

Tuesday 5/1/2021

Maths – Y6 - Measurement

## L.O. Convert units of measure.

What conversions can you recall from yesterday?

What units of length, mass and capacity do you know?

What are metric units?

The metric system is a system of weights and measures. Metric units are based on the number 10 and the powers of 10 ( $10^2$ ,  $10^3$ , and so on). They include metres (m), litres (l) and kilograms (kg).

What are imperial units?

Imperial units are part of an old measuring system that is different from the metric system. Here are some imperial units:

Length            12 inches (in) = 1 foot (ft)

3 ft = 1 yard (yd)

1760 yards = 1 mile

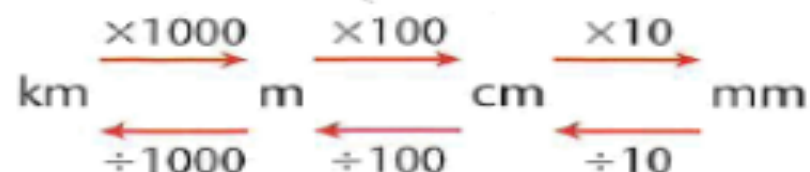
Capacity        8 pints (pt) = 1 gallon (gall)

Mass            16 ounces (oz) = 1 pound (lb)

14 lb = 1 stone (st)

## L.O. Convert units of measure.

### UNITS OF LENGTH



$$1 \text{ mile} = 1.6 \text{ km}$$

$$8 \text{ km} = 5 \text{ miles}$$

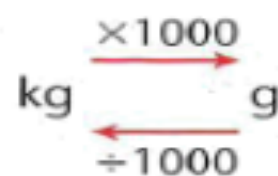
#### *Examples*

$$3 \text{ km } 517 \text{ m} = 3517 \text{ m} = 3.517 \text{ km}$$

$$2 \text{ m } 96 \text{ cm} = 296 \text{ cm} = 2.96 \text{ m}$$

$$1 \text{ cm } 4 \text{ mm} = 14 \text{ mm} = 1.4 \text{ cm}$$

### UNITS OF MASS



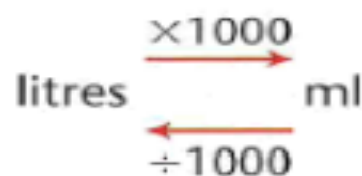
#### *Examples*

$$2 \text{ kg } 700 \text{ g} = 2700 \text{ g} = 2.7 \text{ kg}$$

$$6 \text{ kg } 390 \text{ g} = 6390 \text{ g} = 6.39 \text{ kg}$$

$$0 \text{ kg } 105 \text{ g} = 105 \text{ g} = 0.105 \text{ kg}$$

### UNITS OF CAPACITY



#### *Examples*

$$1 \text{ litre } 250 \text{ ml} = 1250 \text{ ml} = 1.25 \text{ litres}$$

$$4 \text{ litres } 600 \text{ ml} = 4600 \text{ ml} = 4.6 \text{ litres}$$

$$5 \text{ litres } 825 \text{ ml} = 5825 \text{ ml} = 5.825 \text{ litres}$$

# A

Copy and complete.

- 1  $2\text{ cm } 4\text{ mm} = \square\text{ mm} = \square\text{ cm}$
- 2  $0\text{ m } 76\text{ cm} = \square\text{ cm} = \square\text{ m}$
- 3  $15\text{ km } 200\text{ m} = \square\text{ m} = \square\text{ km}$
- 4  $0\text{ kg } 800\text{ g} = \square\text{ g} = \square\text{ kg}$
- 5  $1\text{ litre } 100\text{ ml} = \square\text{ ml} = \square\text{ litres}$
- 6  $0\text{ cm } 6\text{ mm} = \square\text{ mm} = \square\text{ cm}$
- 7  $3\text{ m } 15\text{ cm} = \square\text{ cm} = \square\text{ m}$
- 8  $0\text{ km } 300\text{ m} = \square\text{ m} = \square\text{ km}$
- 9  $8\text{ kg } 290\text{ g} = \square\text{ g} = \square\text{ kg}$
- 10  $0\text{ litres } 900\text{ ml} = \square\text{ ml} = \square\text{ litres}$
- 11  $110\text{ mm} = \square\text{ cm } \square\text{ mm} = \square\text{ cm}$
- 12  $238\text{ cm} = \square\text{ m } \square\text{ cm} = \square\text{ m}$
- 13  $4700\text{ m} = \square\text{ km } \square\text{ m} = \square\text{ km}$
- 14  $12\text{ }600\text{ g} = \square\text{ kg } \square\text{ g} = \square\text{ kg}$
- 15  $520\text{ ml} = \square\text{ litres } \square\text{ ml} = \square\text{ litres}$
- 16  $359\text{ mm} = \square\text{ cm } \square\text{ mm} = \square\text{ cm}$
- 17  $720\text{ cm} = \square\text{ m } \square\text{ cm} = \square\text{ m}$
- 18  $2650\text{ m} = \square\text{ km } \square\text{ m} = \square\text{ km}$
- 19  $530\text{ g} = \square\text{ kg } \square\text{ g} = \square\text{ kg}$
- 20  $9400\text{ ml} = \square\text{ litres } \square\text{ ml} = \square\text{ litres}$

WARM UP... Have a go, then mark your answers using the last slide. Then submit your work to SeeSaw.

**A**

Copy and complete.

- 1 5000 m =  km
- 2 1800 m =  km
- 3 3.5 km =  m
- 4 2.9 km =  m
- 5 640 cm =  m
- 6 25 cm =  m
- 7 0.48 m =  cm
- 8 9.36 m =  cm
- 9 2 mm =  cm
- 10 71 mm =  cm
- 11 54 cm =  mm
- 12 0.8 cm =  mm
- 13 0.6 kg =  g
- 14 3.2 kg =  g
- 15 970 g =  kg
- 16 4050 g =  kg
- 17 1.6 litres =  ml
- 18 8.2 litres =  ml
- 19 300 ml =  litres
- 20 7900 ml =  litres

Change to:

- | miles    | km           |
|----------|--------------|
| 21 40 km | 25 2 miles   |
| 22 72 km | 26 30 miles  |
| 23 12 km | 27 100 miles |
| 24 28 km | 28 11 miles  |

**B**

Copy and complete.

- 1 2168 m =  km
- 2 359 m =  km
- 3 7.708 km =  m
- 4 0.063 km =  m
- 5 29 cm =  m
- 6 580 cm =  m
- 7 0.07 m =  cm
- 8 4.11 m =  cm
- 9 153 mm =  m
- 10 8 mm =  m
- 11 6.49 m =  mm
- 12 0.072 m =  mm
- 13 3.456 kg =  g
- 14 0.002 kg =  g
- 15 179 g =  kg
- 16 3 g =  kg
- 17 0.6 litres =  ml
- 18 8.01 litres =  ml
- 19 2400 ml =  litres
- 20 75 ml =  litres

Change to:

- | miles      | km            |
|------------|---------------|
| 21 36 km   | 25 4.8 miles  |
| 22 50 km   | 26 62.5 miles |
| 23 124 km  | 27 8 miles    |
| 24 69.2 km | 28 250 miles  |

**C**

Copy and complete by putting &gt;, &lt; or = in the box.

- 1 10 cm  0.09 m
- 2 1641 mm  16.41 m
- 3 50 g  0.05 kg
- 4 2288 ml  2.8 litres
- 5 3000 mm  0.003 km
- 6 1440 cm  0.04 km
- 7 25 g  0.025 kg
- 8 38 ml  0.008 litres

Convert to miles

- 9 47 km
- 11 73 km
- 10 9.4 km
- 12 53.8 km

Convert to kilometres.

- 13 1562 miles
- 14 284.6 miles
- 15 65.77 miles
- 16 12.29 miles
- 17 Each nail weighs 3.85 g. There are 24 nails in a packet. What is the total weight of the nails in 60 packets in kilograms?
- 18 A lorry travels 263 km in Belgium and 172 miles in England. How much longer in miles is the English journey?

