

## TARGET To convert between metric units of length.

### Examples

$10 \text{ mm} = 1 \text{ cm}$

$54 \text{ mm} = 5.4 \text{ cm}$

$7 \text{ mm} = 0.7 \text{ cm}$

$100 \text{ cm} = 1 \text{ m}$

$350 \text{ cm} = 3.5 \text{ m}$

$470 \text{ cm} = 4.7 \text{ m}$

$1000 \text{ m} = 1 \text{ km}$

$200 \text{ m} = 0.2 \text{ km}$

$6100 \text{ m} = 6.1 \text{ km}$

### A

Copy and complete.

1  $30 \text{ mm} = \square \text{ cm}$

2  $75 \text{ mm} = \square \text{ cm}$

3  $4 \text{ cm} = \square \text{ mm}$

4  $1.5 \text{ cm} = \square \text{ mm}$

5  $200 \text{ cm} = \square \text{ m}$

6  $850 \text{ cm} = \square \text{ m}$

7  $5 \text{ m} = \square \text{ cm}$

8  $9.5 \text{ m} = \square \text{ cm}$

9  $6000 \text{ m} = \square \text{ km}$

10  $3500 \text{ m} = \square \text{ km}$

11  $7 \text{ km} = \square \text{ m}$

12  $4.5 \text{ km} = \square \text{ m}$

Which metric unit would you use to measure:

- 13 the length of a newspaper
- 14 the height of a lamp post
- 15 the length of a bus route
- 16 the width of a ruler.



### B

Copy and complete.

1  $62 \text{ mm} = \square \text{ cm}$

2  $24 \text{ mm} = \square \text{ cm}$

3  $0.7 \text{ cm} = \square \text{ mm}$

4  $9.3 \text{ cm} = \square \text{ mm}$

5  $490 \text{ cm} = \square \text{ m}$

6  $160 \text{ cm} = \square \text{ m}$

7  $7.8 \text{ m} = \square \text{ cm}$

8  $3.1 \text{ m} = \square \text{ cm}$

9  $5700 \text{ m} = \square \text{ km}$

10  $400 \text{ m} = \square \text{ km}$

11  $8.2 \text{ km} = \square \text{ m}$

12  $2.9 \text{ km} = \square \text{ m}$

Think of three things with a length of about:

- 13  $0.08 \text{ m}$
- 14  $20 \text{ mm}$
- 15  $0.05 \text{ km}$
- 16 Estimate the length of your pencil.  
Write your estimate:  
a) in millimetres  
b) in centimetres.  
Measure the actual length.

### C

Copy and complete.

1  $542 \text{ cm} = \square \text{ m}$

2  $36 \text{ cm} = \square \text{ m}$

3  $805 \text{ cm} = \square \text{ m}$

4  $3.59 \text{ m} = \square \text{ cm}$

5  $6.74 \text{ m} = \square \text{ cm}$

6  $2.18 \text{ m} = \square \text{ cm}$

7  $5250 \text{ m} = \square \text{ km}$

8  $610 \text{ m} = \square \text{ km}$

9  $1070 \text{ m} = \square \text{ km}$

10  $9.83 \text{ km} = \square \text{ m}$

11  $0.95 \text{ km} = \square \text{ m}$

12  $7.34 \text{ km} = \square \text{ m}$

Copy and complete each sentence by choosing the best estimate.

- 13 A television is ( $0.08 \text{ m}$ ,  $800 \text{ cm}$ ,  $800 \text{ mm}$ ) wide.
- 14 A room has a height of ( $2.7 \text{ m}$ ,  $270 \text{ mm}$ ,  $720 \text{ cm}$ ).
- 15 A vase is ( $2 \text{ cm}$ ,  $250 \text{ mm}$ ,  $0.05 \text{ m}$ ) tall.
- 16 A rubber has a length of ( $0.45 \text{ m}$ ,  $4.5 \text{ mm}$ ,  $4.5 \text{ cm}$ ).

