Lesson 46

Estimating then measuring — length

MODULE 4 · MEASURES — LENGTH, MASS, CAPACITY, AREA, VOLUME MEASURES

Before measuring, **estimate** first using a familiar reference (a **'benchmark'**). Your hand span, a known object, or a memorised length lets you make a sensible guess that you check by measuring.

→ **Hand span** is roughly **20 cm** for a 5th-class pupil.
→ **A4 paper** is **30 cm** long and **21 cm** wide.
→ **Door height** is about **2 m** in most rooms.
→ **One adult step** is about **70 cm**.

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

WARM-UP

1. Saoirse picks up a hardback novel from the class library shelf and estimates that its spine is **23 cm** tall. She then measures the spine with her ruler and finds it is actually **19 cm** tall. By how many centimetres is her estimate off?

   > A pupil estimates a length as 23 cm, then measures it as 19 cm. By how much is the estimate off?

2. Oisín is drawing a scale plan of the classroom on grid paper. He estimates the length of the bookshelf as **37 cm** on his plan, then measures it carefully with a ruler as **39 cm**. By how many centimetres is his estimate off?

   > A pupil estimates a length as 37 cm, then measures it as 39 cm. By how much is the estimate off?

PRACTICE

1. On a coach trip to the Burren, Aoife spots a long limestone slab at a viewing point and estimates it is **106 cm** across. She then measures it with a tape and gets **87 cm**. By how many centimetres is her estimate off?

   > A pupil estimates a length as 106 cm, then measures it as 87 cm. By how much is the estimate off?

2. Tadhg estimates the height of the service line on the wall-ball court in the yard at **155 cm**. When he measures it with the long tape, 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?

CHALLENGE

1. On the school tour to Glendalough, Oisín finds a smooth stone by the lake and guesses it is **65.7 cm** long. When he measures it with his ruler back at the coach, it is actually **59.8 cm**. By how much is his estimate off?

   > A pupil estimates a length as 65.7 cm, then measures it as 59.8 cm. By how much is the estimate off?

2. Tadhg is drawing a scale plan of the classroom on grid paper. He estimates the length of one bookshelf as **51.6 cm**, then measures it with his ruler as **60.3 cm**. By how much is his estimate off?

IRISH FACT **How tall are the Cliffs of Moher?**

The Cliffs of Moher in County Clare rise to **214 metres** above the Atlantic at their highest point — taller than **40 stacked double-decker buses**.

Cliffs of Moher Visitor Centre

