Converting Units

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5

Fluency Teaching Slides

Kilograms and Kilometres

5

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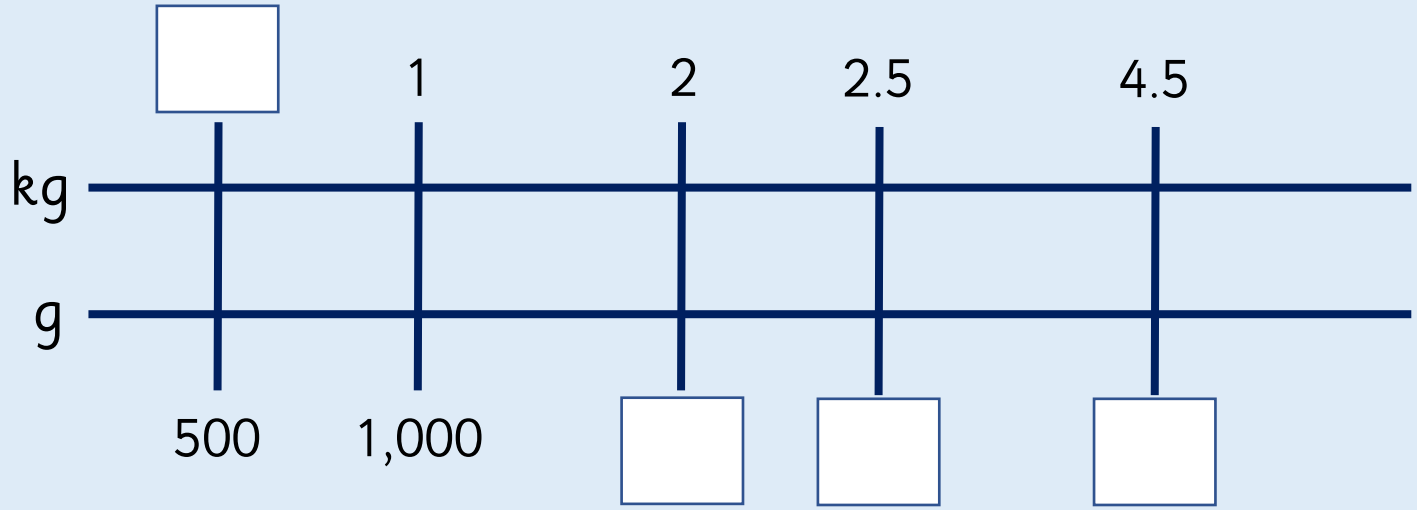
Activity 1 Kilograms and Kilometres

Find the missing values on the double number line.
Write your conversions as sentences.

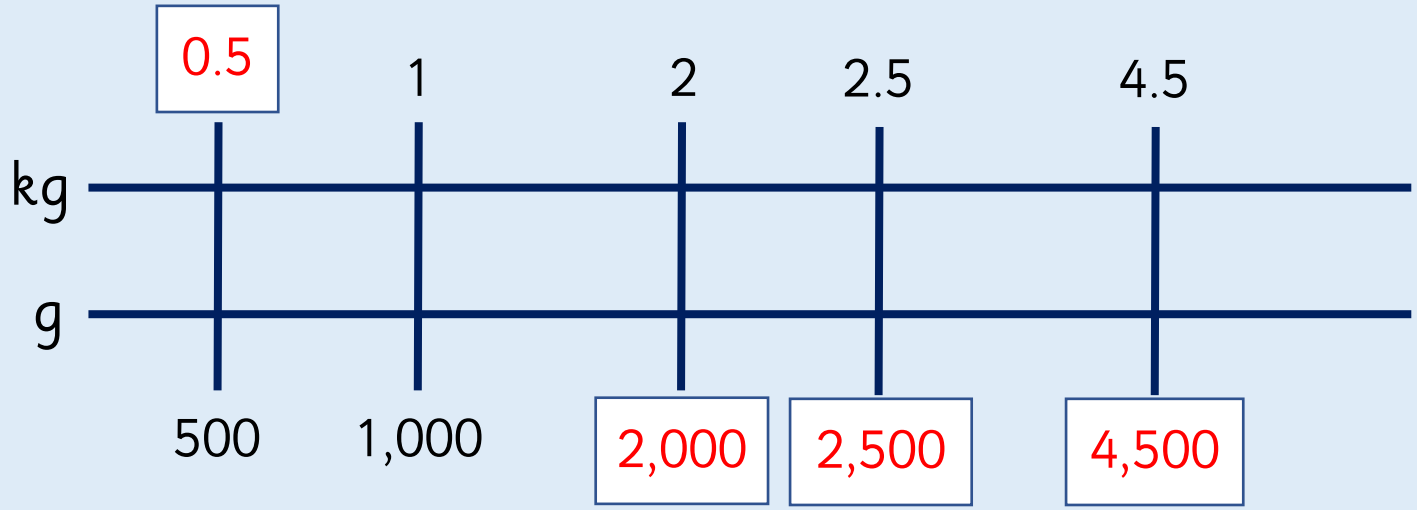


?

There are ____ grams in ____ kilograms.

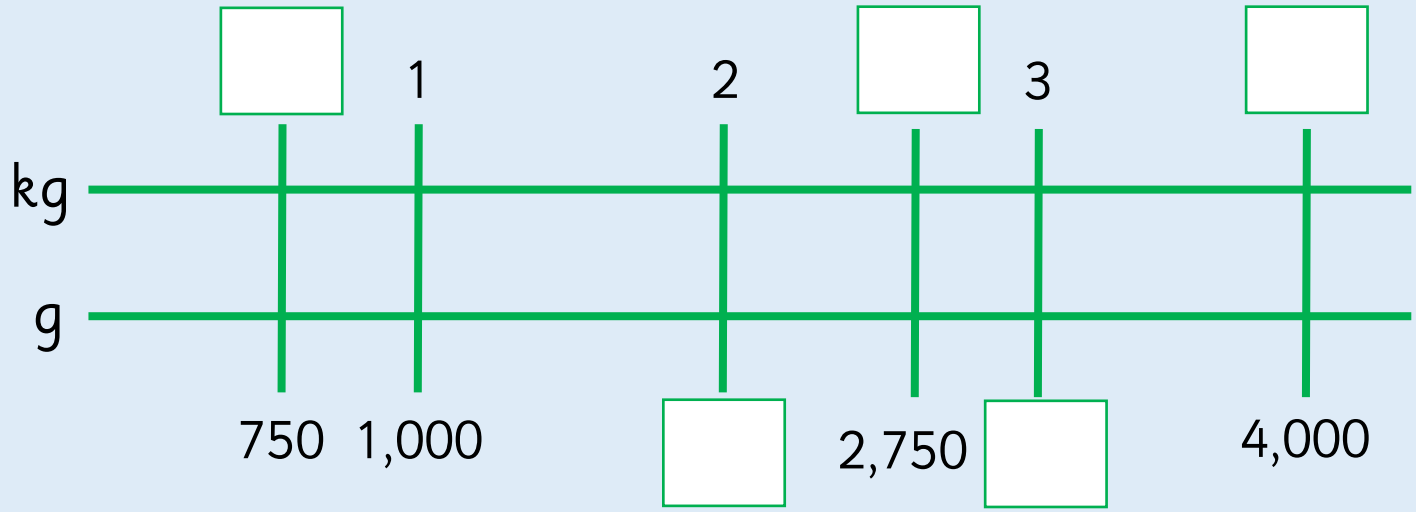
Activity 1 Kilograms and Kilometres

Find the missing values on the double number line.
Write your conversions as sentences.



