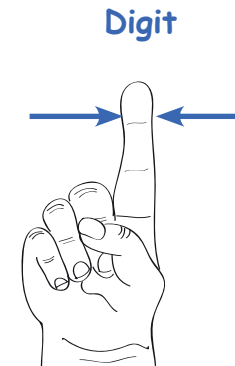
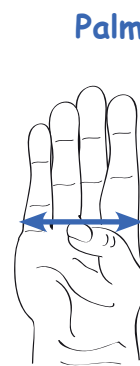
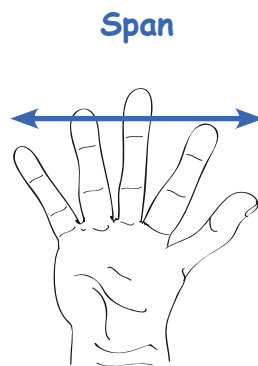
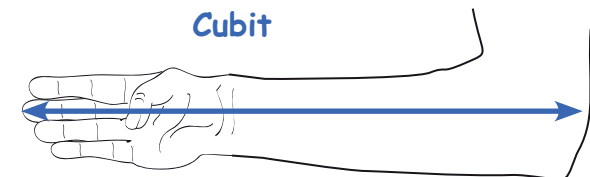
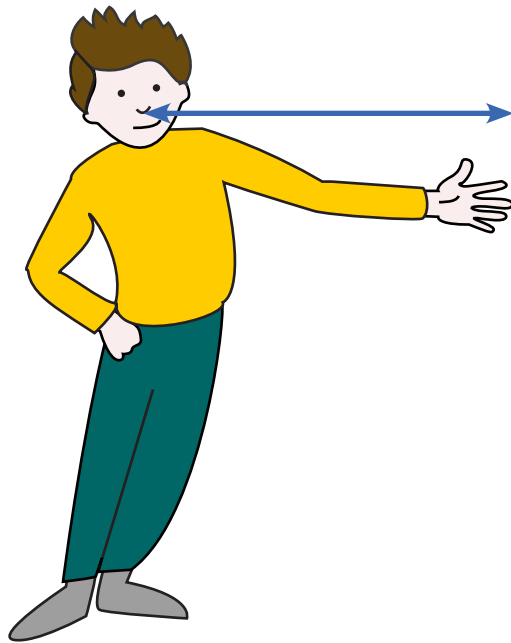


## Relationships between body measurements

1. Ask your partner to measure your height, both lying down and standing up. If there is a difference, why might this be?
2. Ask your partner to measure your arm span and compare it with your height. Record which of your group are squares (arm span same as height), or rectangles (arm span more or less than height).
3. Measure your cubit, span, palm and digit and record the same for your whole group. Use this information to estimate how many spans, palms and digits might have been in a cubit. In the Bible Goliath is described as being six cubits and one span tall. How tall do you think this might be?
4. Measure the distance from your nose to your finger tip and your foot length. Do you have three feet in your 'yard'? How many cubits?



## Making estimates of large numbers

Choose at least two of the following challenges to work on with a partner.

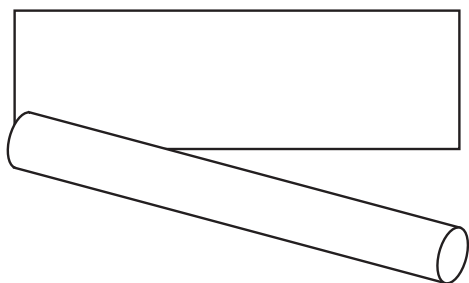
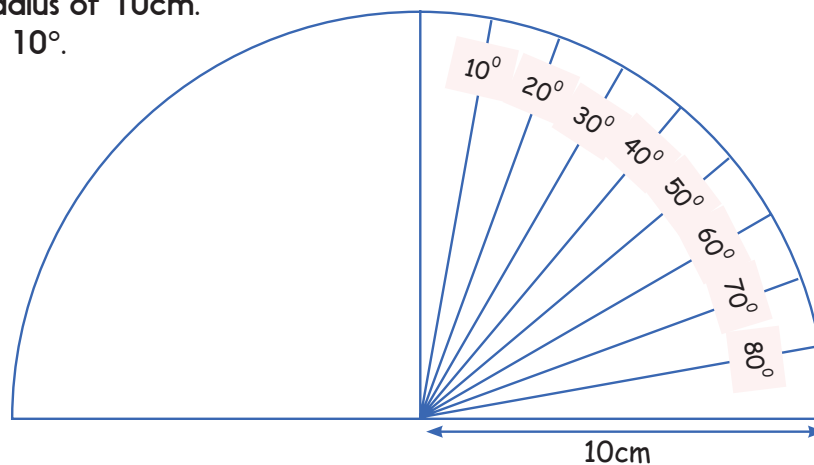
Make a Fermi estimate of:

- the numbers of hairs on your head
- how many times you might blink in a lifetime
- how many litres of fluids might you drink in a lifetime
- how many cubic centimetres of toothpaste you might use in a lifetime
- how many kilometres you might walk to and from primary school from Reception to Year 6
- how long a line would be if all your hairs were laid end to end

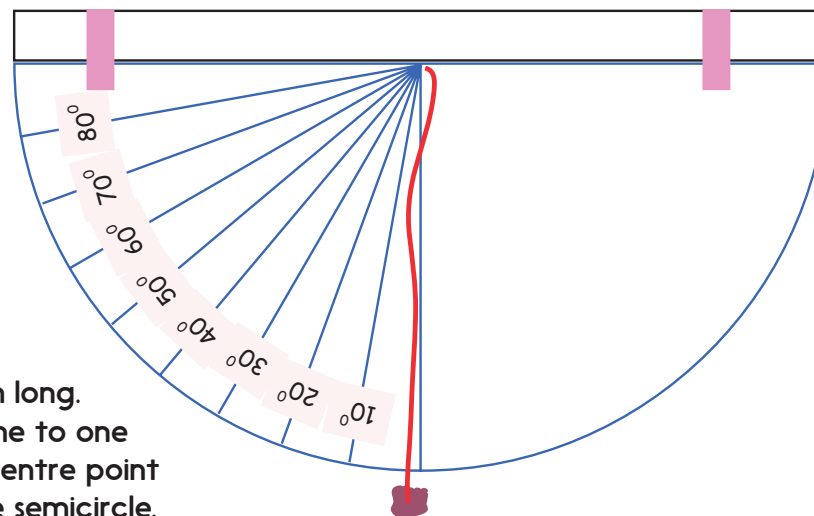
# Making an astrolabe

Draw and then cut out a semicircle on a piece of card, with a radius of 10cm. Use a protractor to help you draw lines to show each multiple of 10°.

Cut out another piece of card measuring 20cm by 5cm and roll it into a thin tube 20cm long. Secure each end with a paper clip. Stick the tube along the straight side of the semicircle. This will be the astrolabe's eye piece.



Cut a piece of string 20cm long. Attach a piece of plasticine to one end and the other to the centre point of the straight edge of the semicircle.



# Astrolabe images

