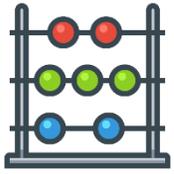


Maths – Day 1

Perimeter



Perimeter

Remind yourself what perimeter is by watching the Bite size clip.

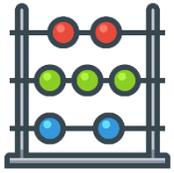
<https://www.bbc.co.uk/bitesize/topics/zvmxsbk/articles/zsr4k7h>

Calculating perimeter

The perimeter is the distance all the way around the outside of a 2D shape.

To work out the perimeter, add up the lengths of all the sides.





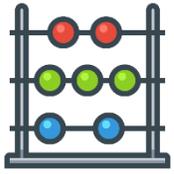
Perimeter

Let's practice...

Cut out between 5 - 10 equal-sized squares of paper or use square sticky-notes. Put them into one long rectangle.

- What is the perimeter of this rectangle?
- Rearrange them to make different rectangles - do they all have the same perimeter?
- How many different perimeters can you make by rearranging these squares?





Perimeter

Let's practice...

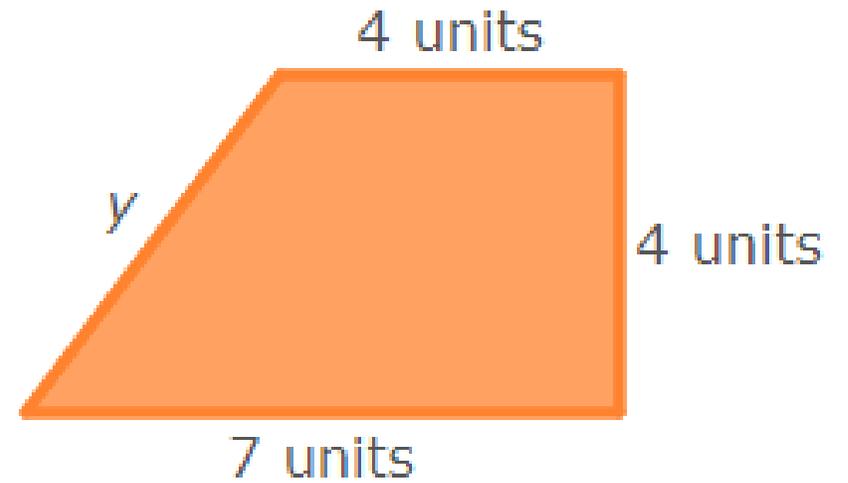
Use the Links below to practice finding the perimeter...

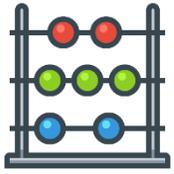
Finding the perimeter

<https://uk.ixl.com/math/year-5/perimeter>

Finding the perimeter with missing sides

<https://uk.ixl.com/math/year-5/perimeter-find-the-missing-side-lengths>





Perimeter

Your Task...

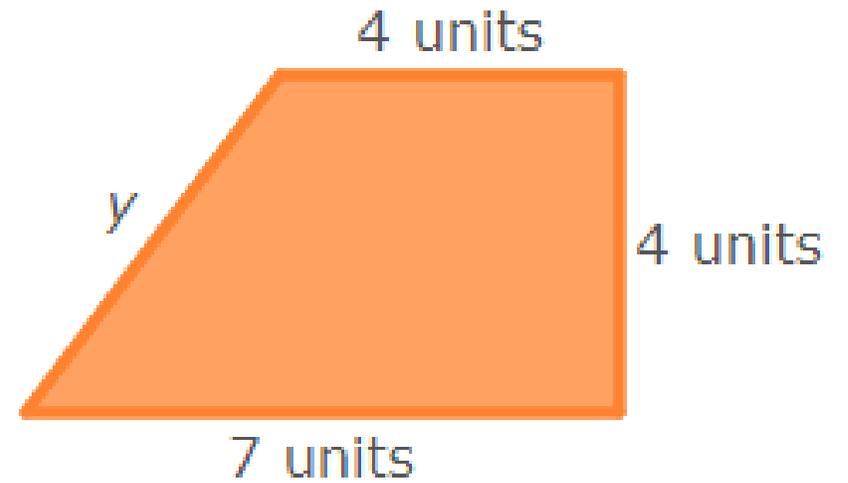
Can you design your own school playground?

Think of different sections to the playground and what you would like in your playground.