Choose a Section you are comfortable with, have a go, then mark your answers using the last slide. Then submit your work to SeeSaw.

# EXTENSION

## Converting Measures Stepping Stones

- Fill in the stepping stones with the correct operation and number.
- If an answer is missing, look for the unit of measure and fill in the correct number.
- If the unit is missing, look at the number before and the number in the answer to work out which unit of measure the answer must be in.
- All stepping stone sequences must read from **left to right**.

1.6km

1600m

\_\_\_\_\_ cm

376m

0.376\_\_

x100 000

\_\_\_\_\_

\_\_\_\_\_ cm

30.46m

\_\_\_\_\_ km

11.9kg

÷ 1000

0.0119\_\_\_\_\_

\_\_\_\_\_ g

- Create your own stepping stone sequence showing converting between units of measure.





# ANSWERS

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## A

- |                        |                                |
|------------------------|--------------------------------|
| 1 24 mm 2.4 cm         | 15 0 litres 520 ml 0.52 litres |
| 2 76 cm 0.76 m         | 16 35 cm 9 mm 35.9 cm          |
| 3 15 200 m 15.2 km     | 17 7 m 20 cm 7.2 m             |
| 4 800 g 0.8 kg         | 18 2 km 650 m 2.65 km          |
| 5 1100 ml 1.1 litres   | 19 0 kg 530 g 0.53 kg          |
| 6 6 mm 0.6 cm          | 20 9 litres 400 ml 9.4 litres  |
| 7 315 cm 3.15 m        | 21 14.4 km                     |
| 8 300 m 0.3 km         | 22 56 km                       |
| 9 8290 g 8.29 kg       | 23 128 km                      |
| 10 900 ml 0.9 litres   | 24 107.2 km                    |
| 11 11 cm 0 mm 11.0 cm  | 25 20 miles                    |
| 12 2 m 38 cm 2.38 m    | 26 37.5 miles                  |
| 13 4 km 700 m 4.7 km   | 27 60 miles                    |
| 14 12 kg 600 g 12.6 kg | 28 27.5 miles                  |

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## A

- |          |           |               |               |
|----------|-----------|---------------|---------------|
| 1 5 km   | 8 936 cm  | 15 0.97 kg    | 22 45 miles   |
| 2 1.8 km | 9 0.2 cm  | 16 4.05 kg    | 23 7.5 miles  |
| 3 3500 m | 10 7.1 cm | 17 1600 ml    | 24 17.5 miles |
| 4 2900 m | 11 540 mm | 18 8200 ml    | 25 3.2 km     |
| 5 6.4 m  | 12 8 mm   | 19 0.3 litres | 26 48 km      |
| 6 0.25 m | 13 600 g  | 20 7.9 litres | 27 160 km     |
| 7 48 cm  | 14 3200 g | 21 25 miles   | 28 17.6 km    |

## B

- |            |            |                 |                |
|------------|------------|-----------------|----------------|
| 1 2.168 km | 8 411 cm   | 15 0.179 kg     | 22 31.25 miles |
| 2 0.359 km | 9 0.153 m  | 16 0.003 kg     | 23 77.5 miles  |
| 3 7708 m   | 10 0.008 m | 17 600 ml       | 24 43.25 miles |
| 4 63 m     | 11 6490 mm | 18 8010 ml      | 25 7.68 km     |
| 5 0.29 m   | 12 72 mm   | 19 2.4 litres   | 26 100 km      |
| 6 5.8 m    | 13 3456 g  | 20 0.075 litres | 27 12.8 km     |
| 7 7 cm     | 14 2 g     | 21 22.5 miles   | 28 400 km      |

## C

- |     |     |              |                |
|-----|-----|--------------|----------------|
| 1 > | 5 = | 9 29.375 km  | 14 455.36 km   |
| 2 < | 6 < | 10 5.875 km  | 15 105.232 km  |
| 3 = | 7 = | 11 45.625 km | 16 19.664 km   |
| 4 < | 8 > | 12 33.625 km | 17 5.544 kg    |
|     |     | 13 2499.2 km | 18 7.625 miles |