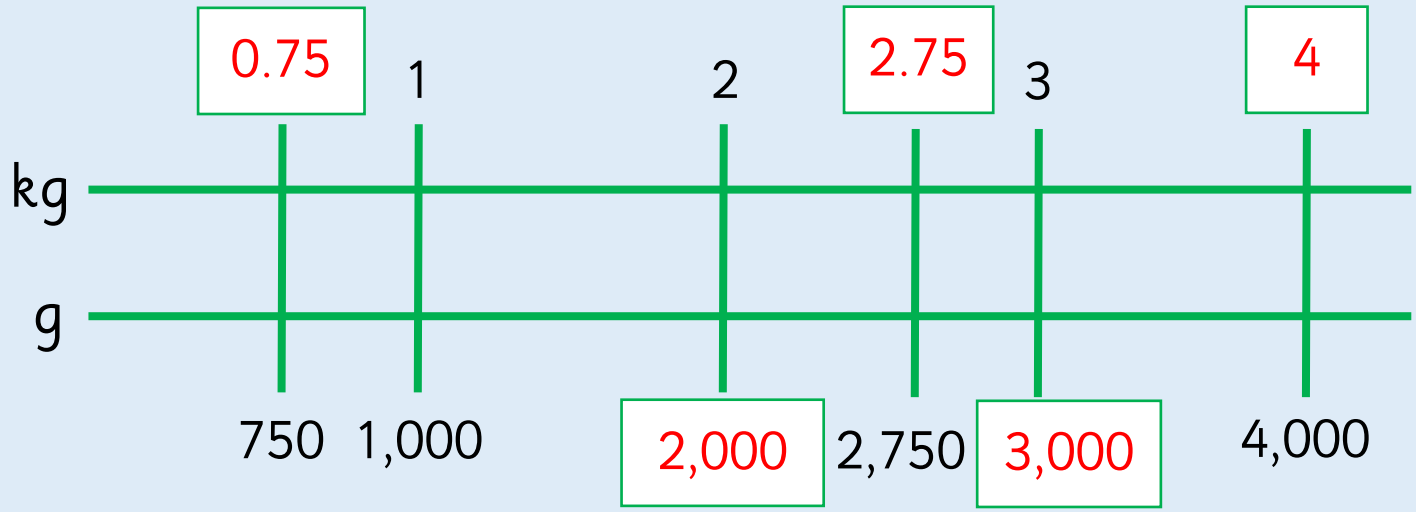
Activity 1 Kilograms and Kilometres

Find the missing values on the double number line.
Write your conversions as sentences.



Activity 1 Kilograms and Kilometres

Find the missing values on the double number line.
Write your conversions as sentences.



Activity 2 Kilograms and Kilometres

Complete the missing information.

$\frac{1}{10}$ kilogram = ☐ grams

$\frac{3}{10}$ km = ☐ metres

7 kg + $\frac{1}{4}$ kg = ☐ g

12 km + ☐ km = 12,500 m

?

How would you convert a fraction of a kilometre to metres?

Activity 2 Kilograms and Kilometres

Complete the missing information.

$\frac{1}{10}$ kilogram = 100 grams

$\frac{3}{10}$ km = 300 metres

7 kg + $\frac{1}{4}$ kg = 7,250 g

12 km + 0.5 km = 12,500 m

Activity 2 Kilograms and Kilometres

Complete the missing information.

2,000 m = ☐ km

5,000 g = ☐ kg

500 m = ☐ km

10 kg + ☐ kg = 10,500 g

Activity 2 Kilograms and Kilometres

Complete the missing information.

2,000 m = 2 km

5,000 g = 5 kg

500 m = 0.5 km

10 kg + 0.5 kg = 10,500 g

Activity 3 Kilograms and Kilometres

Compare the measurements using <, > or =.

5 kg ◯ 4,500 g

12 kg ◯ 12,000 g

3.7 km ◯ 370 m

37,000 m ◯ 3.7 km

?

There are ____ grams in ____ kilograms.

Activity 3 Kilograms and Kilometres

Compare the measurements using <, > or =.

5 kg > 4,500 g

12 kg = 12,000 g

3.7 km > 370 m

37,000 m > 3.7 km

Activity 3 Kilograms and Kilometres

Compare the measurements using <, > or =.

6 kg ◯ 5,000 g

10 kg ◯ 1,000 g

670 m ◯ 6.7 km

27,000 m ◯ 2.7 km

10,000 g ◯ 10 kg

4.4 km ◯ 4,400 m

Activity 3 Kilograms and Kilometres

Compare the measurements using <, > or =.

6 kg > 5,000 g

10 kg > 1,000 g

670 m < 6.7 km

27,000 m > 2.7 km

10,000 g = 10 kg

4.4 km = 4,400 m

Reasoning 1 Kilograms and Kilometres

Rosie buys 1,500 grams of coffee beans and 1,000 grams of apples.

She pays with a £5 note.
How much change does she get?

Reasoning 1 Kilograms and Kilometres

Rosie buys 1,500 grams of coffee beans and 1,000 grams of apples.

Rosie receives £2.30 change.

Reasoning 2

Kilograms and Kilometres

Leanna is converting measurements.

Leanna

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

Which conversions could Leanna have completed?

- 4 km → 4,000 m
- 3,000 m → 3 km
- 3.8 kg → 3,800 g
- 5,500 g → 5.5 kg

Reasoning 2

Kilograms and Kilometres

Leanna is converting measurements.

Leanna

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

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

Discussion

Kilograms and Kilometres

What does ‘kilo’ mean when used at the start of a word?

Complete the sentence:
There are ___ grams in ___ kilograms.

How would you convert a fraction of a kilometre to metres?

What is the same and what is different about converting from kg to g and km to m?

Milligrams and Millilitres

5

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Activity 1 Milligrams and Millilitres

Complete the conversions.

1,000 mm = 1 m

5,000 mm = ☐ m

50,000 mm = ☐ m

500 mm = ☐ m

5,500 mm = ☐ m

1,000 ml = 1 L

☐ ml = 3 L

☐ ml = 30 L

300 ml = ☐ L

☐ ml = 0.3 L

?

What does 'milli' mean when used at the start of a word?

Activity 1 Milligrams and Millilitres

Complete the conversions.

1,000 mm = 1 m

5,000 mm = 5 m

50,000 mm = 50 m

500 mm = 0.5 m

5,500 mm = 5.5 m

1,000 ml = 1 L

3,000 ml = 3 L

30,000 ml = 30 L

300 ml = 0.3 L

300 ml = 0.3 L

Activity 1 Milligrams and Millilitres

Complete the conversions.

6,000 mm = ____ m

60,000 mm = ____ m

_____ mm = 4 m

_____ mm = 7.5 m

600 mm = ____ m

8,000 ml = ____ L

700 ml = ____ L

_____ ml = 5 L

_____ ml = 0.6 L

7,600 ml = ____ L

Activity 1 Milligrams and Millilitres

Complete the conversions.

6,000 mm = 6 m

60,000 mm = 60 m

4,000 mm = 4 m

7,500 mm = 7.5 m

600 mm = 0.6 m

8,000 ml = 8 L

700 ml = 0.7 L

5,000 ml = 5 L

600 ml = 0.6 L

7,600 ml = 7.6 L

Activity 2 Milligrams and Millilitres

Complete the missing information.

$\frac{1}{1{,}000}$ m = ☐ mm

$\frac{1}{100}$ m = ☐ mm

$\frac{1}{10}$ m = ☐ mm

3 L + $\frac{1}{4}$ L = ☐ ml

2L + ☐ ml = 2,500 ml

Activity 2 Milligrams and Millilitres

Complete the missing information.

$\frac{1}{1{,}000}$ m = 1 mm

$\frac{1}{100}$ m = 10 mm

$\frac{1}{10}$ m = 100 mm

3 L + $\frac{1}{4}$ L = 3,250 ml

2L + 500 ml = 2,500 ml

Activity 2 Milligrams and Millilitres

Complete the missing information.

