Outdoor Maths UKS2
Challenge Cards
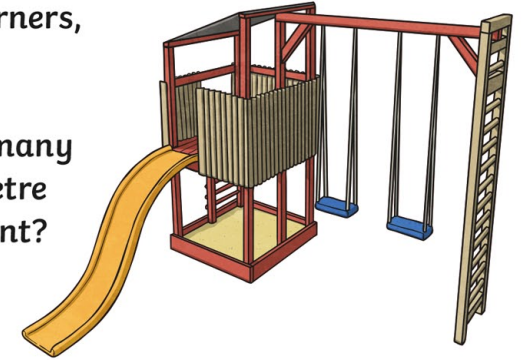
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Playground
Make a scaled drawing of your playground.

- Measure the sides of the playground and the angles at the corners, making a rough plan.

- Decide on a scale. How many metres will each centimetre on your drawing represent?

Pitches
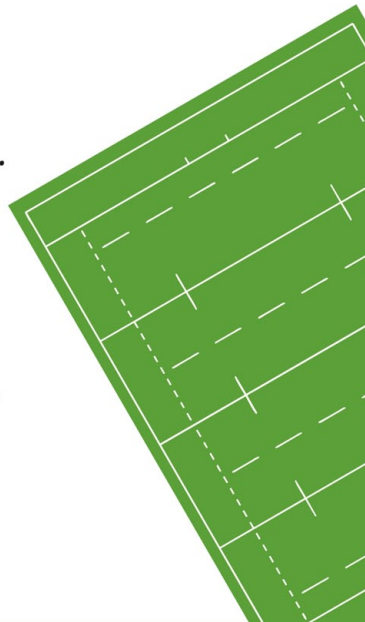Calculate the area of any pitches that are marked on your playground.

Draw scaled drawings of the different pitches and label the different areas.

Calculate the area of different parts of the pitches. Have the pitches been marked out accurately?

Grass
Estimate how many blades of grass there are in one square metre?

- Mark a small area of grass on the school field. (1cm x 1cm = 1cm²).
- Count the blades of grass in this area.
- Multiply to calculate the number in m².

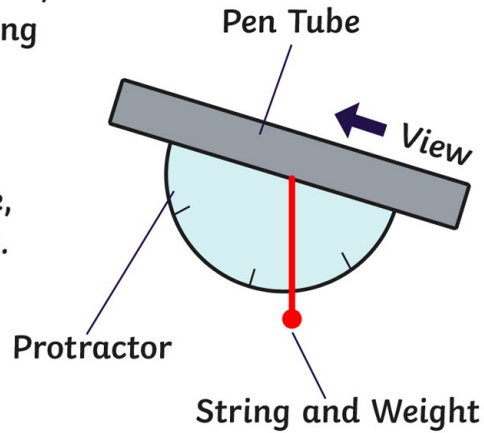Can you use this to estimate the number in the whole field?

How High Part One

Measure the height of a tree, or the school building using a home-made clinometer.

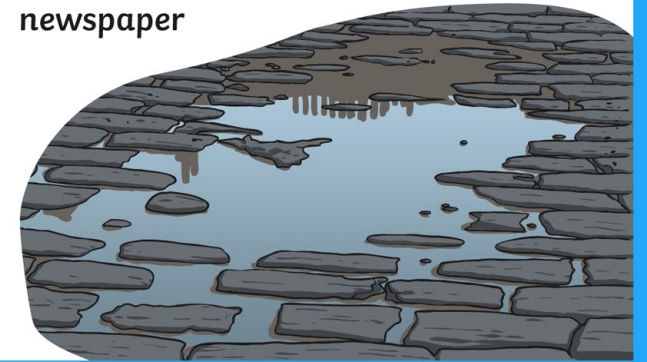Make a clinometer with a protractor, a small tube, some string and a weight.

Pen Tube

View

Protractor

String and Weight

Puddles

After it has rained, estimate the perimeter and area of a puddle.

You may want to use some a ruler, chalk, string, newspaper and squared paper.

Shadows

Measure and record the length of a shadow as it changes during the day.
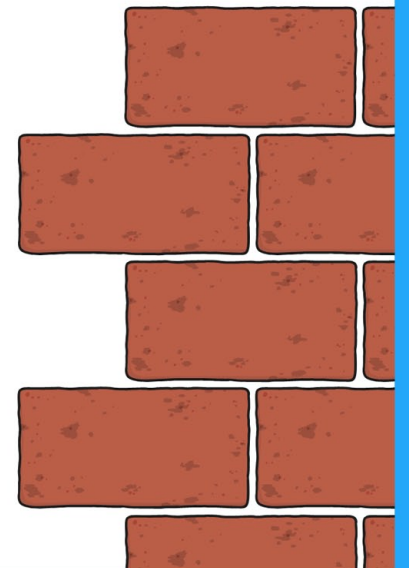
Record the angle that the shadow moves at regular intervals.

Bricks

Look at some brick patterns. Are all the patterns the same?

Estimate the number of bricks in a wall by estimating a smaller area. Can you create your own tessellating brick pattern?

How High Part Two

Stand a measured distance from what you are measuring (suggested 10m).
Measure the angle to the top of the object that you are measuring. Draw a scaled drawing to find the height. Don't forget to include the height at which you held the clinometer.