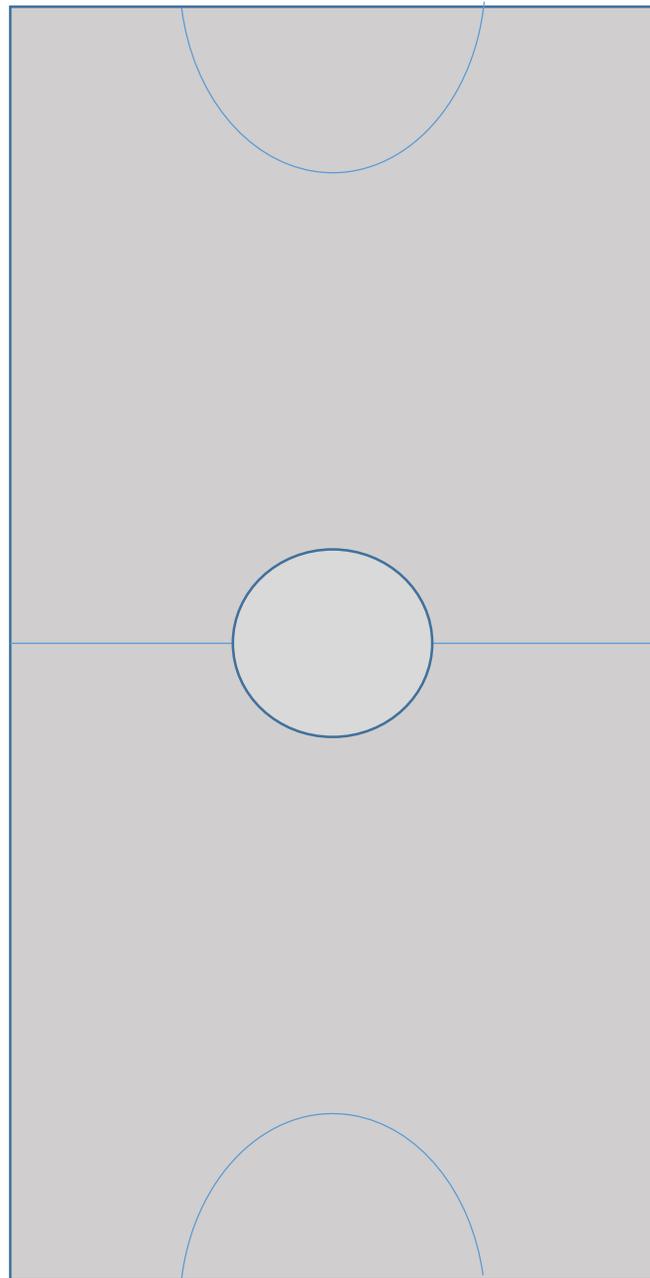
Draw a birds eye view of the playground and measure the different sections.

Add up the perimeter for the different areas.

Challenge: Can you make a playground with the measurements of some sides missing? Give your plan to a friend to work out the perimeters.



8.5 m

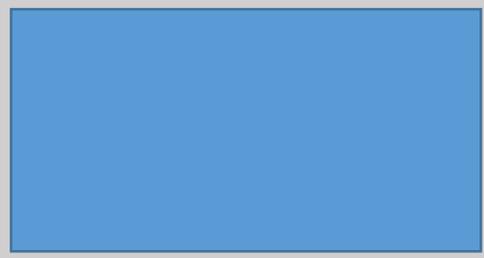


16.2 m

Example playground

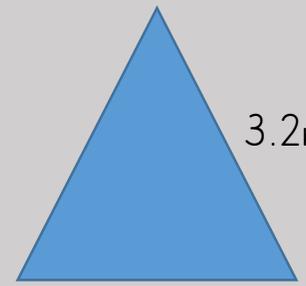
Not to scale

21.6m



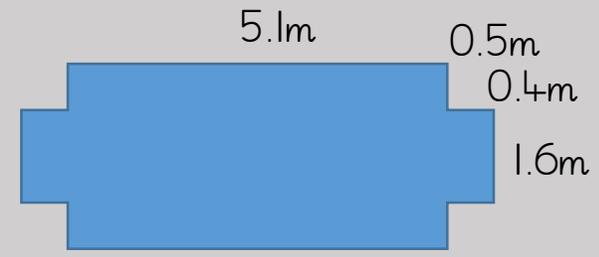
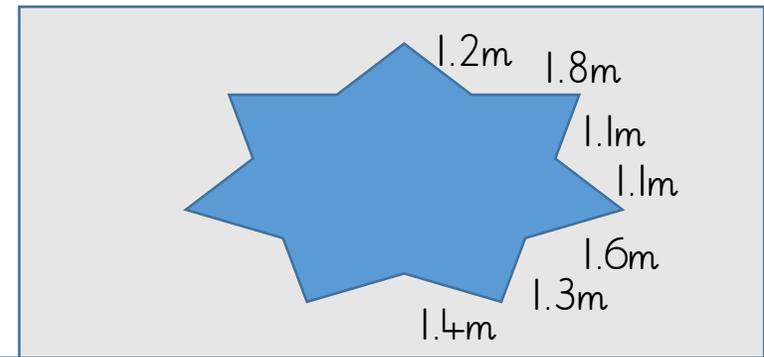
4.1m

2.6m



3m

3.2m

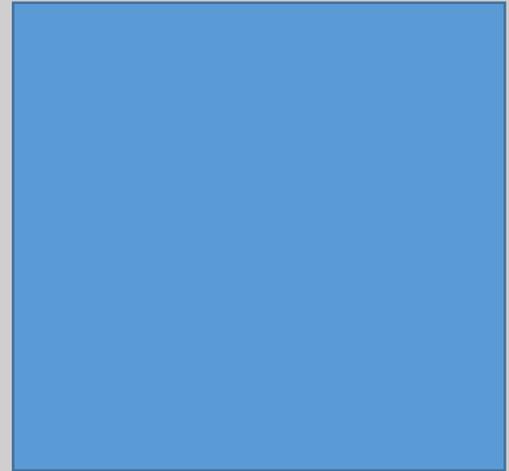


5.1m

0.5m

0.4m

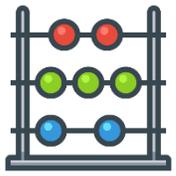
1.6m



5.3m

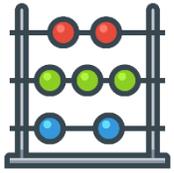
5.3m

9.8m



Maths – Day 2

Area



Area

Remind yourself what area is by watching the Bite size clip.

