

Learning about shapes

Key learning

Read and plot coordinates in the first quadrant; recognise parallel and perpendicular lines in grids and shapes; use a ruler to draw shapes.

Check that your child can:

- draw and name 2-D shapes;
- identify different types of angle;
- understand what is meant by **parallel** and **perpendicular**;
- plot coordinates on a graph.

Notes for parents/carers

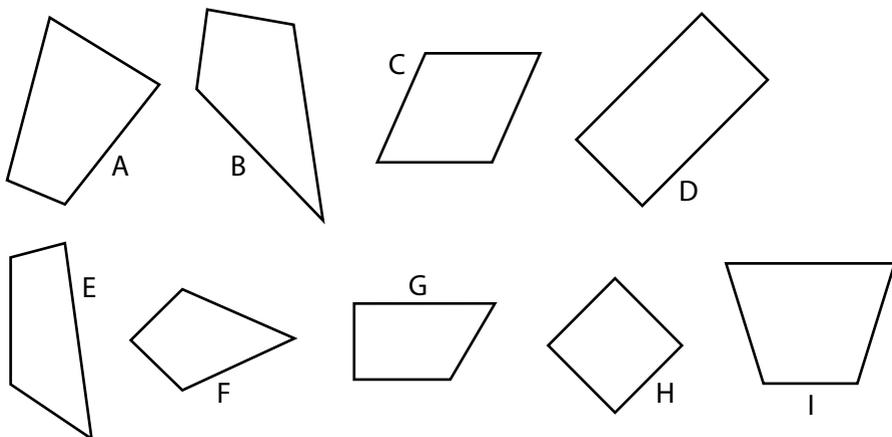
There are angles of all types and sizes around the home.

- Ask your child to find three different objects with **right-angled (square)** corners anywhere in the house.
- Next ask your child to open a door so that its bottom edge makes an **acute angle (less than a right angle)** with the line it makes when closed. Ask if they can find a door that opens to form an angle bigger than a right angle (cupboard doors sometimes do this).
- Ask your child to find you a pair of **parallel lines** in the house (they might suggest two opposite edges of a door, the TV or a photograph).

Look together at the nine shapes on page 2.

Ask questions such as those below.

- Which shapes have no right angles?
- Which shapes include parallel sides?
- Do any of these shapes have two pairs of parallel sides? Which ones?
- Which shapes have more than one obtuse angle?
- How many acute angles can you find altogether?



Let's name some shapes

All these shapes are called **quadrilaterals** because they have four sides.

Some shapes also have special names – sometimes more than one.

Work with your child to find which of the shapes are called a:

- **rectangle** (has **four right angles**);
- **trapezium** (has a **pair of parallel sides**);
- **parallelogram** (has **two pairs of parallel sides**);
- **kite** (has **two pairs of equal sides** but **no pairs of parallel sides**).

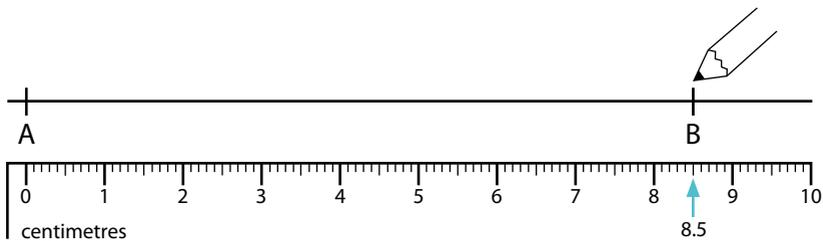
Drawing accurately with a ruler and pencil

Check that your child can use a ruler to measure and draw lines, accurate to the nearest millimetre.

- Draw some straight lines of various lengths and ask your child to measure them using a ruler.
- Next ask your child to draw a line of length 8.5 cm. Check its accuracy.

If you need to help your child, suggest they:

- make sure their pencil is sharp;
- draw a line longer than they need and mark a starting point A to measure from;
- place their ruler against the start mark and measure to 8.5 cm. Put a second mark B at this point.



Points and lines on grids

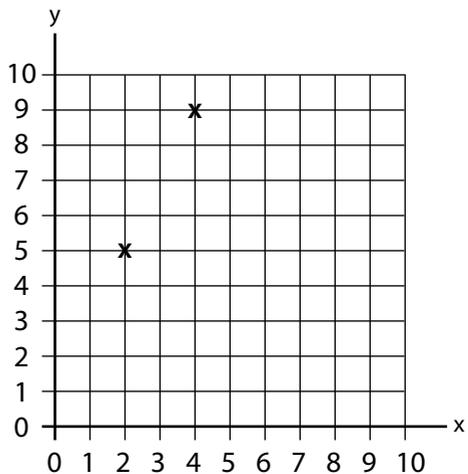
Check that your child can plot points and join them with straight lines on a grid accurately.

Make a bigger copy of the grid below, then ask your child to plot the points (2, 5) and (4, 9) and join them with a straight line. You might remind your child that:

- the first number in each pair is counted along the horizontal or x-axis, the second number is counted up the vertical or y-axis;
- to mark the points with small crosses, as shown, using the grid lines to help;
- to join the centres of those crosses, in order, with straight lines.

Help your child to practise their grid work. Ask them to plot each of these sets of points and join them up with straight lines, in order and joining the last point to the first, to make three different shapes.

- A(5, 10), B(9, 7), C(9, 10)
- D(5, 3), E(2, 1), F(0, 4)
- P(6, 6), Q(7, 0), R(10, 3)



Ask your child some questions about the shapes, such as:

- Do any of the shapes have special names?
- Which shapes have right angles, acute or obtuse angles?
- Which lines are equal in length?