

# Drawing circles with a compass

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

## HOW TO ANSWER TODAY

- **Radius ↔ diameter.** Diameter =  $2 \times$  radius. Radius = diameter  $\div 2$ .  
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
- **Compass drawing.** Set the compass opening to the radius. Hold the point still; sweep the pencil all the way round.  
Circle, radius 3.5 cm → open compass to 3.5 cm, draw

## ★ STRETCH PROBLEMS

- 1 Niamh is making a memory-match game with circular cards for her 5th class. Each card has a radius of **2.3 cm**. What is the diameter of each card?  
A circle has a radius of 2.3 cm. What is its diameter?
- 2 On a school tour to Glendalough, Tadhg spots a circular stepping stone on the path with a radius of **10 cm**. What is the diameter of the stepping stone?  
A circle has a radius of 10 cm. What is its diameter?
- 3 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.  
A circle has a radius of 5 cm. Fill in: the diameter is \_\_\_\_ cm.
- 4 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.  
Use your compass to draw a circle with radius 6 cm. Measure the compass spread against a ruler before you start — the half-centimetre tick matters.
- 5 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.