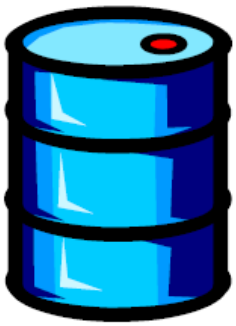
MEASUREMENT (CAPACITY AND VOLUME)

DATE: _____

Capacity

Capacity is the amount a container can hold.

The oil, juice drink and gasoline containers are just a few examples of objects that illustrate capacity.



Capacity is measured in the SI base unit called **litres** (L). The most common units for capacity are litre (L) and millilitre (mL).

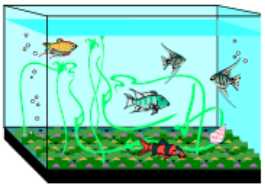
Volume

Volume is the amount of space a container or object occupies.

Example

Capacity is the amount of water required to fill the fish tank (ml or L).

Volume is the space the tank and water take up.



The most common unit of volume is centimetres cubed (cm^3).

One centimetre cubed will hold one millilitre of fluid or another substance.

1000 cm^3 will hold one thousand millilitres of fluid or another substance.

$$\mathbf{1000\ mL = 1000\ cm^3}$$

Remember that 1000 mL = 1L, so 1L = 1000 cm^3.

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Exercise 1

Write down the capacity and volume of the following containers.

A) Capacity = _____

Volume =_____

C) Capacity= _____

Volume = _____

B)Capacity= _____

Volume = _____

D)Capacity = _____

Volume = _____

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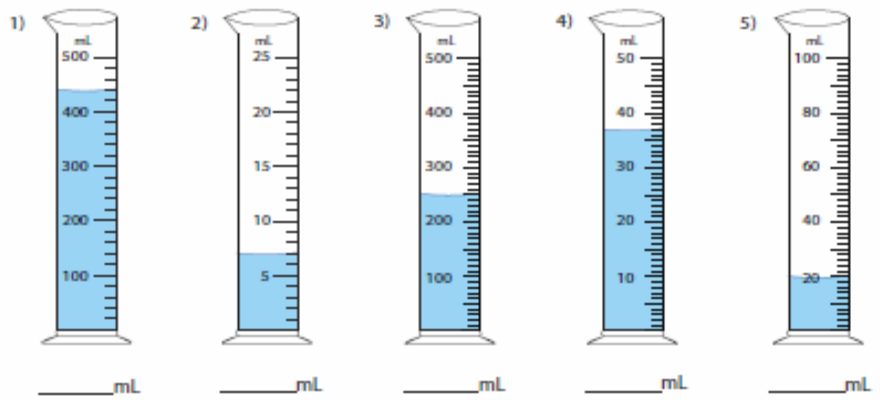
Exercise 2

Write the reading shown by each graduated cylinder.



Practice: Calculating and Converting Capacity

1. Shaz is cleaning under the kitchen sink. He found five 2-litre bottles of glass cleaner. None of the bottles is full. The bottles contain the following amounts.

Bottle 1 – 375 ml
Bottle 2 – 150 ml
Bottle 3 – 190 ml
Bottle 4 – 780 ml
Bottle 5 – 630 ml

a) How many litres of glass cleaner do the five bottles contain? _____

b) If Shaz combines all of the glass cleaners into as few bottles as possible, how many bottles will he use? _____

c) Arrange the amounts on the bottles in order from the biggest to the smallest.

_____

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Recipes require ingredients in specific amounts to create the desired finished product.

Not all ingredients come packaged in the quantities that recipes call for, so converting between different units of capacity is important.

Examples

A) How many mL does 10 L represent? 10 000 mL

B) How many L does 4000 mL represent? 4 L

C) How many mL does 7.4 L represent? 7400 mL

1. How many millilitres (mℓ) are there in:

a) 1 ℓ? _____

b) $\frac{1}{2}$ ℓ? _____

c) $\frac{1}{4}$ ℓ? _____

d) $\frac{1}{5}$ ℓ? _____

e) $\frac{1}{8}$ ℓ? _____

2. Perform the following conversions.

a) 250 mL = [ ] L

b) 1350 mL = [ ] L

c) 62 L = [ ] mL

d) 0.9 L = [ ] mL

e) 625 mL = [ ] L

f) 3.8 L = [ ] mL

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1 Litre = 1000 ML	I Kilolitre = 1000 Litres

