Length: metres and centimetres; choosing the unit

MODULE 4 · MEASURES — LENGTH, WEIGHT AND CAPACITY MEASURES

HOW TO ANSWER TODAY

- **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
- **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

STRETCH PROBLEMS

1. Aoife is putting up a display strip along the top of the noticeboard for the new Gaelic football crest. She estimates the strip is **171 cm** long, then measures it with a metre stick and finds it is **178 cm**. By how much is her estimate off?
2. For STEM week, 4th class map out a real **25 km** stretch of the Wicklow Way to scale for their model bridge project. To work out their scale, they first need the distance in centimetres. Convert **25 km** to cm.
3. A route on the big classroom map project is **93 km** long. Fionn needs to write this distance in centimetres for his conversion chart. How many centimetres is **93 km**?
4. For the school play, 4th class buy a roll of ribbon that is **29 m** long to decorate their papier-mâché masks. How many millimetres of ribbon is that in total?
5. For a geography project, 4th class map out a cycle route that measures **88 km**. Their teacher asks them to write the distance in centimetres. How many centimetres is **88 km**?

INVESTIGATE

Measure the classroom

Estimate, then measure, the length and width of your classroom. Record each length in **metres and centimetres**, and also renamed in centimetres only. Work out the perimeter. Would the whole class fit shoulder-to-shoulder along one wall? Show how you decided.