Kilometres and distance; estimating longer lengths

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. The 4th class sponsored cycle route is **26 km** long. The pupils want to mark the route in metres for their chart. How many metres is **26 km**?
2. In 5th class, Cian estimates the height of the classroom noticeboard as **149 cm**. He then measures it and finds it is really **129 cm**. By how many centimetres is his estimate off?
3. At granny's farm, Tadhg guesses that a cow stands **134 cm** tall at the shoulder. He then measures it with a tape and finds it is really **153 cm**. By how much was his estimate off?
4. For STEM week, Oisín's group builds a model of a bridge on a real cycle route that is **29 km** long. To label their poster, they need to write this distance in metres. What is **29 km** in metres?
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?