

# Volume

Name:

Date:

**INQUIRY****NIS pool: 25 m × 16 m × 1.6 m deep. How many bathtubs of water? (1 bathtub ≈ 300 L)**

Discuss with your partner. Write your initial ideas below:

## Key Vocabulary

Term	Definition
<b>Volume</b>	Amount of 3D space inside a shape. Units: $\text{cm}^3$ or $\text{m}^3$ .

## Part A — Cubes & Rectangular Prisms

1. Volume of a cube with side 6 cm. [1 marks]

Show your working:

2. Volume of a rectangular prism:  $10 \times 4 \times 3$  cm. [2 marks]

Show your working:

3. A cube has volume  $125 \text{ cm}^3$ . Find the side length. [2 marks]

Show your working:

## Part B — Triangular Prisms

---

4. Triangular prism: base 8 cm, height 5 cm, length 12 cm. [3 marks]

Show your working:

5. Camping tent: base 2.4 m, height 1.8 m, length 3 m. Volume of air inside? [3 marks]

Show your working:

## Part C — Real-World Volume

---

6. NIS pool:  $25 \times 16 \times 1.6$  m. Volume in  $\text{m}^3$ ? [2 marks]

Show your working:

7. Xuanwu Lake (Xuanwu Lake): area  $\sim 3.7 \text{ km}^2$ , average depth 1 m. Estimate volume in  $\text{m}^3$ . [3 marks]

Show your working:

**8.** German shipping container:  $12 \times 2.4 \times 2.6$  m. How many  $\text{m}^3$ ? If each box is  $0.5 \text{ m}^3$ , how many fit? [3 marks]

Show your working: