Converting between units of measure

This unit of work is based on last week's multiplying and dividing by 10, 100 and 1000. If you are not sure, go back and look at last week's work again to help you.

How to convert between metric measures of length

Warming Up*

1)

	Convert larger to smaller by multiplying										
	M	100 th	10 th	th	h	t	O	1/10	1/100	1/1000	
example						1	5	6			cm
					1	5	6				mm
						1	2				m
											cm
							6	3	2		km
											m
					2	5	3				cm
											mm
					1	4	1	0	2		m
											cm
							0	2	5	1	km
											m

2) Sanjay has to cut a strip of paper 7cm long but only has a ruler that measures in mm. How many mm should he measure?

3) Akash says 5.67m is less than 567cm. Is he right?

4) What would you do to change kilograms into grams?

Feeling Confident**

CONVERTING METRIC UNITS – LENGTH SHEET

1cm = ____ mm

3cm = ____ mm

1m = ____ cm

3m = ____ cm

1km = ____ m

3km = ____ m

Which is the most? Circle the largest amount in each box.

1 m **1 km** 1 cm	10 m 100 cm 200 mm	100 m 500 cm 1 km	1 m 200 cm 300 mm

Use greater than (>), less than (<) or equals (=) to compare the amounts.

1)	1 m	>	10 cm	2)	1 km		1000 m
3)	20 mm		1 cm	4)	80 cm		1 m
5)	200 m		1 km	6)	3cm		40 mm

1) John rode 2 kilometres on his bike. His sister Sally rode 3000 meters on her bike. Who rode the farthest and how much farther did they ride (answer in km)?

2) Jessica is measuring two line segments. The first line segment is 30 cm long. The second line segment is 500 mm long. How long are the two line segments together? (answer in cm)
3) Lois wants to send a box of oranges to a friend by mail. The box of oranges cannot exceed a mass of 10 kg. If each orange has a mass of 200g, what is the maximum number she can send?
4) Walt grew 10 centimetres in 1 year. He is now 1.6 m tall. How tall was he 1 year ago?
5) Mary buys a reel of thread for sewing. There are 10 m of thread on the real. She uses 210 cm. How much is left on the reel in centimetres?
6) 30 g serving of a certain breakfast cereal has 0.5 g of salt. How much salt would that be in milligrams
7) Carlos has a 1.2 meter long piece of wood. He wants to cut it into 3 equal lengths. How long should each piece be in millimetres?

Amir buys 2,500 grams of potatoes and 2,000 grams of carrots.

He pays with a £5 note.
How much change does he get?

Ribbon is sold in 225 mm pieces.
Teddy needs 5 metres of ribbon.
How many pieces does he need to buy?

Teddy would like to make either a bookmark or a rosette with his left over ribbon. Which can he make?

To make 5 bookmarks you will need:
1.2 metres of ribbon
1 pair of scissors

To make 1 mini rosette you will need:
4 pieces of ribbon cut to 35 mm
A stapler

Eva is converting measurements.
She says,

I have divided by 1,000 to convert the measurements.

Which conversions could Eva have completed?

- 3 km → 3,000 m
- 3,000 m → 3 km
- 5,500 g → 5.5 kg
- 2.8 kg → 2,800 g

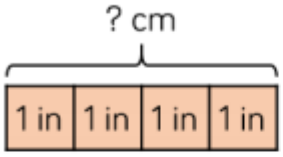
Ready for a Challenge***

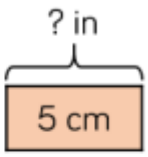
Converting between metric and imperial units of measure.

- Here is some support from the BBC with Imperial measurements.
  Imperial measures

One inch is approximately 2.5 centimetres
1 inch ≈ 2.5 cm

Use the bar models to help with the conversions.





16in ≈ ☐ cm
15in ≈ ☐ cm
33in ≈ ☐ m

10cm ≈ ☐ in
1cm ≈ ☐ in
5.5m ≈ ☐ in

1 kilogram is approximately 2 pounds
1 kg ≈ 2 lbs

Use this information to complete the conversions.

2 kg ≈ ☐ lbs
☐ kg ≈ 22 lbs
5 kg ≈ ☐ lbs
55 kg ≈ ☐ lbs

There are 568 millilitres in a pint.
How many litres are there in:

2 pints | 5 pints | 0.5 pints | 2.5 pints

9

Jack's house has 3 pints of milk delivered 4 times a week.
How many litres of milk does Jack have delivered each week?

He uses about 200 ml of milk every day in his cereal. Approximately, how many pints of milk does Jack use for his cereal in a week?

- Dora weighed 7.8 lbs when she was born.
- Amir weighed 3.5 kg when he was born.

Who was heavier, Dora or Amir?
Explain your answer.

Answers

Warming Up*

1.

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					1	4	1	0	2		m
			1	4	1	0	2				cm
							0	2	5	1	km
					2	5	1				m

2) 70mm

3) No, they are the same

4) Multiply by 1000

Feeling Confident**

1cm = 10 mm

3cm = 30 mm

1m = 100 cm

3m = 300 cm

1km = 1000 m

3km = 3000 m

Which is the most? Circle the largest amount in each box.

1 m	10 m	100 m	1 m
1 km	100 cm	500 cm	200 cm
1 cm	200 mm	1 km	300 mm

Use greater than (>), less than (<) or equals (=) to compare the amounts.

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3)	20 mm	>	1 cm	4)	80 cm	<	1 m
5)	200 m	<	1 km	6)	3cm	<	40 mm
7)	10 mm	=	1 cm	8)	2 km	<	3000 m
9)	3 m	>	40 cm	10)	500 cm	>	3 m

1) Sally by 1km
2) 80cm
3) 50 (49 if you include the weight of a box)
4) 1.59m
5) 7.9cm
6) 500mg
7) 400ml

Amir receives

13 p change.

Alex sells 54 glasses.

Alex makes £19.83 profit.

12 pints is approximately 6,816 millilitres, or 6.8 litres.

Teddy buys 23 pieces of ribbon.

Teddy will have 175 mm left over.

A bookmark needs 240 mm, and a rosette needs 140 mm so he can make the rosette.

Eva could have converted 3,000 m to 3 km or 5,500 g to 5.5 kg.

Ready for a Challenge***

1) 4.0cm 2) 37.5cm 3) 0.825m
1) 4in 2) 0.4in 3) 220in

Children convert both measures to the same unit.

Dora weighed approximately 3.9 kg and Amir weighed 3.5 kg so Dora was heavier.

200 × 7 = 1,400 ml

1400 ÷ 568 = 2.46 pints

So Jack uses approximately 2 and a half pints.