$5\text{ L} + \frac{1}{4}\text{ L} = \_\_\_\_\_\text{ ml}$

$10\text{ L} + \frac{1}{2}\text{ L} = \_\_\_\_\_\text{ ml}$

$\frac{1}{4}\text{ L} + 2\text{ L} = \_\_\_\_\_\text{ ml}$

$\frac{1}{10}\text{ L} + 5{,}000\text{ ml} = \_\_\_\_\_\text{ ml}$

Activity 2 Milligrams and Millilitres

Complete the missing information.

$5\text{ L} + \frac{1}{4}\text{ L} =$ 5,250 ml

$10\text{ L} + \frac{1}{2}\text{ L} =$ 10,500 ml

$\frac{1}{4}\text{ L} + 2\text{ L} =$ 2,250 ml

$\frac{1}{10}\text{ L} + 5{,}000\text{ ml} =$ 5,100 ml

Activity 3 Milligrams and Millilitres

Compare the measurements using <, > or =.

2 L ◯ 1,500 ml

60 L ◯ 6,000 ml

2.8 m ◯ 280 mm

3,700 m ◯ 3.7 mm

?

Would it be appropriate to measure your height in millimetres?

Activity 3 Milligrams and Millilitres

Compare the measurements using <, > or =.

2 L > 1,500 ml

60 L > 6,000 ml

2.8 m > 280 mm

3,700 m > 3.7 mm

Activity 3 Milligrams and Millilitres

Compare the measurements using <, > or =.

6 L ◯ 3,500 ml

30 L ◯ 30,000 ml

6.7 m ◯ 670 mm

7,600 m ◯ 7.6 mm

10,000 ml ◯ 10 L

4.4 m ◯ 4,400 mm

Activity 3 Milligrams and Millilitres

Compare the measurements using <, > or =.

6 L > 3,500 ml

30 L = 30,000 ml

6.7 m > 670 mm

7,600 m > 7.6 mm

10,000 ml = 10 L

4.4 m = 4,400 mm

Reasoning 1

Milligrams and Millilitres

Zach buys four cans and two bottles. He sells the cola in 100 ml glasses. He sells all the cola.

Cola is sold in bottles and cans.

1.5 litres
£1.60

335 ml
50p

How many glasses does he sell? Zach charges 40p per glass. How much profit does he make?

Reasoning 1 Milligrams and Millilitres

Zach buys four cans and two bottles. He sells the cola in 100 ml glasses. He sells all the cola.

Cola is sold in bottles and cans.

1.5 litres
£1.60

335 ml
50p

Zach sells 43 glasses, making a total of £17.20.
He spent £5.20, so has made £12 in profit.

Reasoning 1 Milligrams and Millilitres

Malachi needs 4 metres of ribbon.
How many pieces does he need to buy?

Ribbon is sold in 220 mm pieces.

Malachi would like to make either a bookmark or a rosette with his leftover ribbon.
Which can he make?

To make a bookmark, you will need:

- 1.5 metres of ribbon
- 1 pair of scissors

To make one mini rosette, you will need:

- 4 pieces of ribbon cut to 20 mm
- a stapler

Reasoning 1 Milligrams and Millilitres

Malachi needs 4 metres of ribbon.
How many pieces does he need to buy?

Ribbon is sold in 220 mm pieces.

Malachi would like to make either a bookmark or a rosette with his leftover ribbon.
Which can he make?

Malachi buys 19 pieces of ribbon. He will have 180 mm left over. A bookmark needs 1.5 m while a rosette needs 80 mm, so he can make the rosette.

To make a bookmark, you will need:

- 1.5 metres of ribbon
- 1 pair of scissors

To make one mini rosette, you will need:

- 4 pieces of ribbon cut to 20 mm
- a stapler

Discussion

Milligrams and Millilitres

Can you complete the stem sentences to convert from millimetres to metres?

What does ‘milli’ mean when used at the start of a word?

Would it be appropriate to measure your height in millimetres?

Where have you seen litres before?

Metric Units

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Activity 1 Metric Units

Measure the height of the piles of books in centimetres.

Find the difference between the tallest and shortest piles of books in millimetres.

?

What unit of measurement would be best to measure the width of a book?

Activity 1 Metric Units

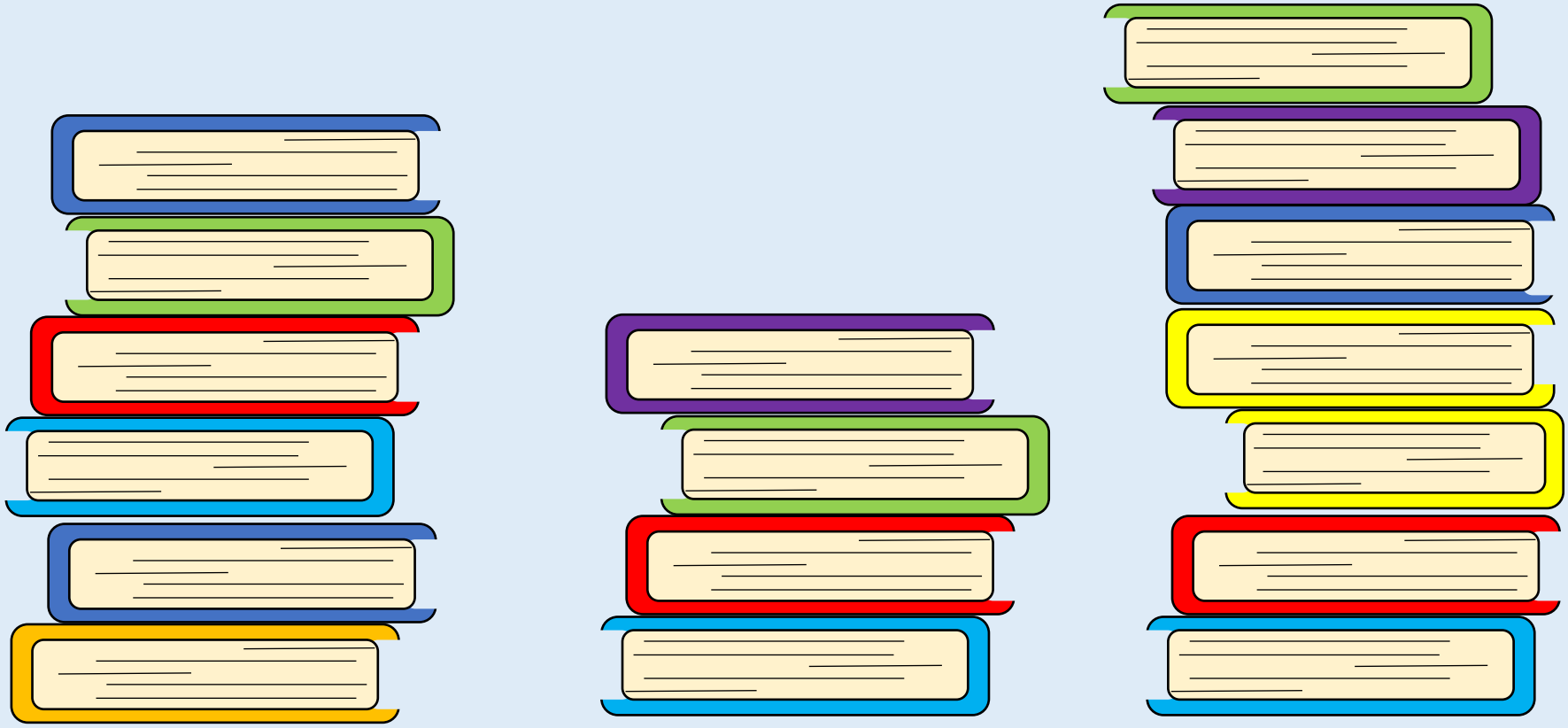
Measure the height of the piles of books in centimetres.

