success criteria:

- ✓ I can use information to decide which scale to use
- ✓ I can use information given to calculate the scaled down height of a tree
- ✓ I can use my graph to interpret and compare heights of different trees
- ✓ I can explain how I worked out my answers.

Height
in meters



Resources:

Find tree facts from *Pappus* Plant ID sheets

Ash

- Oldest: 864 years (+/-100yr)
- Largest girth: 13m
- Typical max height: 25m

Elder

- Oldest: 220 years (+/-100yr)
- Largest girth: 2m
- Typical max height: 15m

Lime (Small Leaf)

- Oldest: 820 years (+/-300yr)
- Largest girth: 12.81m
- Typical max height: 26m

Horse Chestnut

- Oldest: 441 years
- Largest girth: 7.33m
- Typical max height: 35m

Oak

- Oldest: 2,080 years
- Largest girth: 15m
- Typical max height: 40m

Willow

- Oldest: 263 years
- Largest girth: 9.8m
- Typical max height: 30m

More springboards:

Learning Springboards – Maths: Twig Clinometer

Learning Springboards – Maths: Collecting and using data



Measure height of tree