**TARGET** To convert between grams and kilograms.

Examples

1000 g = 1 kg  
4000 g = 4 kg

500 g = 0.5 kg  
7500 g = 7.5 kg

2400 g = 2.4 kg  
8700 g = 8.7 kg

**A**

Copy and complete.

- 1 5000 g =  kg
- 2 2000 g =  kg
- 3 7000 g =  kg
- 4 3 kg =  g
- 5 6 kg =  g
- 6 1 kg =  g
- 7 4500 g =  kg
- 8 1500 g =  kg
- 9 8500 g =  kg
- 10 2.5 kg =  g
- 11 9.5 kg =  g
- 12 3.5 kg =  g

Which metric unit would you use to measure the weight of:

- 13 a phone
- 14 a cat
- 15 a cushion
- 16 a baby.



**B**

Copy and complete.

- 1 4200 g =  kg
- 2 1900 g =  kg
- 3 7300 g =  kg
- 4 3.1 kg =  g
- 5 0.4 kg =  g
- 6 6.8 kg =  g
- 7 2600 g =  kg
- 8 700 g =  kg
- 9 9200 g =  kg
- 10 5.3 kg =  g
- 11 8.1 kg =  g
- 12 4.6 kg =  g

Think of three things with a weight of about:

- 13 1500 grams
- 14 0.7 kilograms
- 15 250 grams.
- 16 Estimate the weight of a reading book. Write your estimate:
  - a) in grams
  - b) in kilograms.

Measure the actual weight of your book.

**C**

Copy and complete.

- 1 2940 g =  kg
- 2 8820 g =  kg
- 3 670 g =  kg
- 4 1.05 kg =  g
- 5 4.78 kg =  g
- 6 9.13 kg =  g
- 7 6290 g =  kg
- 8 3960 g =  kg
- 9 5610 g =  kg
- 10 2.45 kg =  g
- 11 0.86 kg =  g
- 12 7.18 kg =  g

Copy and complete each sentence by choosing the best estimate.

- 13 A bar of soap weighs (1 kg, 0.01 kg, 100 g).
- 14 Each sandwich was made using (0.02 kg, 2 g, 0.2 kg) of cheese.
- 15 A brick weighs (8 g, 0.08 kg, 0.8 kg).

# METRIC UNITS OF CAPACITY 1

**TARGET** To convert between millilitres and litres.


**Examples**  
1000 ml = 1 litre      1500 ml = 1.5 litres      6200 ml = 6.2 litres  
3000 ml = 3 litres      8500 ml = 8.5 litres      900 ml = 0.9 litres

**A**  
Copy and complete.

- 4000 ml =  litres
- 2000 ml =  litres
- 5000 ml =  litres
- 1 litre =  ml
- 9 litres =  ml
- 6 litres =  ml
- 3500 ml =  litres
- 8500 ml =  litres
- 500 ml =  litres
- 4.5 litres =  ml
- 2.5 litres =  ml
- 7.5 litres =  ml

Which metric unit would you use to measure the capacity of:

- a glass
- a washing up bowl
- a cereal bowl
- a bucket.



**B**  
Copy and complete.

- 3200 ml =  litres
- 6400 ml =  litres
- 700 ml =  litres
- 2.9 litres =  ml
- 8.3 litres =  ml
- 4.1 litres =  ml
- 7600 ml =  litres
- 1200 ml =  litres
- 5700 ml =  litres
- 3.8 litres =  ml
- 0.3 litres =  ml
- 9.4 litres =  ml

Think of three things with a capacity of about:

- 0.1 litres
- 2000 ml
- 0.5 litres

Estimate the capacity of a water pot used for painting lessons. Write your estimate:

- in millilitres
- in litres.

Measure the actual capacity of the pot.

**C**  
Copy and complete.

- 2630 ml =  litres
- 9580 ml =  litres
- 1840 ml =  litres
- 5.05 litres =  ml
- 0.47 litres =  ml
- 3.71 litres =  ml
- 4960 ml =  litres
- 6120 ml =  litres
- 650 ml =  litres
- 7.09 litres =  ml
- 2.53 litres =  ml
- 8.27 litres =  ml

Copy and complete each sentence by choosing the best estimate.