Assume that one book = a thickness of 1 cm
Tallest pile has nine books so, 9 x 1 cm = 9 cm
Shortest pile has three books so, 3 x 1 cm = 3 cm

Tallest pile – shortest pile
9 cm – 3 cm = 6 cm
6 cm x 10 = 60 mm

Activity 1 Metric Units

Measure the height of the piles of books in centimetres.

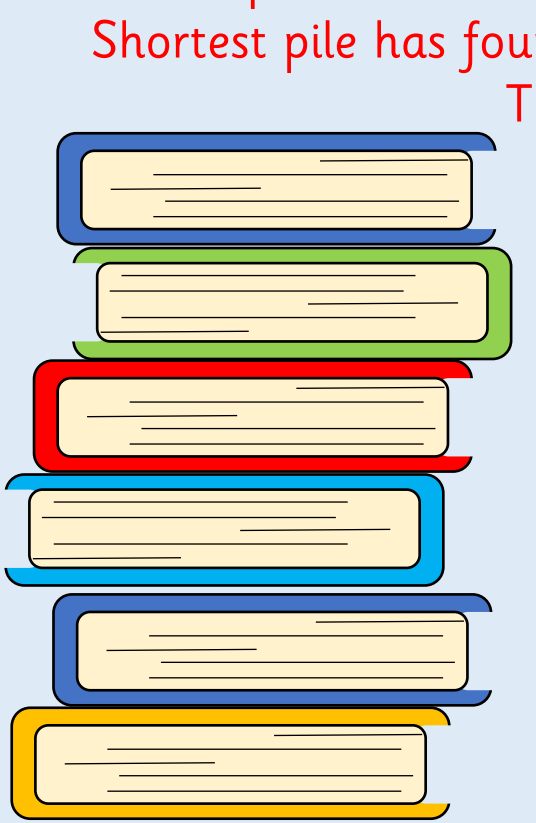


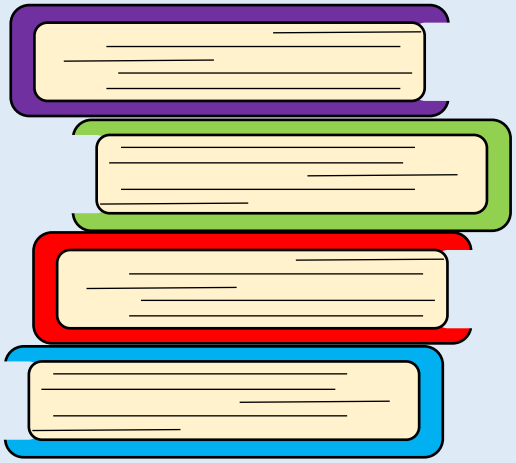
Find the difference between the tallest and shortest piles of books in millimetres.

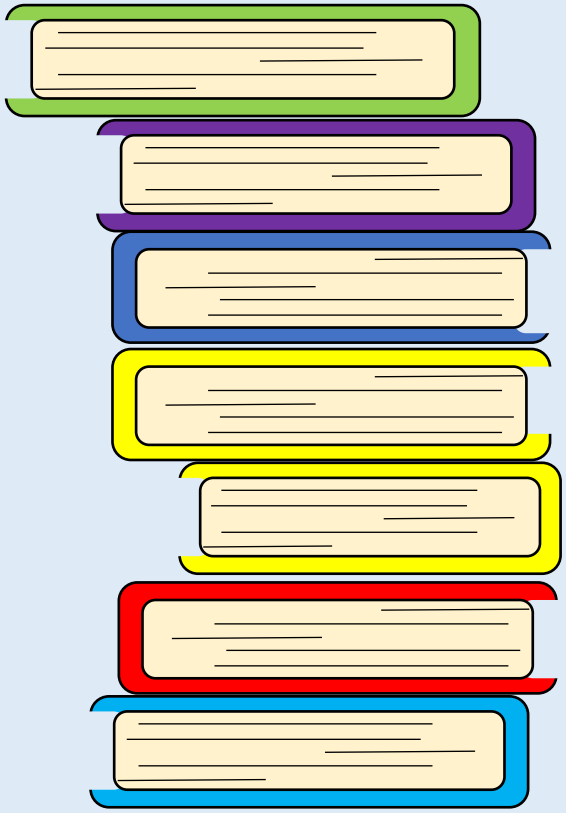
Activity 1 Metric Units

Measure the height of the piles of books in centimetres.

Assume that one book = a thickness of 1 cm
Tallest pile has seven books so, 7 x 1 cm = 7 cm
Shortest pile has four books so, 4 x 1 cm = 4 cm
Tallest pile – shortest pile
7 cm – 4 cm = 3 cm
3 cm x 10 = 30 mm







Activity 2 Metric Units

Line A is 6 centimetres long.
Line B is 54 millimetres longer than line A.
Line C is 2/3 of line B.
Draw lines A, B and C.

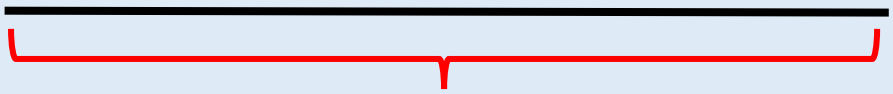
What does 'centi' mean when used at the start of a word?

Activity 2 Metric Units

Line A is 6 centimetres long. Line B is 54 millimetres longer than line A. Line C is 2/3 of line B. Draw lines A, B and C.

Let's assume that —— is equal to 1 cm.

Line A



6 cm

Line B

11.4 cm

Line C

7.6 cm

Activity 2 Metric Units

Line A is 8 centimetres long.
Line B is 25 millimetres longer than line A.
Draw lines A and B.

Activity 2 Metric Units

Line A is 8 centimetres long. Line B is 25 millimetres longer than line A. Draw lines A and B.

Let's assume that —— is equal to 1 cm.

Line A

8 cm

Line B

10.5 cm

Activity 3 Metric Units

Here are the heights of four children.
Put the children in height order, starting with the shortest.
Write their heights in millimetres.