EXERCISE 1

Convert the following ml into litres and milliliters. Look at the following examples

1245 ml = 1 litre 245 ml	1034 ml= 1 litre 34 ml	2 ml = 0 litre 2 ml

1) 1237ml	___ l _____ ml	2) 97 ml	____ l _____ ml
3) 8 ml	_____ l _____ ml	4) 5 487 ml	____ l _____ ml

EXERCISE 2

Convert these capacities into ml and litres eg.1 litre 400 ml = 1400 ml;
6 kl 300 litres = 6000 litres

1) 1 litre 7 ml	_____ ml	2) 1 litre 79 ml	_____ ml
3) 1 litre 122 ml	_____ ml	4) 1 litre 435ml	_____ ml
5) 7kl 254 litres	_____ litres	6) 0 l 756 litres	_____litres

Exercise 3

1. I drink 1344ml of my 2 litre coke. How much is left? (Hint: change 2 litres into ml)

_____

_____

2. A bath holds 80 litres, a shower takes 35 litres and watering the garden takes 179 litres. How much would be left if my water tank at the start had 642 litres?

_____

_____

DATE: _____

3. A jar has 560ml of jam. 342ml is used. How much is left?

_____

_____

4. You have collected some rain water in a bucket. The bucket holds 5565ml. I use 3765ml to water some plants. How much is left?

_____

_____

Exercise 4

1. Look at the above containers. Answer the questions that follow.

1. What is the Capacity of:

a) The cup? _____

b) The juice carton? _____

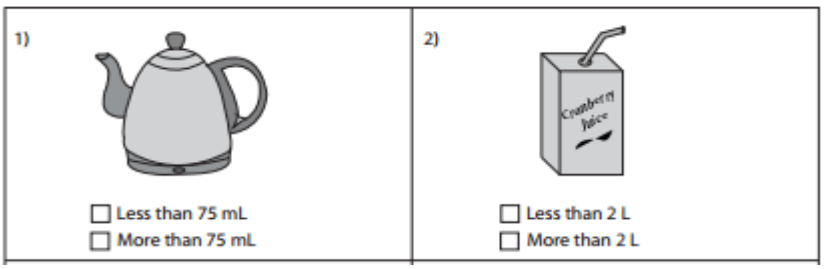
c) The milk carton? _____

2. How many cups will you need to fill a half of a litre? _____

3. How many milk cartons are needed to fill a 2 litre container?_____

4. How many juice cartons are needed to 1 litre container? _____

2. Choose the correct choice that best estimates the capacity of each object.



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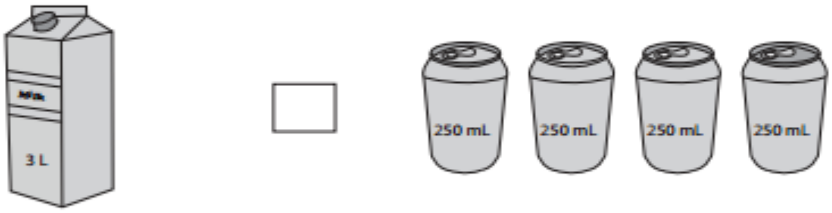
Exercise 5

Compare the capacity and fill in the box with appropriate symbol <, > or = in each problem.

1)

2)



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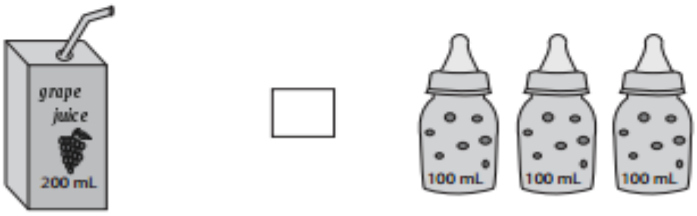
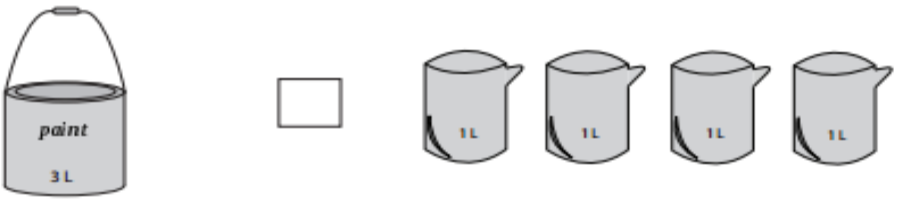


4)



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