Length — metres and centimetres; choosing the unit

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: 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 row of **27 m** along the school polytunnel to plant his bean seeds in spring. How many millimetres long is the row?
2. The distance from Cork to Galway measured on a big classroom map project is **93 km**. Fionn needs to write this distance in centimetres for his conversion chart. How many centimetres is **93 km**?
3. On a family cycle around Lough Derg, Oisín rides a total of **46 km** along the path. How many metres is that altogether?
4. Cara estimates that the wall-ball line on the yard is **151 cm** above the ground. She then measures it with a metre stick and finds it is really **152 cm** high. By how much is her estimate off?
5. For a class woodwork project during Engineers Week, Tadhg estimates that a length of timber is **110 cm** long. He then measures it carefully and finds it is really **91 cm**. By how many centimetres is his estimate off?

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.