Esin
1.3 m

Zach
124 cm

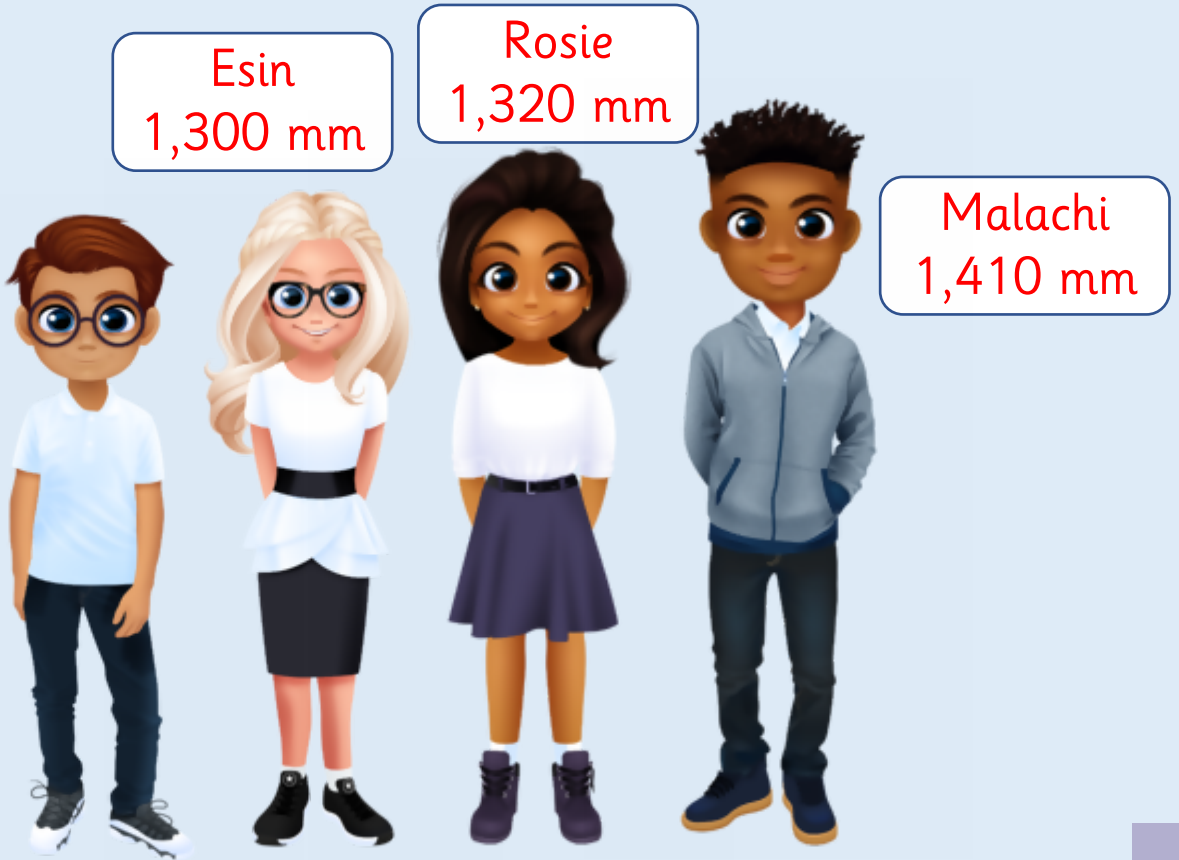
Rosie
1.32 m

Malachi
141 cm

What unit of measurement would be best to measure the height of a door frame?

Activity 3 Metric Units

Here are the heights of four children.
Put the children in height order, starting with the shortest.
Write their heights in millimetres.



Activity 3 Metric Units

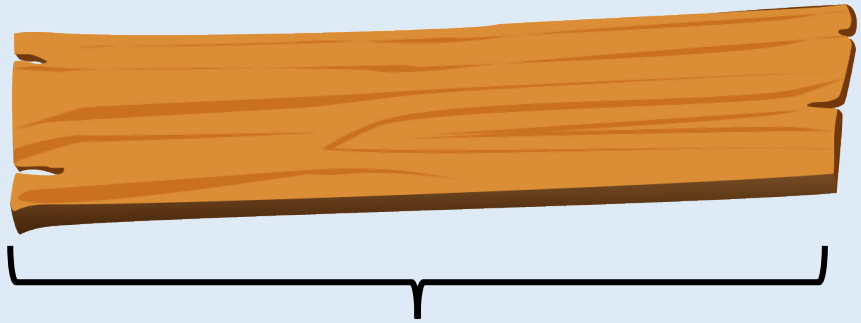
Here are the heights of four children. Put the children in height order, starting with the tallest. Write their heights in metres.

Activity 3 Metric Units

Here are the heights of four children. Put the children in height order, starting with the tallest. Write their heights in metres.

Reasoning 1 Metric Units

A plank of wood is 4.8 metres long.
Two lengths are cut from the wood.



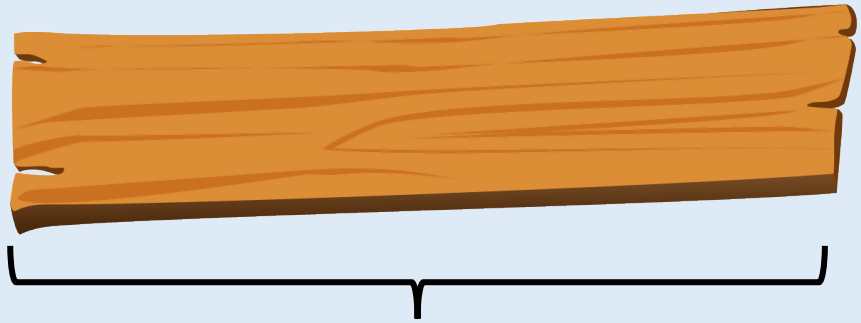
155 cm

$2\frac{4}{5}$ m

How much of the wood is left?

Reasoning 1 Metric Units

A plank of wood is 4.8 metres long.
Two lengths are cut from the wood.



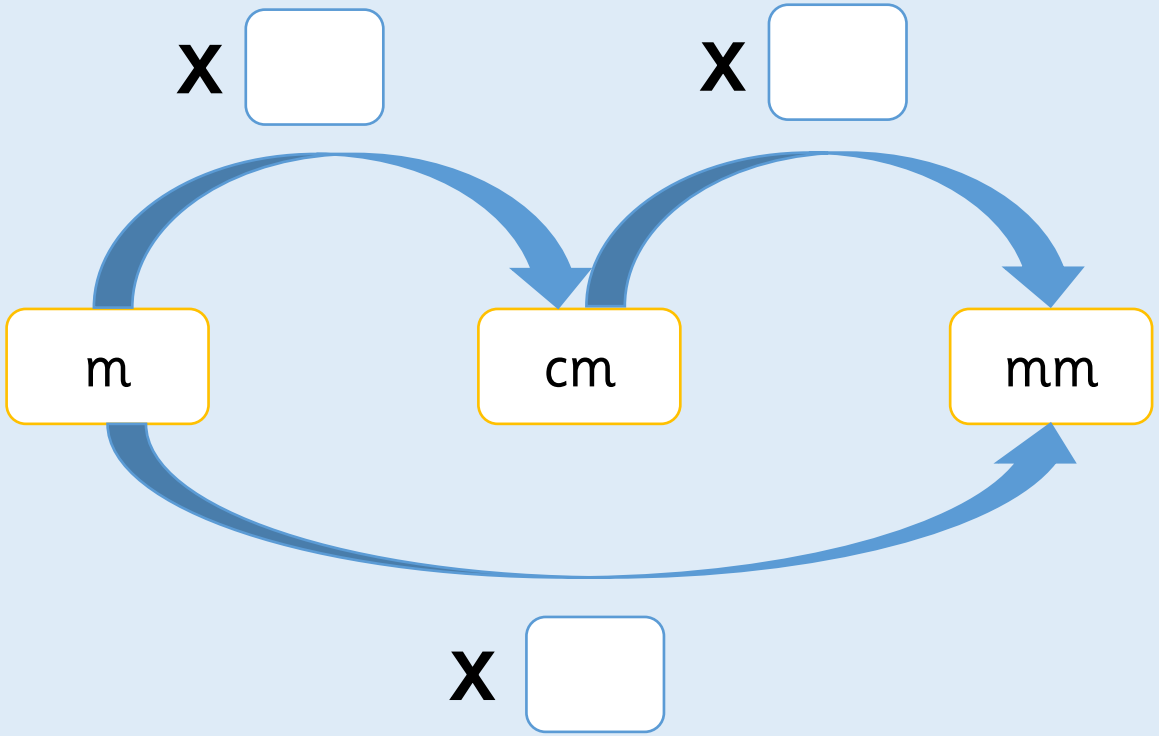
155 cm

$2\frac{4}{5}$ m

There is 45 cm left.

