

# RHS GARDEN HYDE HALL

## Self Guided Activity Ideas for Schools



### Key Stage 2

## Tree Measuring using a Clinometer

**Curricular Links: Maths**



**How long will it take?**  
30 minutes to one hour

**What do we need to bring?**  
Make your own clinometers **at school** **before you visit.**



**Where can we do it?**  
All around the garden

**When can we do it?**  
All year round

### How do we do it?

Make this clinometer to measure trees at Hyde Hall and in your school grounds.

### You will need:

- a square piece of card
- a length of string
- a weight (e.g. a piece of plasticine)
- a drinking straw
- sellotape

### Using the Clinometer

Work in pairs. One student looks up through the straw to sight the top of the tree. The other student guides them and tells them when the string is hanging straight down, parallel to the edge of the card.

When the student sighting through the clinometer can see the top of the tree with the string hanging straight down, they are as far away from the tree as the tree is high. They can simply now measure the distance from where they are standing to the base of the tree. They will also need to add on the height from the student's eyes to the ground.

### Making the Clinometer

1



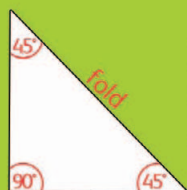
Fold the card to form a triangle.

3



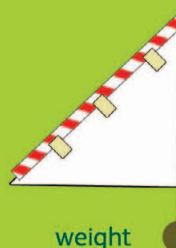
Tape the drinking straw along the long edge of the triangle. The straw will be used as a sight.

2



Since the paper was a square, an isosceles triangle will be formed - 2 sides of equal length, a 90° angle and two 45° angles.

4



At the upper end of the fold, attach the string. Tie a 'blob' of plasticine to the other end of the string, making it long enough so that the weight dangles around 7cm below the corner.