<https://www.bbc.co.uk/bitesize/topics/zjbg87h/articles/zwqt6fr>

Calculating area

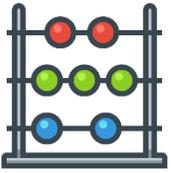
To work out the area of a square or rectangle, multiply its height by its width.

If the height and width are in cm, the area is shown in cm^2 . If the height and width are in m, the area is shown in m^2 .

A square with sides of 5 m has an area of 25 m^2 , because $5 \times 5 = 25$.

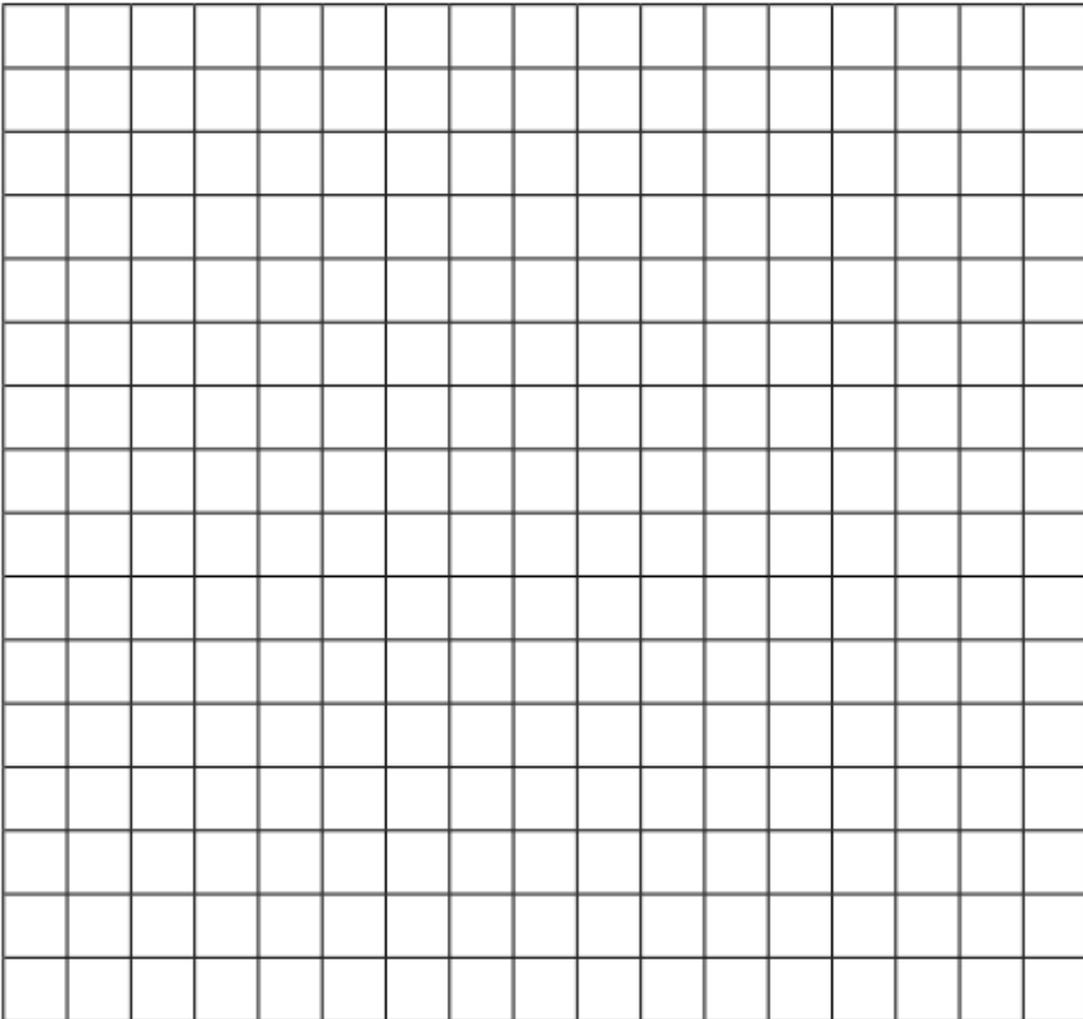


Remember the perimeter is like the crust of a slice of bread and the area is the middle!