- A can of drink holds (0.05 litres, 35 ml, 0.35 litres).
- A tea cup has a capacity of (0.2 litres, 2 litres, 20 ml).
- A tablespoon has a capacity of (1 ml, 0.01 litres, 100 ml).

**TARGET** To convert between metric units of length.

Examples

50 mm = 5 cm

126 mm = 12.6 cm

8 mm = 0.8 cm

490 cm = 4.9 m

30 cm = 0.3 m

278 cm = 2.78 m

1700 m = 1.7 km

230 m = 0.23 km

3050 m = 3.05 km

**A**

Copy and complete.

1 24 mm =  cm

2 3 mm =  cm

3 9.6 cm =  mm

4 3.1 cm =  mm

5 880 cm =  m

6 590 cm =  m

7 0.7 m =  cm

8 4.6 m =  cm

9 7300 m =  km

10 400 m =  km

11 1.2 km =  m

12 6.1 km =  m

13 A pile of eight identical books is 24 cm tall. How wide is each book in millimetres?

14 A reel of tape is 5 m long. 40 cm is used. How much tape is left?

**B**

Copy and complete.

1 66 mm =  cm

2 185 mm =  cm

3 1.3 cm =  mm

4 14.4 cm =  mm

5 157 cm =  m

6 81 cm =  m

7 7.62 m =  cm

8 2.09 m =  cm

9 5340 m =  km

10 3720 m =  km

11 9.95 km =  m

12 0.58 km =  m

13 Each length of a model railway track is 30 cm long. How long are twelve lengths of track in metres?

14 Arlene's finger is 8.3 cm long. Chandra's is 9 mm shorter. How long is Chandra's finger?

**C**

Copy and complete.

1 4916 mm =  m

2 582 mm =  m

3 1.704 m =  mm

4 0.09 m =  mm

5 1215 cm =  m

6 0.5 cm =  m

7 6.08 m =  cm

8 13.9 m =  cm

9 827 m =  km

10 24 m =  km

11 5.096 km =  m

12 0.003 km =  m

13 Omar's journey to school is 1.64 km. Tudor's journey is 575 m further. How long is Tudor's journey to school?

14 A row of twenty carpet tiles is 9 m long. How long is one tile in centimetres?

**TARGET** To convert between grams and kilograms.

*Examples*

$4000 \text{ g} = 4 \text{ kg}$

$2300 \text{ g} = 2.3 \text{ kg}$

$1460 \text{ g} = 1.46 \text{ kg}$

$7500 \text{ g} = 7.5 \text{ kg}$

$9800 \text{ g} = 9.8 \text{ kg}$

$3710 \text{ g} = 3.71 \text{ kg}$

### A

Copy and complete.

1  $4300 \text{ g} = \square \text{ kg}$

2  $6900 \text{ g} = \square \text{ kg}$

3  $800 \text{ g} = \square \text{ kg}$

4  $8.2 \text{ kg} = \square \text{ g}$

5  $2.7 \text{ kg} = \square \text{ g}$

6  $5.1 \text{ kg} = \square \text{ g}$

7  $3600 \text{ g} = \square \text{ kg}$

8  $1400 \text{ g} = \square \text{ kg}$

9  $9300 \text{ g} = \square \text{ kg}$

10  $7.8 \text{ kg} = \square \text{ g}$

11  $0.2 \text{ kg} = \square \text{ g}$

12  $4.9 \text{ kg} = \square \text{ g}$

- 13 Ten identical apples have a total weight of 1.5 kg. What does one apple weigh in grams?



### B

Copy and complete.

1  $5620 \text{ g} = \square \text{ kg}$

2  $1190 \text{ g} = \square \text{ kg}$

3  $8740 \text{ g} = \square \text{ kg}$

4  $3.05 \text{ kg} = \square \text{ g}$

5  $0.57 \text{ kg} = \square \text{ g}$

6  $7.41 \text{ kg} = \square \text{ g}$

7  $4230 \text{ g} = \square \text{ kg}$

8  $6350 \text{ g} = \square \text{ kg}$

9  $760 \text{ g} = \square \text{ kg}$

10  $2.97 \text{ kg} = \square \text{ g}$

11  $9.53 \text{ kg} = \square \text{ g}$

12  $1.85 \text{ kg} = \square \text{ g}$

- 13 A bag of chips weighs 2.5 kg. 850 g is used. How much is left?

