

## Step by step

- 1** Stand with your legs apart and your back to the tree.
- 2** Keeping your legs straight, bend down and look at the tree between your legs.
- 3** Move backwards or forwards so that you can just about see the top of the tree between your legs.
- 4** Measure the distance between your feet and the tree trunk. When you can see the top of the tree between your legs, the distance between your feet and the trunk is about the same height as the tree.
- 5** Think about how you will measure the distance between your feet and the tree. You could ask a friend to count strides or heel-to-toe steps between you and the tree trunk.
- 6** Measure up the trunk 1.5m from the ground and wrap a tape measure around, to find out the circumference.
- 7** Divide this figure by the growth rate to discover an approximate age of the tree.
- 8** Find out what was happening in the UK when your tree was planted.

## Hints & tips

- 💡 This method works because the angle of sight from between the legs (when you can only just see the top of the tree) to the top of the tree is approximately 45 degrees.
- 💡 The angle of the tree with the ground is 90 degrees (a right angle). An approximate Isosceles triangle is then formed. This means that the distance between your feet and the tree trunk is approximately the same as the height of the tree.
- 💡 Look at the age of your tree and relate its planting to significant turning points in British history (such as the introduction of the steam turbine).

# How tall is that tree?

## Preparation

Discuss the different trees you will be measuring. Are they deciduous or evergreen?

Ask learners possible ways to measure the distance between feet and tree trunk.

If your class is ready for this, you could ask them to think about why this method works. What can you say about the sides of the triangle that is formed?

## Equipment

- String
- Tape measures
- Trees

## Calculate the age

Divide the circumference of your chosen tree by one of the following figures, to calculate the age.

- 1.88** for oak
- 2.50** for hazel, ash and beech
- 2.75** for sycamore
- 3.13** for pine and spruce

If your tree is not in the list above use **2.50**

- ✓ Learn about measurement, distance and circumference
- ✓ Learn about trees in your locality
- ✓ Learn about triangles
- ✓ Gain historical perspective by placing growing knowledge into different contexts