

Surface Area, Volume and Capacity

Chapter 21: Surface Area, Volume and Capacity · Topic 1

Key Concept

The surface area of a cube is $6 \times \text{side}^2$, while the surface area of a cuboid is $2(lb + bh + hl)$, where l , b , h are length, breadth, height.

The volume of a cube is side^3 , while the volume of a cuboid is $\text{length} \times \text{breadth} \times \text{height}$.

Capacity measures how much a container can hold, often measured in litres, and is closely related to volume ($1 \text{ litre} = 1000 \text{ cm}^3$).

These calculations are useful in real life for tasks like determining paint needed for walls or water a tank can hold.

Quick Revision Notes

- Cube surface area = $6 \times \text{side}^2$.
- Cuboid surface area = $2(lb+bh+hl)$.
- Cube volume = side^3 .
- Cuboid volume = $\text{length} \times \text{breadth} \times \text{height}$.
- Capacity measures how much a container holds.
- $1 \text{ litre} = 1000 \text{ cm}^3$.
- These help calculate paint or water needed.
- Surface area and volume are practical real-life skills.

Practice Questions

- 1 Calculate the surface area of a cube with side 4cm.
- 2 Calculate the volume of a cuboid with $l=5\text{cm}$, $b=3\text{cm}$, $h=2\text{cm}$.
- 3 Convert 2 litres to cubic centimetres.
- 4 Discuss a real-life use of volume calculation.
- 5 Solve two surface area and volume problems.
- 6 Explain the difference between surface area and volume.