

# Volume and capacity – litres

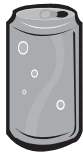
Capacity refers to how much liquid a container can hold. Capacity can be measured in litres. We use the symbol L. Next time you go to the supermarket, look out for all the different items that have L for litres on the label. For example, milk cartons are often sold in litres.



**1** Here is a selection of containers. Work out how many times each container can be filled from a 1 litre carton, such as a milk carton.



a



b



c



d

*Answers will vary.*



e



f



g



h

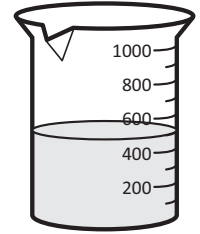
**2** Use a 1 litre carton to estimate and measure the capacity of these containers in litres.

	a waste bin	b saucepan	c watering can	d bucket
Container				
Estimate	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
How many litres?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>





*Answers will vary.*

# Volume and capacity – millilitres






To measure the capacity of smaller containers we use millilitres. The symbol for millilitres is mL. There are 1 000 mL in 1 litre. This litre jug is filled half way so it contains 500 mL of liquid.




1 How many of each container is needed to fill a 1 litre jug?

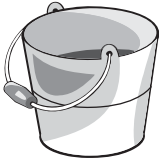
Container size	a mug 250 mL 	b glass 200 mL 	c egg cup 50 mL 	d a raindrop 1 mL 
Number needed to fill a 1 litre jug	4	5	20	1 000


2 Order these containers from smallest to largest according to their capacity.


Container	a  1 Litre	b  300 ml	c  250 mL	d  100 mL	e  110 mL
Order	d	e	c	b	a


3 What is the most appropriate unit of capacity for each of these objects – millilitres (mL) or litres (L)?


a 

b 

c 

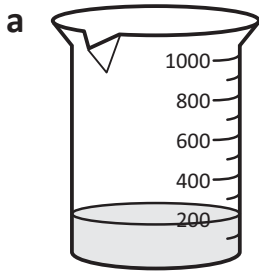
d 

e    
or L

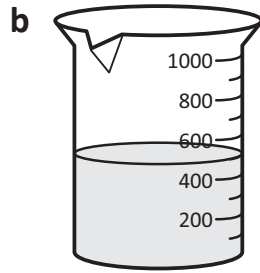
f 

# Volume and capacity – millilitres

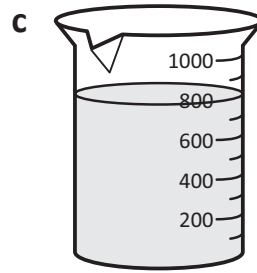
4 Label each of these containers with the amount of water in each:



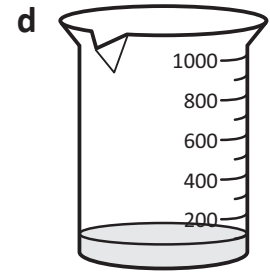
200 ml



500 ml



800 ml



100 ml

5 Answer the questions based on the amount of water in the containers above.

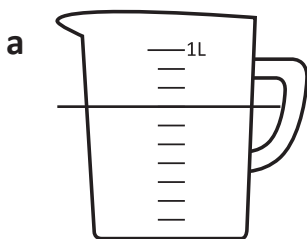
a Which container has the most liquid in it? c

b Which container has the least liquid in it? d

c How much more liquid is there in container c than in container a? 600 ml

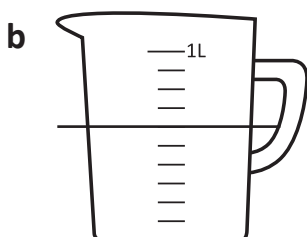
d Which three containers, when added together, would not overflow? a, b, c

6 Mark the level of liquid in these jugs according to each problem.



Bec pours herself a glass of orange juice from this jug that was full to the 1 litre mark. If the glass she uses is 300 mL, how much is left in the jug?

700 ml



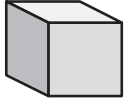
Cam is mixing cordial for a party. He pours in 200 mL of cordial and then adds twice as much water. How much mixed cordial is now in the jug?