Area

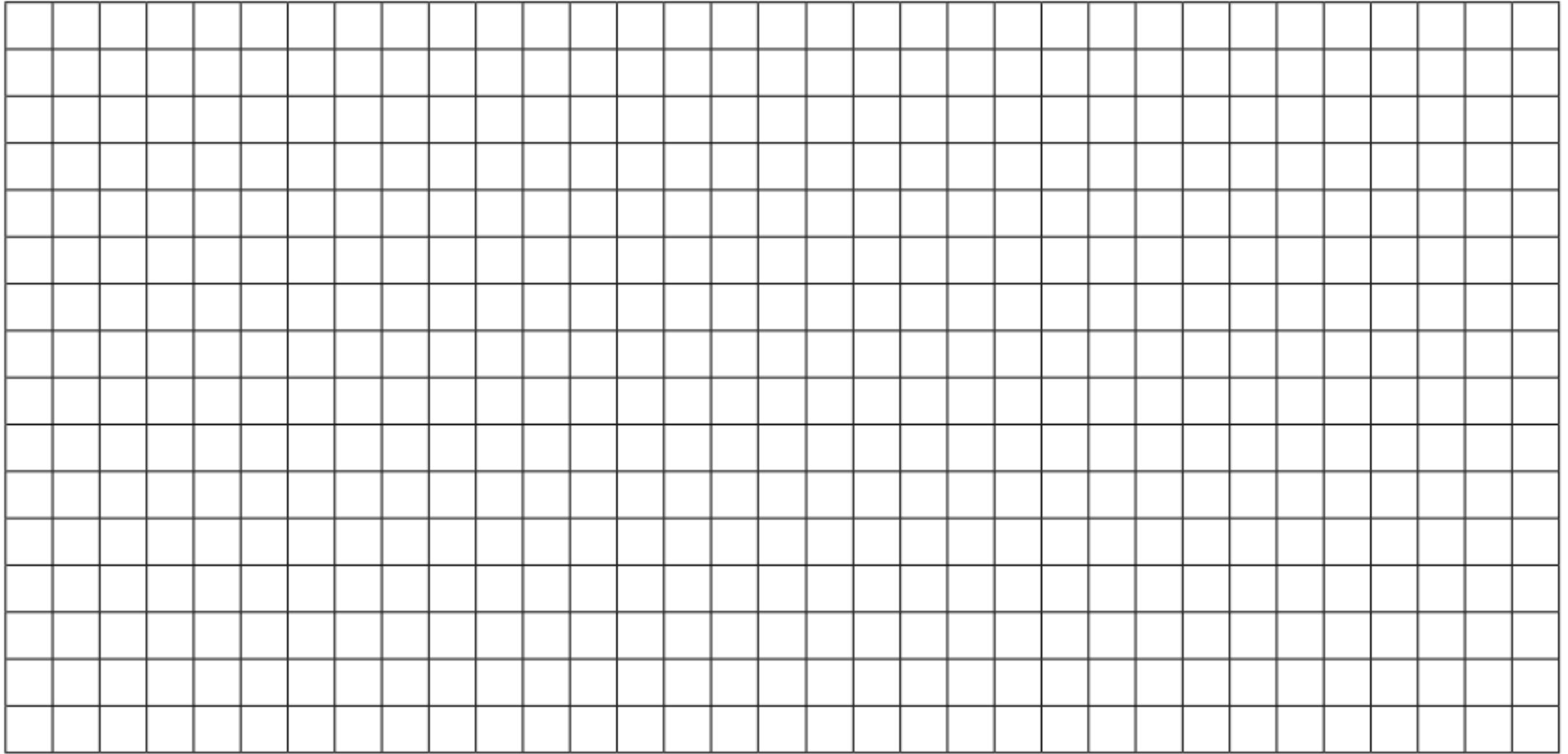
Let's practice...

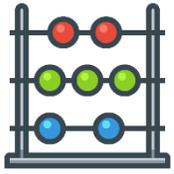


Use the square paper print out on the next slide or plain paper to draw 3 different rectangles with an approximate area of 30cm^2

Hint –

Think of the factor pair which make 30.





Area

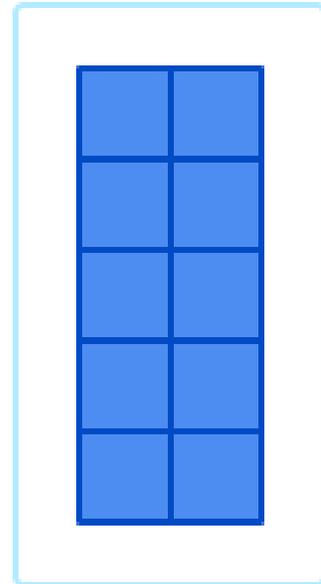
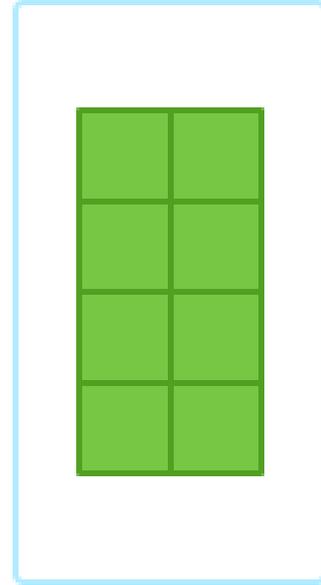
Let's practice...

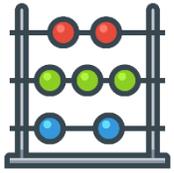
Use the Links below to practice finding the Area...

<https://uk.ixl.com/math/year-5/select-figures-with-a-given-area>

<https://uk.ixl.com/math/year-5/find-the-area-between-two-rectangles>

<https://uk.ixl.com/math/year-5/create-figures-with-a-given-area>





Area

Your task...

Use the square paper print out or a plain piece of paper...

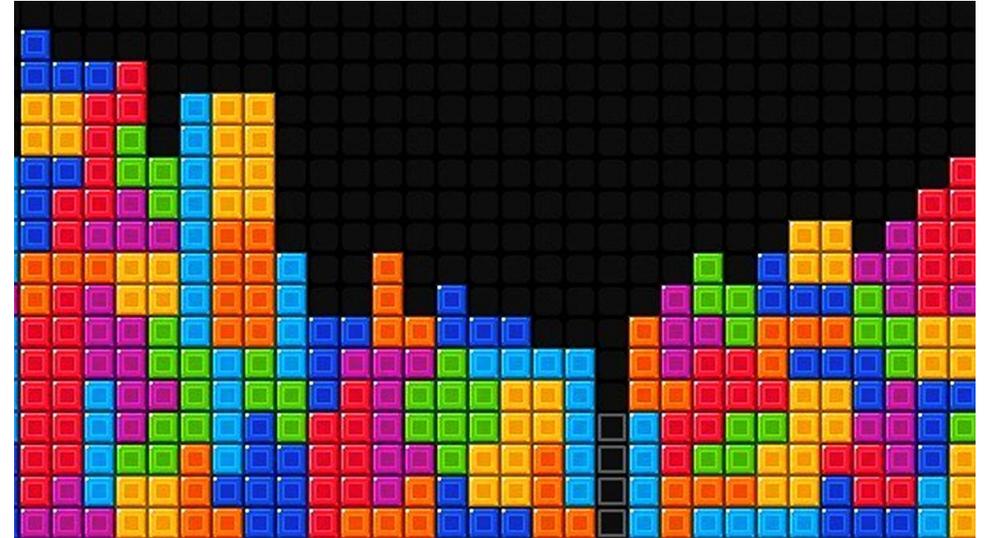
Roll a dice (if you don't have a dice make number cards 1-9) generate two numbers. These numbers will be your dimensions.

