Kilometres and distance; estimating longer lengths

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. 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?

2. 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?

3. The caretaker paints a long line for the new yard game and it measures **85 m** from end to end. He wants to record the length in millimetres on the plan. How many millimetres is **85 m**?

4. Cian and his classmates lay out a path of edging around the new raised beds in the school garden. The path measures **78 m** in total. How many centimetres is that?

5. The school garden club plans a sponsored walk of **33 km** around the local trails to raise money for the new polytunnel. They want to mark the distance on a chart in metres. How many metres is **33 km**?

INVESTIGATE

Irish road-sign distances

Pick three Irish places you know and estimate the distance to each in **kilometres**. Rename each estimate in metres. About how long would each journey take walking at roughly 4 km every hour? Which estimate are you most sure about, and why?