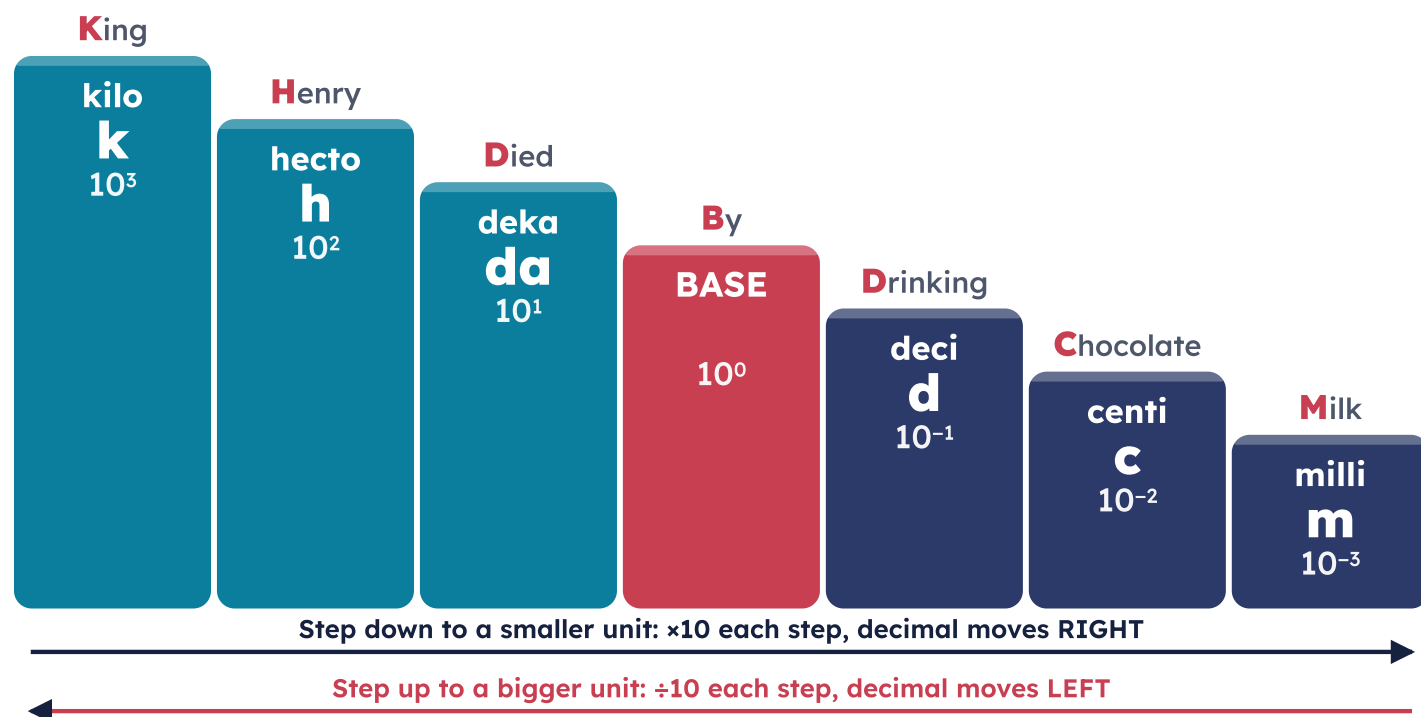


METRIC SYSTEM

The Metric Staircase

Step down to a smaller unit and the number gets bigger. Step up to a bigger unit and the number gets smaller. Count the steps, then move the decimal point the same number of places.



1 Find both units
Put your starting unit and your target unit on the staircase.

2 Count the steps
Down means $\times 10$ each step. Up means $\div 10$ each step.

3 Slide the decimal
Move it the same number of places, in the same direction. Fill gaps with zeros.

EXAMPLE 1 · DOWN THE STAIRCASE

Change 3.5 km to meters

- Write the number and find both units on the staircase: **km** and **m**.
- Count the steps from **km** to **m**: **3 steps down**.
- Each step down is $\times 10$, so move the decimal point **3 places right** (add zeros if needed).

$$3.5 \text{ km} = 3,500 \text{ m}$$

EXAMPLE 2 · UP THE STAIRCASE

Change 450 mg to grams

- Write the number and find both units on the staircase: **mg** and **g**.
- Count the steps from **mg** to **g**: **3 steps up**.
- Each step up is $\div 10$, so move the decimal point **3 places left** (add zeros if needed).

$$450 \text{ mg} = 0.45 \text{ g}$$

Remember the mnemonic: King Henry Died By Drinking Chocolate Milk : kilo, hecto, deka, BASE, deci, centi, milli. The BASE unit is the meter (m) for length, the gram (g) for mass, or the liter (L) for volume. For area use the factor twice; for volume use it three times.