Draw a rectangle with these dimensions and build your shapes up your paper – like tetris.

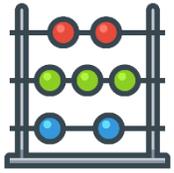
Work out the area of each shape as you draw them.

What is the area of your completed piece of paper?

Don't forget area is measured in cm^2



Challenge: make compound shapes (shapes made up of more than one shape).

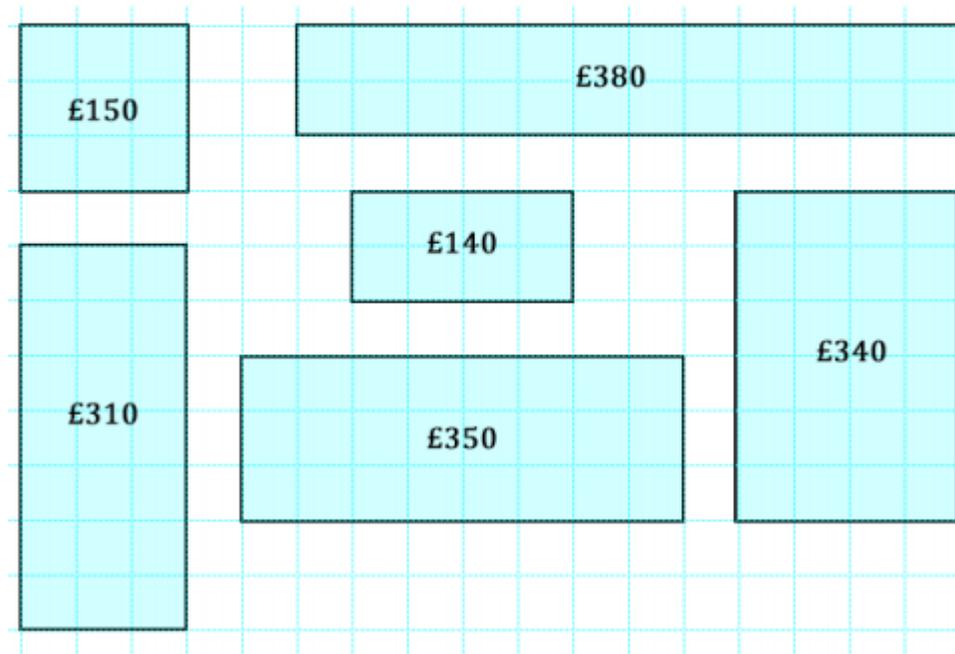


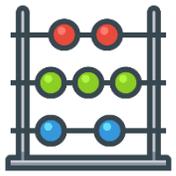
Area

Challenge sheet ...

My DIY shop calculates the price of their windows according to the area of glass used and the length of frame needed.

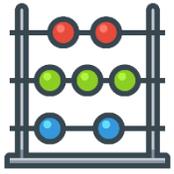
Can you work out how they arrived at the prices of the windows below?





Maths – Day 3

Reading Timetables



Reading Timetables

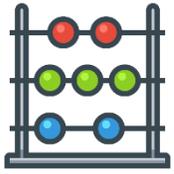
Practice time conversion on the Maths Frame games...

<https://mathsframe.co.uk/en/resources/resource/119/find-the-start-time>

<https://mathsframe.co.uk/en/resources/resource/261/using-a-calendar>

<https://mathsframe.co.uk/en/resources/resource/117/telling-the-time-in-words>



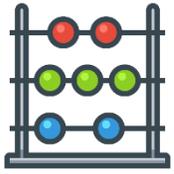


Reading Timetables

Lets remind ourselves how they work...

Smithdown Road	06:30	07:10*	07:30
Sefton Park	06:47	-	07:47
Hope Street	06:55	07:28 *	07:55
Liverpool City Centre	07:05	-	08:05
Albert Dock	07:11	07:38 *	08:11

Reading time tables can be tricky but it's a very useful skill – especially for you year 6's who will be getting an exciting new school time table in year 7!



Reading Timetables

Lets remind ourselves how they work...

86 bus timetable

Bus stops on the route

Starting times of the route

a b c

Smithdown Road	06:30	07:10*	07:30
Sefton Park	06:47	-	07:47
Hope Street	06:55	07:28 *	07:55
Liverpool City Centre	07:05	-	08:05
Albert Dock	07:11	07:38 *	08:11

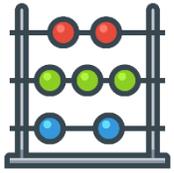
←

←

←

←

Arrival time at each stop



Reading Timetables

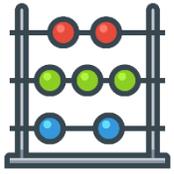
Practice...