Metric Units

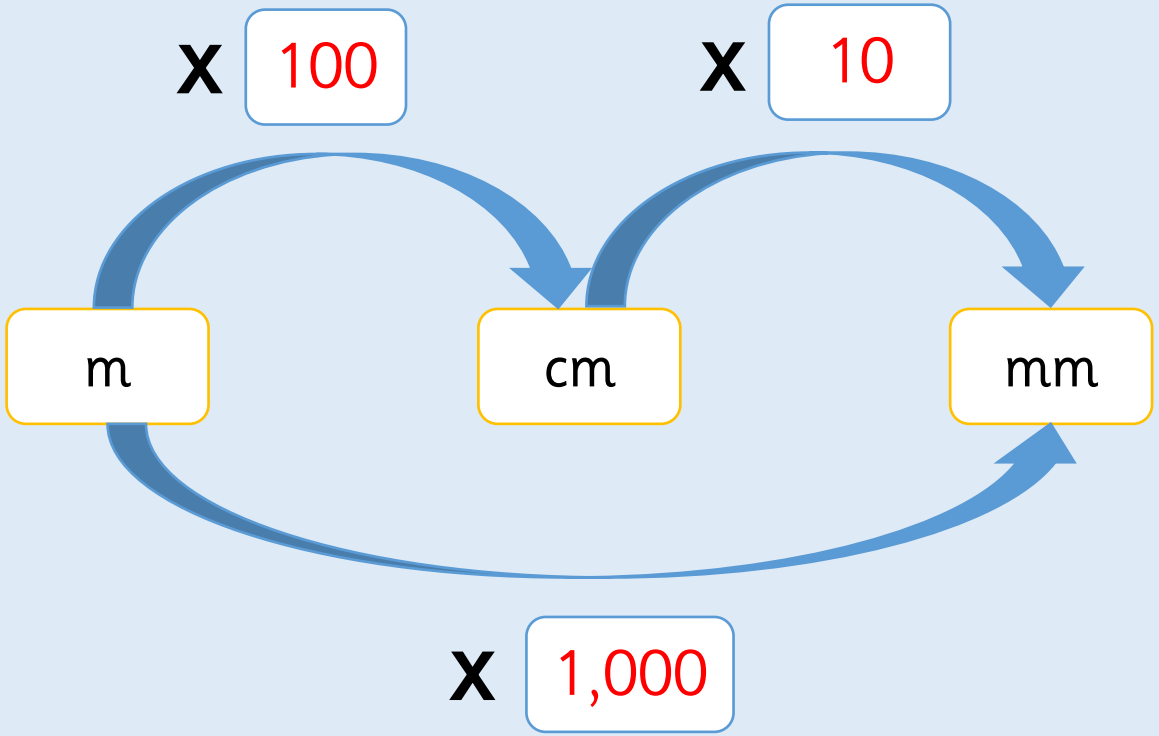
Complete the conversion diagram.



Can you make a diagram to show conversions from mm and cm to m?

Metric Units

Complete the conversion diagram.



Reasoning 3 Metric Units

A 5 pence coin is 1 mm thick.
Esin makes a pile of 5 pence coins worth £1.10.

What is the height of the pile of coins in centimetres?

Reasoning 3 Metric Units

A 5 pence coin is 1 mm thick.
Esin makes a pile of 5 pence coins worth £1.10.

The pile of coins is 2.2 cm tall.

Reasoning 4 Metric Units

Tia

One metre is 100 times bigger than one centimetre. One centimetre is 10 times bigger than one millimetre. So one metre is 110 times bigger than one millimetre.

Is Tia correct?
Explain your answer.

Reasoning 4 Metric Units

Tia

One metre is 100 times bigger than one centimetre. One centimetre is 10 times bigger than one millimetre. So one metre is 110 times bigger than one millimetre.

Tia is incorrect. She has added the number of times bigger together rather than multiplying. One metre is 1,000 times bigger than one millimetre.

Discussion

Metric Units

What is the same and what is different about these conversions?

- Converting from cm to m
- Converting from m to cm

What does ‘centi’ mean when used at the start of a word?

Which unit of measurement would be best to measure: the height of a door frame, the length of a room, the width of a book?

Imperial Units

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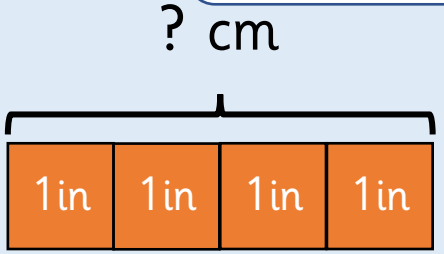
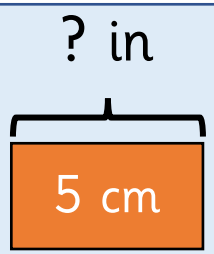
Activity 1 Imperial Units

Use the bar models to help with the conversions.

One inch is approximately 2.5 centimetres
1 inch ≈ 2.5 cm





16 in ≈ ☐ cm

15 in ≈ ☐ cm

33 in ≈ ☐ cm

10 cm ≈ ☐ in

1 cm ≈ ☐ in

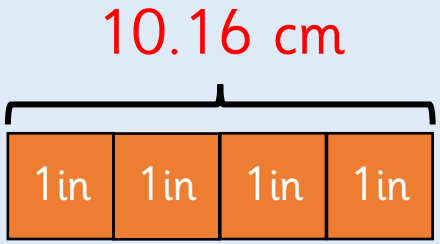
5.5 cm ≈ ☐ in

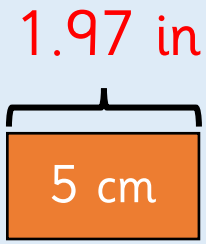
What do we still measure in inches?

Activity 1 Imperial Units

Use the bar models to help with the conversions.

One inch is approximately 2.5 centimetres
1 inch ≈ 2.5 cm





16 in ≈ 40.64 cm

15 in ≈ 38.1 cm

33 in ≈ 83.82 cm

10 cm ≈ 3.94 in

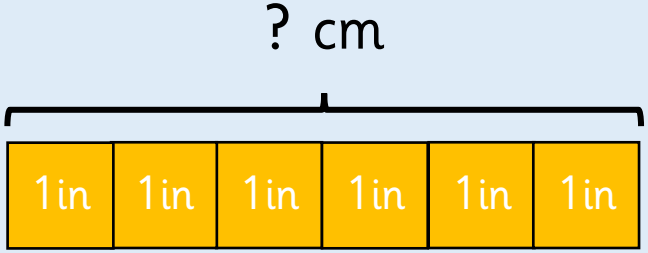
1 cm ≈ 0.39 in

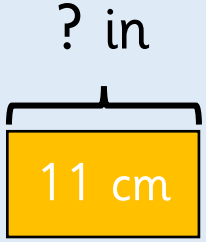
5.5 cm ≈ 2.17 in

Activity 1 Imperial Units

Use the bar models to help with the conversions.

One inch is approximately 2.5 centimetres
1 inch ≈ 2.5 cm





10 in ≈ ☐ cm

400 in ≈ ☐ cm

25 in ≈ ☐ cm

25.4 cm ≈ ☐ in

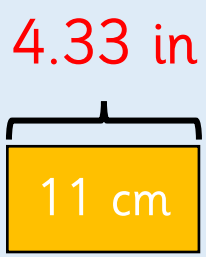
50.8 cm ≈ ☐ in

5.8 cm ≈ ☐ in

Activity 1 Imperial Units

Use the bar models to help with the conversions.

One inch is approximately 2.5 centimetres
1 inch ≈ 2.5 cm



10 in ≈ 25.4 cm

400 in ≈ 1,016 cm

25 in ≈ 63.5 cm

25.4 cm ≈ 10 in

50.8 cm ≈ 20 in

5.8 cm ≈ 2.28 in

Activity 2 Imperial Units

Use this information to complete the conversions.

1 kilogram is approximately 2 pounds
1 kg ≈ 2 lbs

2 kg ≈ ☐ lbs

5 kg ≈ ☐ lbs

☐ kg ≈ 22lbs

55 kg ≈ ☐ lbs

?

What does approximate mean?

Activity 2 Imperial Units

Use this information to complete the conversions.

