Drawing circles with a compass

MODULE 6 · 2D AND 3D SHAPE, ANGLES, SYMMETRY SHAPE & SPACE

HOW TO ANSWER TODAY

- **Compass drawing.** Set the compass opening to the radius. Hold the point still; sweep the pencil all the way round.
- **Radius ↔ diameter.** Diameter = 2 × radius. Radius = diameter ÷ 2.
  Radius 5 cm → diameter 10 cm Diameter 12 cm → radius 6 cm
- **Parts of a circle.** Centre = middle point. Radius = centre to edge. Diameter = edge through centre to edge. Circumference = the distance round.
  Line from centre to edge → radius All the way round → circumference

STRETCH PROBLEMS

1. Saoirse is planning the school garden on grid paper, with herbs planted in three rings around a central bird feeder. She needs to draw three concentric circles with radii **3 cm**, **5 cm** and **7 cm** to mark the planting positions. Mark the centre with a small cross first, then re-set the compass between each circle. Can you draw the three circles for her plan?

2. Niamh spots a round biscuit tin on the shelf at SuperValu. The lid has a radius of **3 cm** from the centre to the edge. What is the diameter of the lid?

3. Cian and Aoife are setting up a coin-toss target on the yard for their lunchtime game. They want to draw a circle with a radius of **6.5 cm** on a sheet of card to mark the target. Use your compass and ruler to draw the circle, checking the spread against the half-centimetre tick before you start.

4. Tadhg is building a robot in 5th class and fixes a circular wheel to its base. He measures from the centre of the wheel to its edge and gets a radius of **5 cm**. Fill in: the diameter of the wheel is ____ cm.

5. At break time, Saoirse wants to draw a perfect circle on her copybook to plan how to arrange a packet of biscuits in a ring. She sets her compass to a radius of **6 cm**, checking the spread carefully against her ruler. Use your compass to draw the circle Saoirse needs.

SHAPE & SPACE