86 bus timetable

	a	b	c
Smithdown Road	06:30	07:10*	07:30
Sefton Park	06:47	-	07:47
Hope Street	06:55	07:28 *	07:55
Liverpool City Centre	07:05	-	08:05
Albert Dock	07:11	07:38 *	08:11

Question time...

1. On route B, what stops does the bus not stop at?
2. If I wanted to get to Liverpool city centre for 8:15, which bus should I get?
3. How long is my journey from Smithdown road to the Albert dock?
4. How much later does bus c arrive at each stop after bus a?



Reading Timetables

Practice – Task A

86 bus timetable

	a	b	c
Smithdown Road	06:30	07:10*	07:30
Sefton Park	06:47	-	07:47
Hope Street	06:55	07:28 *	07:55
Liverpool City Centre	07:05	-	08:05
Albert Dock	07:11	07:38 *	08:11

Question time...

5. I missed bus a at the Hope street stop, how long do I have to wait for a bus?

6. Route d isn't on the timetable. The bus starts from Smithdown Road at 7:45. What time does it arrive at each stop?

Can you write your own questions?

86 bus timetable

	a	b	c	d
Smithdown Road	06:30	07:10 *	07:30	07:45
Sefton Park	06:47	-	07:47	
Hope Street	06:55	07:28 *	07:55	
Liverpool City Centre	07:05	-	08:05	
Albert Dock	07:11	07:38 *	08:11	

1. On route B, what stops does the bus not stop at?
2. If I wanted to get to Liverpool city centre for 8:15, which bus should I get?
3. How long is my journey from Smithdown road to the Albert dock?
4. How much later does bus c arrive at each stop after bus a?
5. I missed bus a at the Hope street stop, how long do I have to wait for a bus?
6. Route d isn't on the timetable. The bus starts from Smithdown Road at 7:45. What time does it arrive at each stop?
7. Can you write your own questions?

Answers...

	a	b	c	d
Smithdown Road	06:30	07:10 *	07:30	07:45
Sefton Park	06:47	-	07:47	8:02
Hope Street	06:55	07:28 *	07:55	8:10
Liverpool City Centre	07:05	-	08:05	8:15
Albert Dock	07:11	07:38 *	08:11	8:21

1. On route B, what stops does the bus not stop at?

Sefton Park and Liverpool City centre.

2. If I wanted to get to Liverpool city centre just before 8:15, which bus should I get?

Bus C

3. How long is my journey from Smithdown road to the Albert dock?

41 minutes

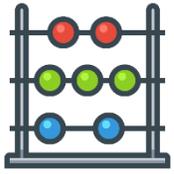
4. How much later does bus c arrive at each stop after bus a?

1 hour

5. I missed bus a at the Hope street stop, how long do I have to wait for a bus?

33 minutes

6. Route d isn't on the timetable. The bus starts from Smithdown Road at 7:45. What time does it arrive at each stop?



Reading Timetables

Task B - The school day

Design a weekly school timetable for Year 7. The following criteria has been given to you by the Principal:

The Year 7 class need to have 5 hours of maths, 5 hours of English and 3 hours of science.

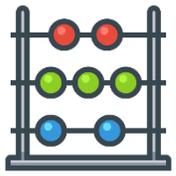
Lunch time is one hour and can be anytime between 12:00 and 14:00.

The pupils shouldn't work for more than two hours without a break.

They should have *at least* one lesson of Art, P.E., History, French, Geography, Music, R.E. each day.

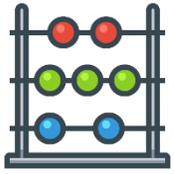
The school day starts at 08:45 and finishes at 15:30.

The pupils need to answer the register once in the morning and once in the afternoon.