1 kilogram is approximately 2 pounds
1 kg ≈ 2 lbs

2 kg ≈ 4.41 lbs

5 kg ≈ 11.02 lbs

9.98 kg ≈ 22lbs

55 kg ≈ 121.25 lbs

Activity 2 Imperial Units

Use this information to complete the conversions.

1 kilogram is approximately 2 pounds
1 kg ≈ 2 lbs

3 kg ≈ _____ lbs

11 kg ≈ _____ lbs

_____ kg ≈ 220 lbs

_____ kg ≈ 22 lbs

Activity 2 Imperial Units

Use this information to complete the conversions.

1 kilogram is approximately 2 pounds
1 kg ≈ 2 lbs

3 kg ≈ 6.61 lbs

11 kg ≈ 24.25 lbs

99.79 kg ≈ 220 lbs

10.89 kg ≈ 24 lbs

Activity 3 Imperial Units

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

2 pints	5 pints	0.5 pints	2.5 pints

?

What do we still measure in pints?

Activity 3 Imperial Units

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

2 pints	5 pints	0.5 pints	2.5 pints
=	=	=	=
1.14 L	2.84 L	0.28 L	1.42 L

Activity 3 Imperial Units

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

10 pints	4 pints	1.5 pints	3.5 pints
=	=	=	=

Activity 3 Imperial Units

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

10 pints	4 pints	1.5 pints	3.5 pints
=	=	=	=
5.68 L	2.27 L	0.85 L	1.99 L

Reasoning 1 Imperial Units

Tia's house has two pints of milk delivered three times a week. How many litres of milk does Tia have delivered each week?

She uses about 200 ml of milk every day in her cereal. Approximately, how many pints of milk does Tia use for her cereal in a week?

Reasoning 1 Imperial Units

Tia's house has two pints of milk delivered three times a week. How many litres of milk does Tia have delivered each week?

6 pints is approximately 3,410 millilitres or 3.41 L

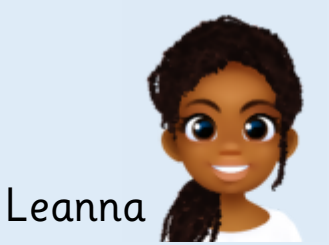
200 x 7 = 1,400 ml

1,400 ÷ 568 = 2.46 pints

So Tia uses approximately two and a half pints.

Reasoning 2 Imperial Units

Zach weighed 4.5 kg when he was born.

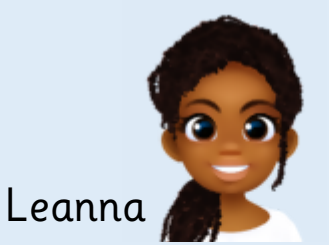


Leanna weighed 6.8 lbs when she was born.

Who was heavier, Leanna or Zach?
Explain your answer.

Reasoning 2 Imperial Units

Zach weighed 4.5 kg when he was born.



Leanna weighed 6.8 lbs when she was born.

Children need to convert both weights to the same unit. Zach weighed approximately 4.5 kg and Leanna weighed 3.1 kg so Zach was heavier.

Discussion

Imperial Units

What do we still measure in inches? Pounds? Pints?

Why do you think we still use these imperial measures?

What does approximate mean?

Why do we not use the equals (=) sign with approximations?

How precise should 'approximate' be?

Converting Units of Time

5

Fluency Teaching Slides

Activity 1 Converting Units of Time

Complete the conversions.

1 year = ☐ months

☐ years = 60 months

3 years 2 months = ☐ months

☐ years ☐ months = 75 months

☐ years = 24 months

25 years = ☐ months

?

How many months are there in a year?

Activity 1 Converting Units of Time

Complete the conversions.

1 year = 12 months

5 years = 60 months

3 years 2 months = 38 months

6 years 3 months = 75 months

2 years = 24 months

25 years = 300 months

Activity 1 Converting Units of Time

Complete the conversions.

1 year = _____ months

_____ years = 24 months

72 months = _____ years

2.5 years = _____ months

2 years and 4 months = _____ months

_____ years and _____ months = 53 months

Activity 1 Converting Units of Time

Complete the conversions.

1 year = 12 months

2 years = 24 months

72 months = 6 years

2.5 years = 30 months

2 years and 4 months = 28 months

4 years and 5 months = 53 months

Activity 2 Converting Units of Time

Complete the table.

Days	Weeks/Weeks and Days
42 days	
	5 weeks and 5 days
	10 weeks and 5 days
100 days	

?

Can 21 days be written in weeks? Explain your answer.

Activity 2 Converting Units of Time

Complete the table.

Days	Weeks/Weeks and Days
42 days	6 weeks
40 days	5 weeks and 5 days
75 days	10 weeks and 5 days
100 days	14 weeks and 2 days

Activity 2 Converting Units of Time

Complete the table.

Days	Weeks/Weeks and Days
36 days	
	4 weeks and 2 days
	5 weeks and 6 days
	10 weeks and 1 day
	9 weeks

Activity 2 Converting Units of Time

Complete the table.

Days	Weeks/Weeks and Days
36 days	5 weeks and 1 day
30 days	4 weeks and 2 days
41 days	5 weeks and 6 days
71 days	10 weeks and 1 day
63 days	9 weeks

Activity 3 Converting Units of Time

Use this information to complete the conversions.

$\frac{1}{3}$ hour = ☐ minutes

3 ☐ and 24 ☐ = 204 ☐

1.5 minutes = ☐ seconds

1.05 minutes = ☐ seconds

?

Is 0.75 hours the same as 75 minutes? Why or why not?

Activity 3 Converting Units of Time

Use this information to complete the conversions.

$\frac{1}{3}$ hour = 20 minutes

3 hours and 24 minutes = 204 minutes

1.5 minutes = 90 seconds

1.05 minutes = 63 seconds

Activity 3 Converting Units of Time

Use this information to complete the conversions.

75 minutes = 1 _____ and 15 minutes

90 minutes = 1 _____ and 30 minutes

240 _____ = 4 minutes

3 _____ and 24 _____ = 204 _____

Activity 3 Converting Units of Time

Use this information to complete the conversions.

75 minutes = 1 hour and 15 minutes

90 minutes = 1 hour and 30 minutes

240 seconds = 4 minutes

3 hours and 24 minutes = 204 minutes

Reasoning 1 Converting Units of Time

Rosie

Rosie's birthday is in January.

Malachi

Malachi's birthday is in February.

Rosie is 96 hours older than Malachi.

What dates could Malachi and Rosie's birthdays be?

Reasoning 1 Converting Units of Time

Rosie

Rosie's birthday is in January.

Malachi

Malachi's birthday is in February.

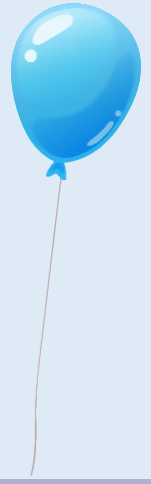
Possible answers:

28th January and 1st February

29th January and 2nd February

30th January and 3rd February

31st January and 4th February



Reasoning 2 Converting Units of Time

Three children are running a race.

Esin

Esin finishes the race in 2 minutes 5 seconds.

Zach

Zach finishes the race in 195 seconds.

Leanna

Leanna finishes the race in 145 seconds.

Who finishes the race first?

Reasoning 2 Converting Units of Time

Three children are running a race.

Esin

Esin finishes the race in 2 minutes 5 seconds.

Zach

Zach finishes the race in 195 seconds.

Leanna

Leanna finishes the race in 145 seconds.

Esin: 2 minutes and 5 seconds

Zach: 3 minutes and 15 seconds

Leanna: 2 minutes and 25 seconds

Esin finishes the race first.

Discussion

Converting Units of Time

How many months/weeks/days are there in a year?

How many hours/minutes/seconds are there in a day?