- 14 Each pepper pot holds 80 g. How much pepper is needed to fill 30 pots? Give your answer in kilograms.

### C

Copy and complete.

1  $2659 \text{ g} = \square \text{ kg}$

2  $7305 \text{ g} = \square \text{ kg}$

3  $3192 \text{ g} = \square \text{ kg}$

4  $1.574 \text{ kg} = \square \text{ g}$

5  $0.908 \text{ kg} = \square \text{ g}$

6  $9.745 \text{ kg} = \square \text{ g}$

7  $5261 \text{ g} = \square \text{ kg}$

8  $827 \text{ g} = \square \text{ kg}$

9  $10853 \text{ g} = \square \text{ kg}$

10  $1.485 \text{ kg} = \square \text{ g}$

11  $6.916 \text{ kg} = \square \text{ g}$

12  $15.32 \text{ kg} = \square \text{ g}$

- 13 One can of fruit cocktail weighs 400 g. What do 60 cans weigh in kilograms?

- 14 Benita weighs 32.45 kg. Harley weighs 900 g more. What does Harley weigh?

# METRIC UNITS OF CAPACITY 2

## TARGET To convert between millilitres and litres.

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Examples  
8000 ml = 8 litres  
2500 ml = 2.5 litres

100 ml = 0.1 litres  
5800 ml = 5.8 litres

1930 ml = 1.93 litres  
7260 ml = 7.26 litres

**A**

Copy and complete.

- 7200 ml =  litres
- 900 ml =  litres
- 4700 ml =  litres
- 2.1 litres =  ml
- 5.4 litres =  ml
- 3.8 litres =  ml
- 1300 ml =  litres
- 8900 ml =  litres
- 2600 ml =  litres
- 9.2 litres =  ml
- 0.3 litres =  ml
- 6.7 litres =  ml
- A can of paint holds 2 litres. 400 ml is used. How much paint is left?
- Each glass has a capacity of 200 ml. What is the total capacity of ten glasses in litres?

**B**

Copy and complete.

- 2820 ml =  litres
- 6070 ml =  litres
- 1750 ml =  litres
- 8.31 litres =  ml
- 0.49 litres =  ml
- 4.13 litres =  ml
- 3280 ml =  litres
- 7540 ml =  litres
- 650 ml =  litres
- 2.36 litres =  ml
- 5.71 litres =  ml
- 9.05 litres =  ml
- Bryn makes a drink by mixing 1.8 litres of water and 450 ml of juice. How much drink has he made?
- A dripping tap loses 3 litres of water in one hour. How much water is lost every minute? Give your answer in millilitres.

**C**

Copy and complete.

- 3264 ml =  litres
- 891 ml =  litres
- 8505 ml =  litres
- 4.352 litres =  ml
- 1.478 litres =  ml
- 7.925 litres =  ml
- 2716 ml =  litres
- 9033 ml =  litres
- 659 ml =  litres
- 5.581 litres =  ml
- 0.425 litres =  ml
- 3.74 litres =  ml
- One serving of soup is 300 ml. How much soup is needed for 70 servings? Give your answer in litres.
- A fish tank holds 28.67 litres of water. A further 1275 ml is added. How much water is in the tank?

**TARGET** To solve word problems involving the conversion of measures between different units.

*Example*

Each load of washing uses 100 g of powder. How many loads can be washed from a 2.5 kg box?

$$2.5 \text{ kg} = 2500 \text{ g}$$

$$2500 \div 100 = 25$$

Answer: 25 loads can be washed.

**A**

- 1 A packet of cornflakes weighs one kilogram. 200 g is used. How much is left?
- 2 One lap of a running track is 400 m. How far is ten laps in kilometres?
- 3 There are three litres of water in a watering can. 540 ml is added. How much water is there in the can now?
- 4 Each parcel weighs 500 g. What is the weight of four parcels in kilograms?