Maths – Day 4

Line graphs



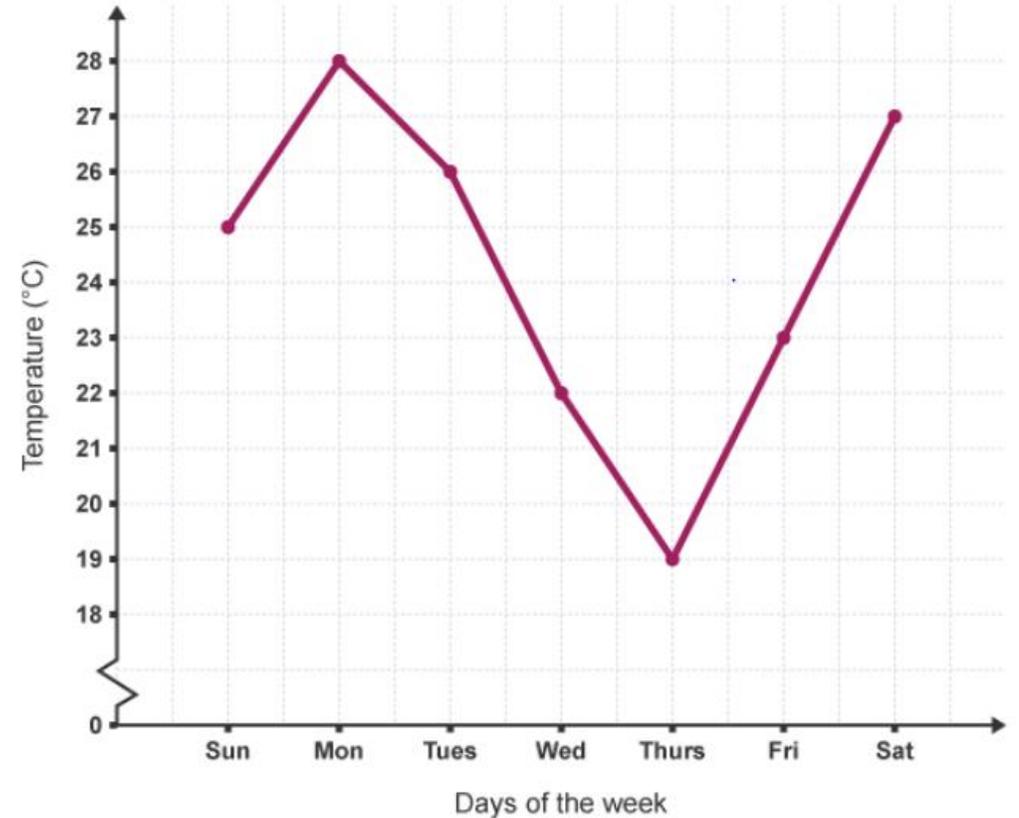
Line Graphs

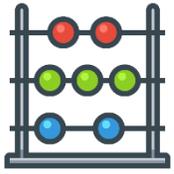
Remind yourself what a line graph is...

A line graph is often used to show a trend over a number of days or hours. It is plotted as a series of points, which are then joined with straight lines. The ends of the line graph do not have to join to the axes.

This graph shows the temperature over 7 days...

You can tell at a glance that the temperature was at its highest on Monday and that it started to fall in the middle of the week before rising again at the end of the week.





Line Graphs

Remind yourself what a line graph is...

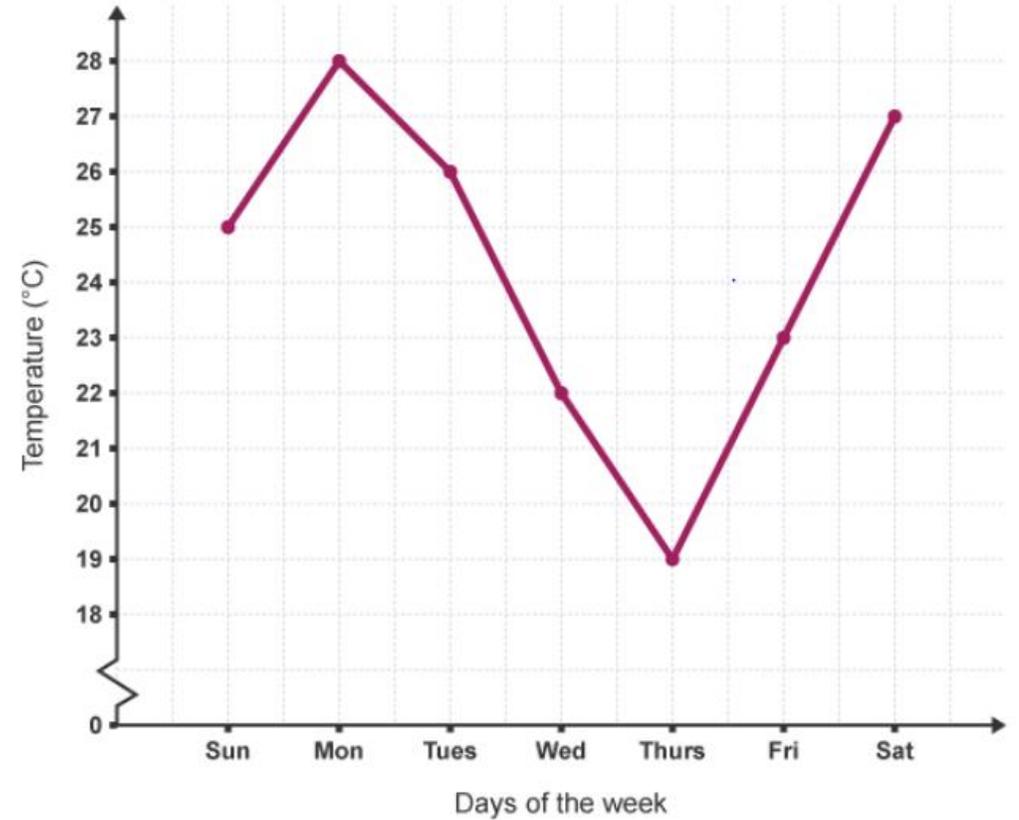
Generate some statements about the data...

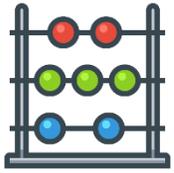
E.G.

The highest temperature was...

The lowest was?

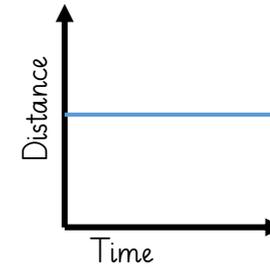
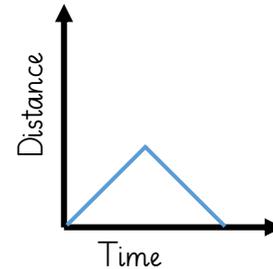
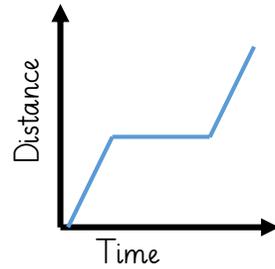
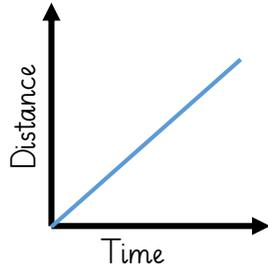
From Sunday to Monday the temperature increased/decreased by ... degrees.





