

Renaming weight (kg ↔ g); reading scales

MODULE 4 · MEASURES — LENGTH, WEIGHT AND CAPACITY MEASURES

HOW TO ANSWER TODAY

- **Convert units.** To a SMALLER unit → multiply. To a BIGGER unit → divide. Common factors:
 $\text{cm} \leftrightarrow \text{mm} \times 10$, $\text{m} \leftrightarrow \text{cm} \times 100$, $\text{km} \leftrightarrow \text{m} \times 1,000$, $\text{kg} \leftrightarrow \text{g} \times 1,000$, $\text{l} \leftrightarrow \text{ml} \times 1,000$.
 $250 \text{ cm} \rightarrow \text{m}: \div 100 = 2.5 \text{ m}$ · $3.5 \text{ kg} \rightarrow \text{g}: \times 1,000 = 3,500 \text{ g}$
- **Read a ruler.** Each big mark = 1 cm = 10 mm. Each little mark = 1 mm.
 $3 \text{ cm} + 7 \text{ mm} = 37 \text{ mm} = 3.7 \text{ cm}$

★ STRETCH PROBLEMS

- 1 For a school geography project, Oisín measures the school run at **42 km** on the map. His teacher asks him to write this distance in centimetres. How many centimetres is **42 km**?
- 2 Tadhg's robotics team measures the wire for their classroom robot and it is **72 cm** long. To label it on their build sheet, they need the length in millimetres. How many millimetres long is the wire?
- 3 The bus to the Cumann na mBunscol blitz travels **60 km** from the school to the county grounds. Convert this distance to centimetres.
- 4 Tadhg is measuring a wire for the class robotics build. On his ruler, the end of the wire sits **10 cm** and **4 mm** from the start. What is the length of the wire in cm?
- 5 Oisín measures a strip of card for the soccer team banner. On his ruler the end of the card sits **14 cm** and **2 mm** from the start. What is this reading in cm?

● INVESTIGATE

Kilogram detective

Find three things that weigh about **1 kg**, three much lighter, and three much heavier. Record each weight in kilograms or grams and rename at least four of them the other way (for example $1 \text{ kg } 200 \text{ g} = 1,200 \text{ g}$). How did you judge the ones you could not put on a scale?
