# Weight: estimate and weigh in kg and g on a scale

MODULE 4 · MEASURES — LENGTH, WEIGHT AND CAPACITY MEASURES

## HOW TO ANSWER TODAY

- **Read a ruler.** Each big mark = 1 cm = 10 mm. Each little mark = 1 mm.
  3 cm + 7 mm = 37 mm = 3.7 cm
- **Convert units.** To a SMALLER unit → multiply. To a BIGGER unit → divide. Common factors: cm↔mm ×10, m↔cm ×100, km↔m ×1,000, kg↔g ×1,000, l↔ml ×1,000.
  250 cm → m: ÷ 100 = 2.5 m  3.5 kg → g: × 1,000 = 3,500 g
- **Estimate gap.** Subtract the smaller from the bigger to find how far off the estimate was.
  Estimated 15 cm, real 12.5 cm → 2.5 cm off

## STRETCH PROBLEMS

1. Cian measures a strip of paper to wrap around a sandwich for the class picnic. His ruler shows the strip reaches **17 cm** and **3 mm** from the start of the ruler. What is the length in cm?
2. For their woodwork project during Engineers Week, Cian measures a strip of timber with his ruler. The end of the strip sits **16 cm** and **6 mm** from the start of the ruler. What is the reading in cm?
3. Aoife measures a strip of fabric for the school summer fair bunting. On her ruler the strip reaches **28 cm** and **6 mm** from the start. What is this reading in cm?
4. For the GAA finals day, 4th class map out a **41 km** sponsored cycle route on a chart. They want to mark the total distance in centimetres for their display. How many centimetres are in **41 km**?
5. Tadhg estimates that the wire needed for the class robot is **95 cm** long. When he measures it with a metre stick, the wire is actually **84 cm** long. By how many centimetres is his estimate off?

## 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 kg 200 g = 1,200 g). How did you judge the ones you could not put on a scale?