600 ml

# Volume and capacity – measuring volume with cubic centimetres

Volume is the amount of space that an object takes up.

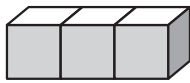
To measure volume we use cubic centimetres.



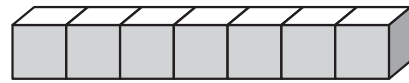
One cubic centimetre is 1 cm long, 1 cm wide and 1 cm high.  
The symbol we use for cubic cm is  $\text{cm}^3$ .

$$1 \text{ cm} \times 1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^3$$

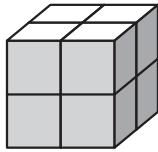
- 1 Use centicubes or base 10 ones to create the following models. Then count the number of cubes to work out the volume of each model.



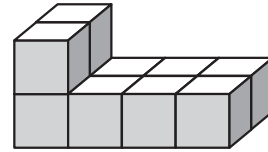
a  cubic centimetres



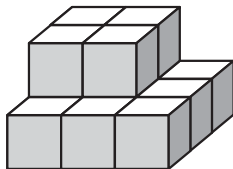
b  cubic centimetres



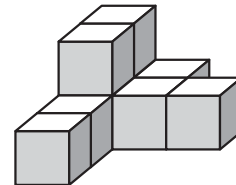
c  cubic centimetres



d  cubic centimetres



e  cubic centimetres



f  cubic centimetres

- 2 For this next task, you will need 27 cubes.

a Use all 27 cubes to make a model that is 3 cubes long and 3 cubes wide.

b What is the volume of a model that is 4 cubes long, 2 cubes wide and 2 cubes high?

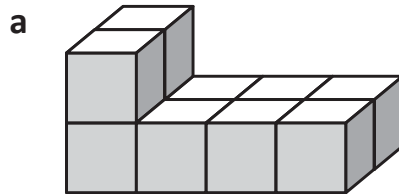
cubic centimetres



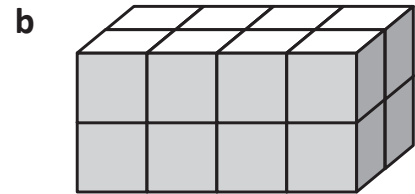
You can use cubes to help with these problems.



1 How many more cubes are needed to make each model a total volume of 64 cubic centimetres?

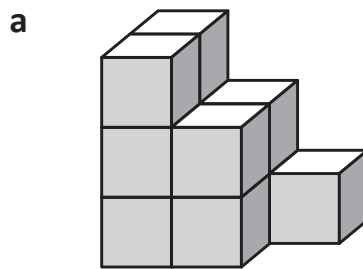


54 more cubes

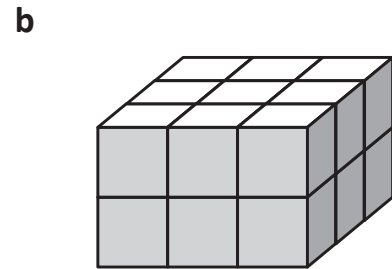


48 more cubes

2 How many more cubes are needed to make each model a total volume of 27 cubic centimetres?

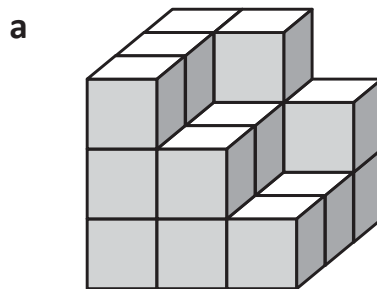


16 more cubes

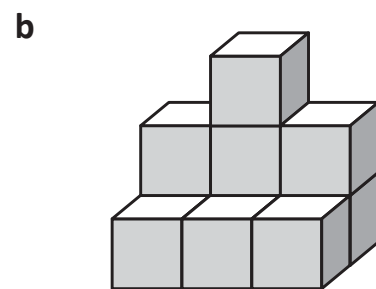


9 more cubes

3 How many more cubes are needed to make each model a total volume of 125 cubic centimetres?



105 more cubes



115 more cubes