

Length – estimate and measure with a ruler (cm and mm)

HOW TO ANSWER TODAY

- **Read a ruler.** Each big mark = 1 cm = 10 mm. Each little mark = 1 mm.
 $3\text{ cm} + 7\text{ mm} = 37\text{ mm} = 3.7\text{ cm}$
- **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

WARM-UP

- Tadhg is designing a mosaic tile for the school library wall. He measures one tile with his ruler and the edge reaches **4 cm** and **9 mm** from the start. What is the reading in mm?
 A ruler reading sits 4 cm and 9 mm from the start of the ruler. What is the reading in mm?
- For Engineers Week, Oisín is cutting a piece of dowel for the class woodwork project. He estimates the length he needs as **23 cm**, then measures the actual piece with a ruler and finds it is **19 cm**. By how many cm is his estimate off?
 A pupil estimates a length as 23 cm, then measures it as 19 cm. By how much is the estimate off?

PRACTICE

- On the school tour to Glendalough, Oisín estimates the height of a stone cross in the monastic site as **155 cm**. He then measures it with a tape and finds it is actually **166 cm**. By how many centimetres is his estimate off?
 A pupil estimates a length as 155 cm, then measures it as 166 cm. By how much is the estimate off?
- Tadhg measures a chalk line on the wall-ball court in the yard with his ruler. The end of the line sits at **7 cm** and **6 mm** from the start of the ruler. What is the reading in cm?

CHALLENGE

- Aoife is cutting a strip of green paper for the class door display for Seachtain na Gaeilge. She lines the strip up against her ruler and it reaches **10 cm** and **4 mm** from the start. What is the length of the strip in cm?
 A ruler reading sits 10 cm and 4 mm from the start of the ruler. What is the reading in cm?
- In PE class, Aoife estimates the length of the long jump mat as **139 cm**. She then measures it with a tape and finds it is actually **146 cm**. By how many centimetres is her estimate off?