

Investigation 4

“It is impossible to find a stick which is half the length of another stick.”

Prove it!

Do not break sticks to change their size (this will provide more opportunity for practising measuring).

How will you begin your investigation?

- Children should learn that it is a good idea to work methodically by choosing either their ‘longer’ stick or their ‘shorter’ stick first, and then keep a hold of this to find its ‘partner’ (rather than trying to find both sticks at once).
- They should learn which sticks are a sensible size to choose, i.e. it will be more difficult to find a stick which is double the length of an extremely large stick (as there are few sticks like this).

How will you know which sticks you have already tried?

- They should learn that throwing their sticks back on the ground may become confusing if they forget which ones they have looked at/measured/checked already. They may create a pile of ‘checked sticks’.

How will you measure your sticks?

- They should begin by estimating the length of the sticks by eye, using their knowledge of cm being about the width of a fingernail.
- They may line up sticks beside each other.
- When they feel they are close to having a stick which is double the size of another, they should begin measuring the sticks using appropriate equipment such as a ruler. They should realise that recording in cm and mm would make most sense.

If they are not accurate enough, they may keep one or the other of the sticks and begin their methodical searching again. Alternatively, they may want to start all over again.

If they are very close (you may decide how close is acceptable), they could try and find a stick which is double the length of the longer stick!

