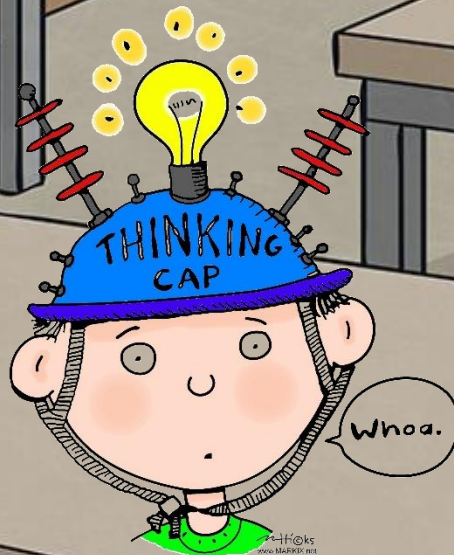


WALT convert between kilo units.

- Understand the meaning of 'Kilo'
- Convert units between kilometres and metres
- Convert units between kilograms and grams
- Count carefully



Kilometres and metres are metric units.

What is a metric unit?

<https://www.bbc.co.uk/bitesize/topics/z4nsgk7/articles/zqf4cwx>

Kilo at the beginning of a word means one thousand.

Whenever you see kilo, it means it's 1000 of whatever the word that follows it is.

E.g. Kilometres is kilo (one thousand) metres.

Kilograms is kilo (one thousand) grams.

Kilograms and grams

Kilograms and grams are units used to measure the weight of something (how heavy it is). You may have used them yourself, when baking a cake! See if you can find something in your kitchen that weighs 1kg, and something that weighs 500g. (Psst: flour, sugar and pasta are usually packaged in these sizes!) What is the difference in weight? What if you had 2 things that weighed 500g and one thing that weighs 1kg?

You can convert kilograms and grams between each other, as you will have in previous school years.

The rate of conversion is: $1\text{kg} = 1000\text{g}$
($1\text{g} \times 1000 = 1\text{ kg}$, $1\text{kg} \div 1000 = 1\text{g}$.)



Take a look at this conversion in action by clicking the thinking cap! 😊

Kilometres and metres

Kilometres and metres are units used to measure the length of something - you'll have heard the term metres used a lot lately!

If you spread your two arms out as far as they can go beside you, that's about (but not exactly) 1 metre.

Extra idea: if your adult has a tape measure, have a go at measuring things around your house - what is the longest thing you can find in metres?

The rate of conversion for kilometres to metres is...

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

$$1\text{m} \times 1000 = 1 \text{ kilometre (1 km)}$$

$$1\text{km} \div 1000 = 1 \text{ metre (1m)}$$

But you already guessed that, didn't you? 😊



To convert mass, we use multiplication or division.
When dealing with kg and g, it is by 1000.
So, to find what kg are as g, you multiply by one thousand.
To find out what grams are in kilograms, you divide by 1000.

Use your place value to help you do this.



15.09kg

_____ grams



$21\frac{1}{2}$ kg

_____ grams



10 030g

_____ kg

Have a go at converting these!

To convert mass, we use multiplication or division.
When dealing with kg and g, it is by 1000.
So, to find what kg are as g, you multiply by one thousand.
To find out what grams are in kilograms, you divide by 1000.



15.09kg

15 090 grams



21 $\frac{1}{2}$ kg

21 500 grams



10 030g

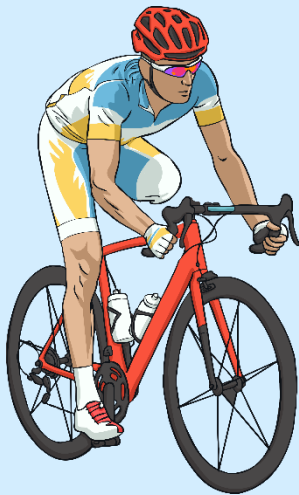
10.03kg

When dividing by 1000, the decimal place moves right 3 places for the 3 0's in 1000. When you multiply, it moves left 3 places.

You must convert any fractions to decimals first. ($\frac{1}{2} = 0.5$ for 21.5kg)

Kilograms and Kilometres – different unit, still 'kilo', so still 1000.

Convert the distance of each journey.



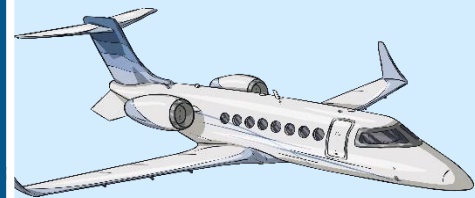
6.7km

_____ metres



29.58km

_____ metres

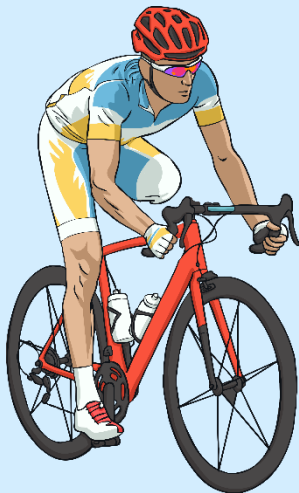


3 765 000 metres

_____ km

Metres and Kilometres – different unit, 'kilo' still means 1000.