- 5 Large pins are 3.5 cm long. Small pins are 15 mm shorter. How long are small pins?
- 6 Elsa buys a litre bottle of milk. She drinks half of the milk. How much is left in millilitres?

**B**

- 1 A door is 1.9 m tall. There is 76 cm from the top of the door to the ceiling. What is the height of the room?
- 2 A pile of 60 magazines weighs 10.8 kg. What does each magazine weigh in grams?
- 3 A tub of ice cream holds 2 litres. 350 ml is used. How much ice cream is left?
- 4 The fence round a square field is one kilometre long. What is the length of one side of the field in metres?

- 5 A pie weighs 1.5 kg. A larger pie weighs 735 g more. What is the weight of the larger pie?
- 6 Each tube of paint holds 40 ml. How much paint is needed to fill ninety tubes?

**C**

- 1 Twelve cartons of a drink hold a total of 2.7 litres. What does one carton hold in millilitres?
- 2 Myra buys 0.72 kg of mince. She uses 275 g. How much mince does she have left?
- 3 Each sheet of card is 1.5 mm thick. There are 50 sheets in a pack. How thick is a pack in centimetres?
- 4 A can of cycle oil holds 0.12 litres. 55 ml is used. How much oil is left?
- 5 Eight identical jars of sauce hold 2.8 kg of sauce. How much sauce is there in one jar in grams?
- 6 Gareth walks 765 m to the canal and 5.68 km along the towpath. How far does he walk altogether?



**TARGET** To solve 1-step and 2-step problems involving the conversion of measures between different units.

**Example**

A bottle contains half a litre of spray cleaner. 200 ml is used. Half of the rest is used. How much is left?  
 Answer: 150 ml is left.

$$\begin{aligned} \frac{1}{2} \text{ litre} &= 500 \text{ ml} \\ 500 \text{ ml} - 200 \text{ ml} &= 300 \text{ ml} \\ 300 \text{ ml} \div 2 &= 150 \text{ ml} \end{aligned}$$



**A**

- 1 Jill throws the ball 28 m. Rae throws it 15 m further. What is the length of Rae's throw?
- 2 A bag of nuts weighs 100 g. 60g is eaten. How much is left?
- 3 Ian buys four pencils for £1. How much does each pencil cost?
- 4 A dishwasher uses 40 litres of water each wash. How much water does it use in five washes?



- 5 Josh has three 20p coins and three 10p coins. How much does he have altogether?
- 6 A piece of wood is 60 cm long. 10 cm is cut off. The rest of the wood is cut in half. How long are the two equal pieces?

**B**

- 1 One can of fish weighs 200 g. What do six cans weigh in kilograms?
- 2 Tiles are 20 cm long. How many are needed to make a row 4 m long?
- 3 Ricky buys two bottles of water, each holding 650 ml. He drinks half a litre. How much water does he have left?
- 4 A pie weighs 1 kg. It is cut into five equal slices. One is eaten. How much is left in grams?
- 5 Susan's daily paper costs 55p. Her Sunday paper costs £1.50. How much does she pay for her papers each week?
- 6 A drink is made with 1.2 litres of water and 300 ml of juice. It is then poured equally into 10 glasses. How much drink is in each glass?

**C**

- 1 A shower uses 6 litres of water in one minute. How much water does it use in one second?
- 2 A plank is 4 m long. Three 40 cm lengths are cut off. A further 75 cm is cut off. How long is the plank that is left?
- 3 A bath holds 38.7 litres of hot water and 11.6 litres of cold water. 800 ml evaporates. How much water is left in the bath?
- 4 One gravy cube weighs 6 g. What do 250 cubes weigh in kilograms?
- 5 An athlete runs 3.6 km to warm up, then a fast 800 m and 1.5 km to warm down. How far does she run altogether?
- 6 CDs cost £6.75. Lynne buys three for the price of two. How much has each CD cost her?