

Volume

5th Grade

How much fits inside — and why the unit is cubed.

Volume is the number of unit cubes that fit inside a solid. For any prism it is the base area times the height.

$$V = l \times w \times h \cdot V = B \times h$$

Box $4 \times 3 \times 2$

24 cubic units

One layer holds 12; there are 2 layers.

Cube of side 5

125 units³

$5 \times 5 \times 5$. All edges equal.

Base area 20, height 6

120 units³

Works for any prism, whatever the base shape.

Two boxes joined

add the volumes

Split an odd shape into boxes, then add.

THE COMMON MISTAKE

× volume in cm²

✓ volume in cm³

Three measurements were multiplied, so the unit is cubed. Squared means area.

1 cm³ holds exactly 1 millilitre of water. That is not a coincidence — it is how the litre was defined.