My new friend
You have just made a new friend. A special friend. A tree!

What are you going to learn about your new friend?

Let us find the circumference of your tree.

Then we’ll find its height.
Here’s an easy way to find your hand span.

First let’s find the length of our hand span.

Your hand span is the length from the tip of your thumb to the tip of your pinkie.

Who has the longest hand span in your class?
Who has the shortest hand span?
Walk round your tree and **measure** the trunk with your hand spans.

How many hand spans did it take?

Can you work out the total length around your tree trunk?

The length around the trunk is called the **circumference**.

Measuring with hand spans is called an **estimate**. To get the real length, measure around the trunk again but this time use a **tape measure**.

Did your answers match?
We know the length around the tree trunk.

What about the height of the tree?

How are we going to measure that?

It’s easy!
All you need is a piece of card and a long tape measure.*

You need a **square** piece of card about 20cm.

Fold it along its **diagonal**.

Tape or glue the sides together to make a **triangle**

This is a **clinometer**. It will help you find how tall your tree is.

*Or a trundle wheel if it’s a really tall tree!
Your clinometer is a special kind of triangle. It has a **right angle** in the bottom corner, and two equal angles at the other corners. This is called a **right angle**.
Here’s how to use your special tool.

Hold the clinometer up to your face, like the girl in the picture.

Make sure the right angle is at the bottom of the triangle.

Look up along the sloping side.

Hold the bottom side horizontal.
Now walk away from your tree until you can see the **top of the tree** along the sloping side of your clinometer.

When you do, stop right there!

Now **measure** the **distance** from you to the tree trunk.

? cm

You’re almost done!
Just one last bit of measure.

Add your own height to the distance you measured.

Well done! Now you know some secrets about your special tree friend!

And that’s how tall your tree is!