Can 21 days be written in weeks? Can 25 days be written in weeks? Explain your answers.

Is 0.75 hours the same as 75 minutes? Why or why not?

Timetables

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Fluency Teaching Slides

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Activity 1 Timetables

Use the timetable to answer the questions.

Bus Timetable					
Halifax Bus Station	06:05	06:35	07:10	07:43	08:15
Shelf Roundabout	06:15	06:45		07:59	08:31
Shelf Village Hall	06:16	06:46	07:35	08:00	08:32
Woodside	06:21	06:50	07:28		
Odsal	06:26	06:55	07:33	08:15	08:45
Bradford Interchange	06:40	07:10	07:48	08:30	09:00

Is the time to get from Shelf Roundabout to Bradford Interchange the same for every bus? Why might the time not always be the same? Why are some of the times blank?

?

When do we use timetables in everyday life?

Activity 2 Timetables

There are five TV programmes on between 17:00 and 23:00. The news starts at 6 p.m. and lasts for 45 minutes. *Mindless* is on for 1 hour and ends at 18:00. *Junk Collectors* is on for 75 minutes and starts straight after *The News*. *Catch Up* is on for 300 seconds and starts at 20:00. *The Thirsty Games* is on for 175 minutes and ends at 23:00. Make a timetable for the evening TV.

? *How do we know where the important information is on the timetable?*

Activity 2 Timetables

There are five TV programmes on between 17:00 and 23:00. The news starts at 6 p.m. and lasts for 45 minutes. *Mindless* is on for 1 hour and ends at 18:00. *Junk Collectors* is on for 75 minutes and starts straight after *The News*. *Catch Up* is on for 300 seconds and starts at 20:00. *The Thirsty Games* is on for 175 minutes and ends at 23:00. Make a timetable for the evening TV.

TV programmes		
Mindless	5:00	6:00
The News	6:00	6:45
Junk Collectors	6:45	8:00
Catch Up	8:00	8:05
The Thirsty Games	8:05	11:00

Activity 2 Timetables

There are five TV programmes on between 17:00 and 22:00. *The News* starts at 6pm and lasts for 45 minutes. *North Enders* is on for 30 minutes and ends at 18:00. *Animal Wildlife* is on for 30 minutes and starts before *North Enders*. *Live Updates* is on for 900 seconds and starts at 18:45. *Barry Potts* is on for 180 minutes, starts after *Live Updates* and finishes at 22:00. Make a timetable for the TV programmes.

Activity 2 Timetables

There are five TV programmes on between 17:00 and 22:00. *The News* starts at 6pm and lasts for 45 minutes. *North Enders* is on for 30 minutes and ends at 18:00. *Animal Wildlife* is on for 30 minutes and starts before *North Enders*. *Live Updates* is on for 900 seconds and starts at 18:45. *Barry Potts* is on for 180 minutes, starts after *Live Updates* and finishes at 22:00. Make a timetable for the TV programmes.

TV programmes		
Animal Wildlife	5:00	5:30
North Enders	5:30	6:00
The News	6:00	6:45
Live Updates	6:45	7:00
Barry Potts	7:00	10:00

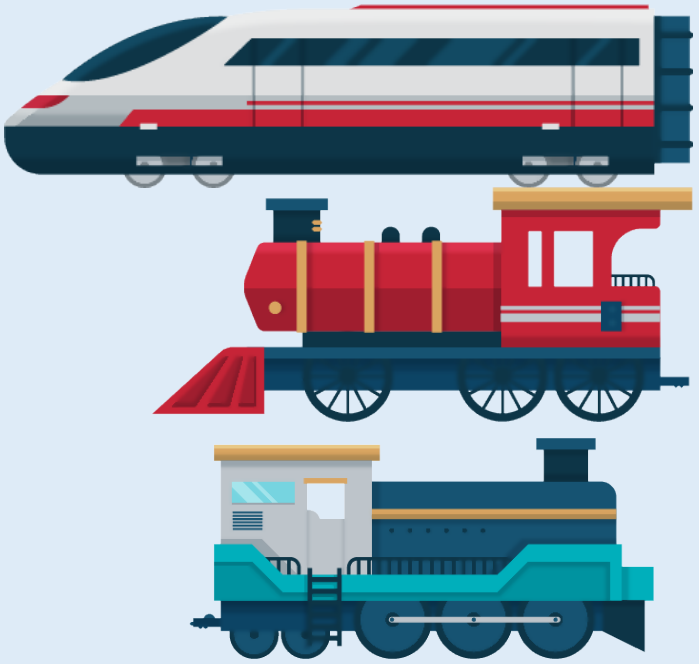
Reasoning 1 Timetables

Three trains travel from Halifax to Leeds on the same morning: the express train, the slow train and the cargo train.

The express train leaves Halifax 15 minutes after the slow train, but arrives at Leeds 15 minutes before.

The slow train takes 55 minutes to reach Leeds and arrives at 10:35.

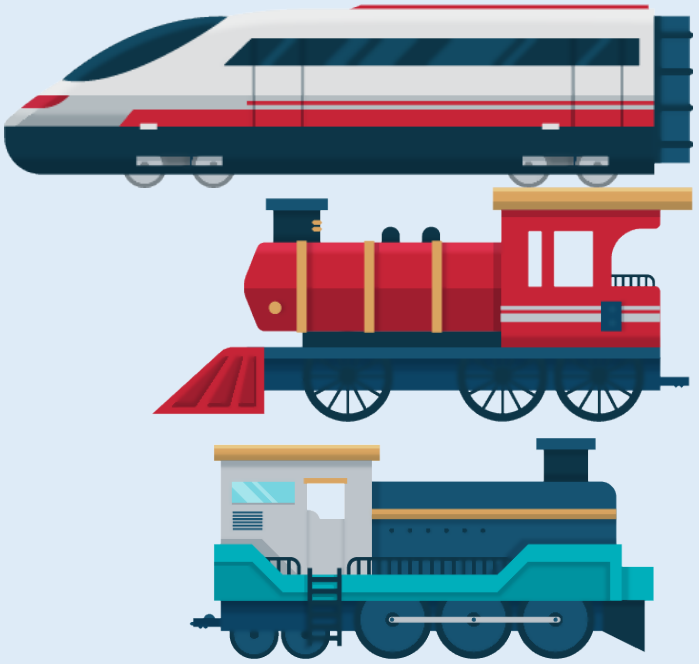
The cargo train leaves 20 minutes before the slow train and arrives in Leeds 40 minutes after the express train.



What time does each train leave Halifax and what time does each train arrive at Leeds station?

Reasoning 1 Timetables

Three trains travel from Halifax to Leeds on the same morning: the express train, the slow train and the cargo train.



The express train leaves Halifax 15 minutes after the slow train, but arrives at Leeds 15 minutes before.

The slow train takes 55 minutes to reach Leeds and arrives at 10:35.

The cargo train leaves 20 minutes before the slow train and arrives in Leeds 40 minutes after the express train.

The slow train leaves Halifax at 9:40 and arrives in Leeds at 10:35. The express train leaves Halifax at 9:55 and arrives in Leeds at 10:20. The cargo train leaves Halifax at 9:20 and arrives in Leeds at 11:00.

Reasoning 2 Timetables

Make a timetable of your school day.

Calculate how many hours each week you spend on each subject. Can you convert this into minutes? Can you convert this into seconds?

If this is an average week, how many hours a year do you spend on each subject? Can you convert the time into days?

Timetables

Make a timetable of your school day.

Calculate how many hours each week you spend on each subject. Can you convert this into minutes? Can you convert this into seconds?

Answers will vary depending on the school day.

Discussion

Timetables

When do we use timetables in everyday life?

How do we know where the important information is on the timetable?

When does column method not work for finding the difference between times?