Solve capacity and volume problems

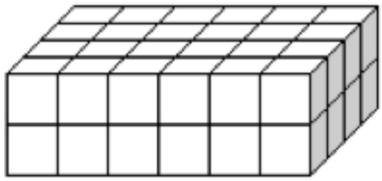
CAPS Statement

Measurement

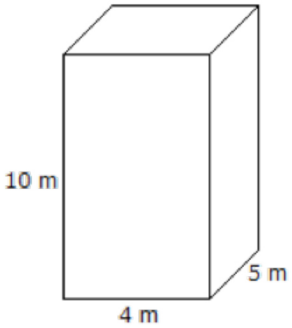
Calculations and problem solving related to capacity/volume

- Include solving problems in contexts using capacity/volume

Note



The volume of a rectangular prism is
= length x width x height



Example of calculating volume of a rectangular prism:

VOLUME = length x width x height
= 10 m x 4 m x 5 m
= 200 m3

Activity 1

Calculate the volume for each of the following items:

(a) Length = 25 cm
Width = 9 cm
Height = 30 cm
Volume = _____ cm^3

(b) Length = 10 cm
Width = 4 cm
Height = 15 cm
Volume = _____ cm^3

(c) Length = 120 mm
Width = 30 mm
Height = 160 mm
Volume = _____ mm^3

Activity 2

Calculate the capacity and volume of the following things by choosing the correct answer:

1. Lerato's bedroom measures 5 m long, 4 m wide, and 3 m high.
   What is the volume of her bedroom?

   (a) 120 m^3 (b) 60 m^3 (c) 90 m^3 (d) 100^3

2. The cupboard measures 4 m long, 2 m wide and 2 m high.
   What is the volume, in cubic metres, of the cupboard?

   (a) 36 m^3 (b) 32 m^3 (c) 8 m^3 (d) 16 m^3

3. A storage room measures 4.5 m wide, 3 m long and 2.5 m high.
   What is the volume of the storage room?

   (a) 13.5 m^3 (b) 7.5 m^3 (c) 11.25 m^3 (d) 33.75 m^3

4. A prism has 9 layers with 6 cubes in each layer. What is the volume of the prism?

   (a) 36 cubes (b) 15 cubes (c) 54 cubes (d) 45 cubes

5. A prism has 3 layers with 12 cubes in each layer. What is the volume of the prism?

   (a) 12 cubes (b) 36 cubes (c) 48 cubes (d) 15 cubes

6. A prism has 10 layers with 20 cubes in each layer. What is the volume of the prism?

   (a) 100 cubes (b) 120 cubes (c) 30 cubes (d) 200 cubes

Teacher Tip

Display a rectangular prism or cube and let learners practically measure the length, width and height of the objects.