Convert the distance of each journey.



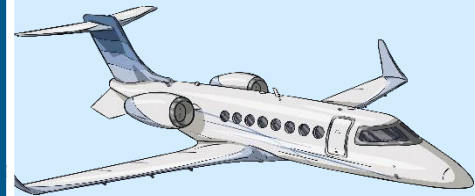
6.7km

6700 metres



29.58km

29 580 metres



3 765 000 metres

3765km

When dividing by 1000, the decimal place moves right 3 places for the 3 0's in 1000. When you multiply, it moves left 3 places. $\text{KM} = \times \text{M} = \div$



I ride $1\frac{1}{4}$ km on my bike everyday for five days. I ride a total distance of 6250 metres.

Is Sam correct? **Explain your answer.**

HINT:

To solve this, you first need to convert the fraction into a decimal.

Then, read the rest of the question carefully to figure out your operation.



I ride $1\frac{1}{4}$ km on my bike everyday for five days. I ride a total distance of 6250 metres.

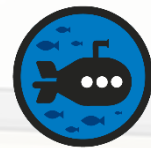
Is Sam correct? **Explain your answer.**

Sam is correct.

$$1\frac{1}{4}\text{km} = 1250\text{m}$$

$$1250 \times 5 = 6250$$





Here are the prices of grapes at two different shops.

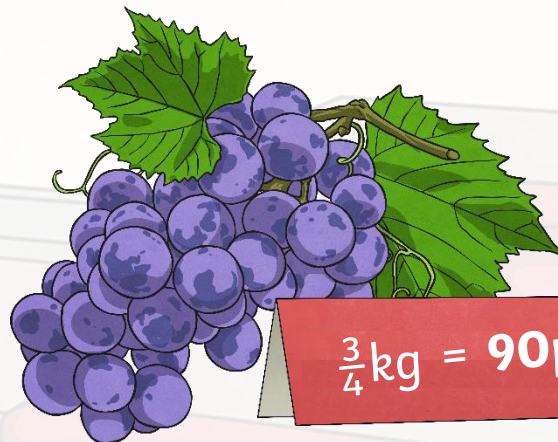
At which shop are the grapes better value for money? Explain how you know.

Shop A



$1500\text{g} = \text{£}1.60$

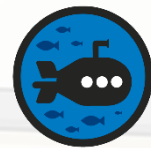
Shop B



$\frac{3}{4}\text{kg} = 90\text{p}$

To solve this, you need to convert the kg to grams.

Then, look at the difference between your two new numbers (grams), and you will see which is better value (less money).



Here are the prices of grapes at two different shops.

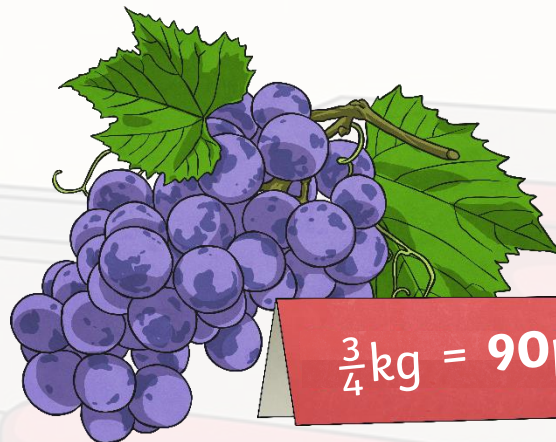
At which shop are the grapes better value for money? Explain how you know.

Shop A



1500g = £1.60

Shop B



$\frac{3}{4}$ kg = 90p

Shop A is better value for money.

$\frac{3}{4}$ kg = 750g. 750g is half of 1500g.

Buying 750g from shop B is more than half of the cost of shop A.

Now complete your activity. You only need to complete one sheet - choose your challenge level. 1 = Unsure. 2= Sounds good! 3= Confident.

Stuck? Click us!

[Grams to Kilograms Video](#)

[Kilometres and metres video](#)

1) Jagden rides his bike every day.
The route is 12 km.

1) Jagden rides his bike every day.
The route is 12 km.

1000g = _____ kg
1kg = _____ g
1000m = _____ km
1km = _____ m

1) Convert the mass of each suitcase.

12.1kg
_____ grams

18.07kg
_____ grams

23½kg
_____ grams

16 300g
_____ kg

20 050g
_____ kg

19 250g
_____ kg

2) Convert the distance of each journey.

7.4km
_____ metres

33.43km
_____ metres

6280km
_____ metres

8054m
_____ km

37 040m
_____ km

7 245 000m
_____ km

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