

Converting mass units

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

NUMBER

HOW TO ANSWER TODAY

- **Convert units.** To a SMALLER unit → multiply. To a BIGGER unit → divide. Common factors:
 $\text{cm} \leftrightarrow \text{mm} \times 10$, $\text{m} \leftrightarrow \text{cm} \times 100$, $\text{km} \leftrightarrow \text{m} \times 1,000$, $\text{kg} \leftrightarrow \text{g} \times 1,000$, $\text{l} \leftrightarrow \text{ml} \times 1,000$.
 $250 \text{ cm} \rightarrow \text{m}: \div 100 = 2.5 \text{ m}$ · $3.5 \text{ kg} \rightarrow \text{g}: \times 1,000 = 3,500 \text{ g}$
- **Volume.** Volume = length $\times$ width $\times$ height. Answer in cubic units (cm^3 , m^3).
 $5 \times 4 \times 3 = 60 \text{ cm}^3$
- **Estimate gap.** Subtract the smaller from the bigger to find how far off the estimate was.
 Estimated 15 cm, real 12.5 cm $\rightarrow$ 2.5 cm off

TRY IT ON THE LINE

Each column is ten times the column on its right (kg, hg, dag, g). 1 kg = 1,000 g, so kg $\rightarrow$ g is a three-column slide ($\times 1000$).

kg	hg	dag	g

1. Build **2 kg 500 g**: 2 in **kg**, then 500 g = 5 in **hg** (0 in dag and g).
In g? _____
2. Build **750 g**: 7 in **hg**, 5 in **dag**. In kg? _____ kg.
3. Build **5 kg**: 5 in **kg**. In g? _____ (slide three columns right).
4. Build **0.25 kg**: 2 in **hg**, 5 in **dag**. In g? _____

PRACTICE

1. Cian is building a den with branches in the school orchard. He estimates one long branch to be **187 cm**, then measures it with the metre stick and gets **198 cm**. By how much is his estimate off?
 A pupil estimates a length as 187 cm, then measures it as 198 cm. By how much is the estimate off?

2. At the school summer fair, 5th class build a fairground-style spin-the-wheel out of card. The painted face of the wheel measures **30000 cm²**. Convert this area to m². (**1 m² = 10 000 cm²**)

CHALLENGE

1. 5th class at St Brigid's measured the total length of ribbon left on the spools in the classroom craft store and got **7628 cm** in total. The teacher wants the answer written in kilometres for the stocktake sheet. How many kilometres is **7628 cm**?
 Convert 7628 cm to km.

2. Saoirse cycles from granny's farmhouse to the far field to check on the calves. The lane runs **3290 m** from the gate to the field. How many kilometres is that?
 Convert 3290 m to km.