Line Graphs

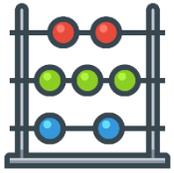
Match each Maths Story to the line graph. Explain how you know? What could the graph left represent?



A car is parked in a car park.

A person walks at a constant speed, stops for a break, then carries on.

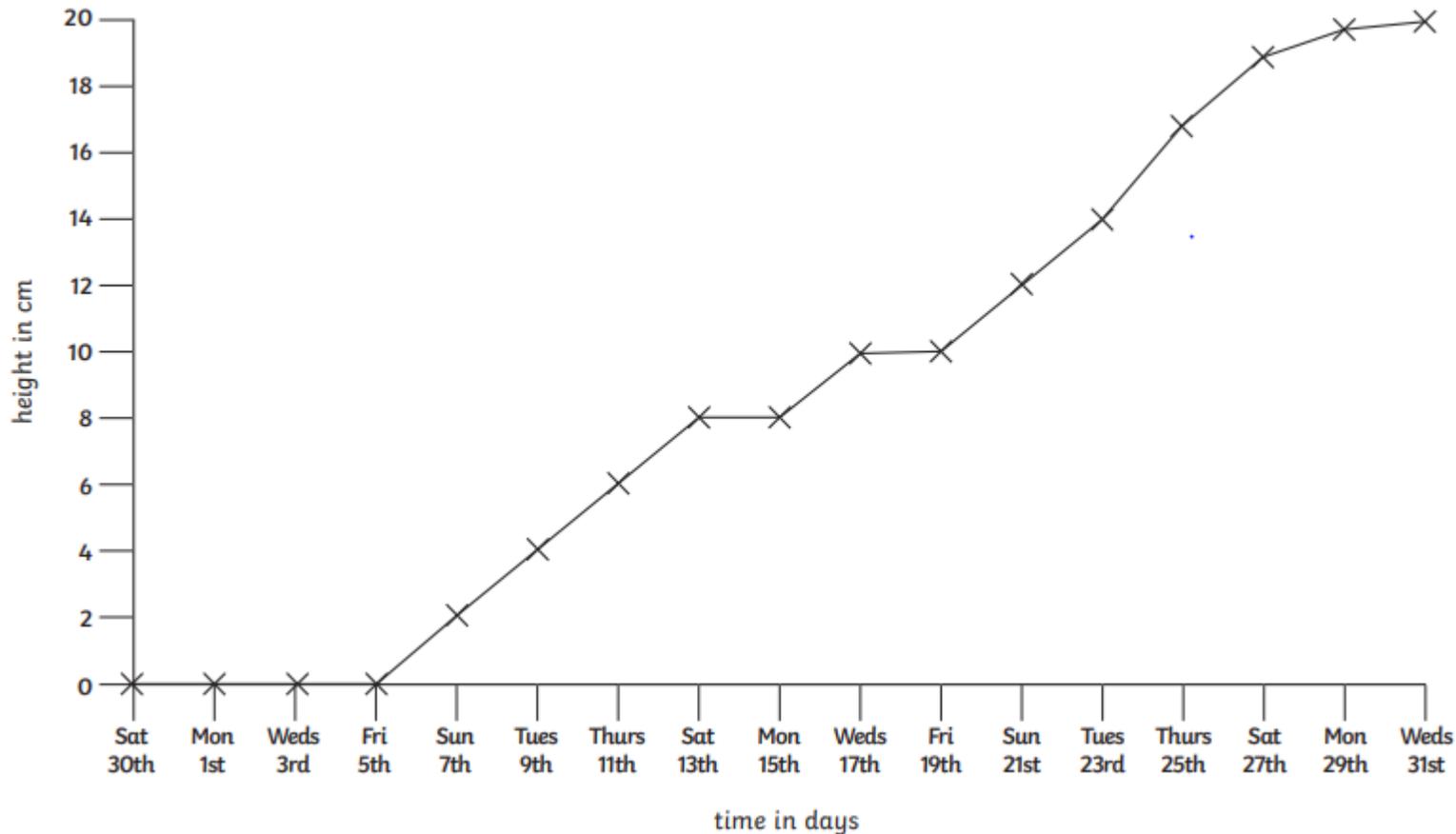
A bus travels at a constant speed along the motorway.



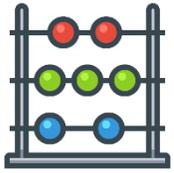
Line Graphs

Your Task...

Here is a line graph showing a sunflower's growth. It was planted on Saturday 30th July and its height was measured every 2 days.



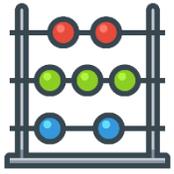
Use the graph to answer the questions on the next slide.



Line Graphs

Your Task...

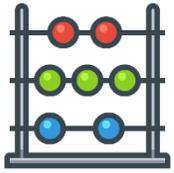
1. How many days did the plant take to grow 18cm?
2. What is the height difference between Friday 19th and Thursday 25th?
3. What is the height of the plant on these days:
 - a. Thursday 11th
 - b. Friday 19th
 - c. Monday 29th
4. Why do you think there is no measurement in the first week?
5. Can you generate your own questions using the line graph?



Line Graphs

Answers...

1. How many days did the plant take to grow 18cm?
27 days.
2. What is the height difference between Friday 19th and Thursday 25th?
7cm.
3. What is the height of the plant on these days:
Thursday 11th **6cm**
Friday 19th **10cm**
Monday 29th **19.5cm**
4. Why do you think there is no measurement in the first week?
The plant has not grown in the first week.



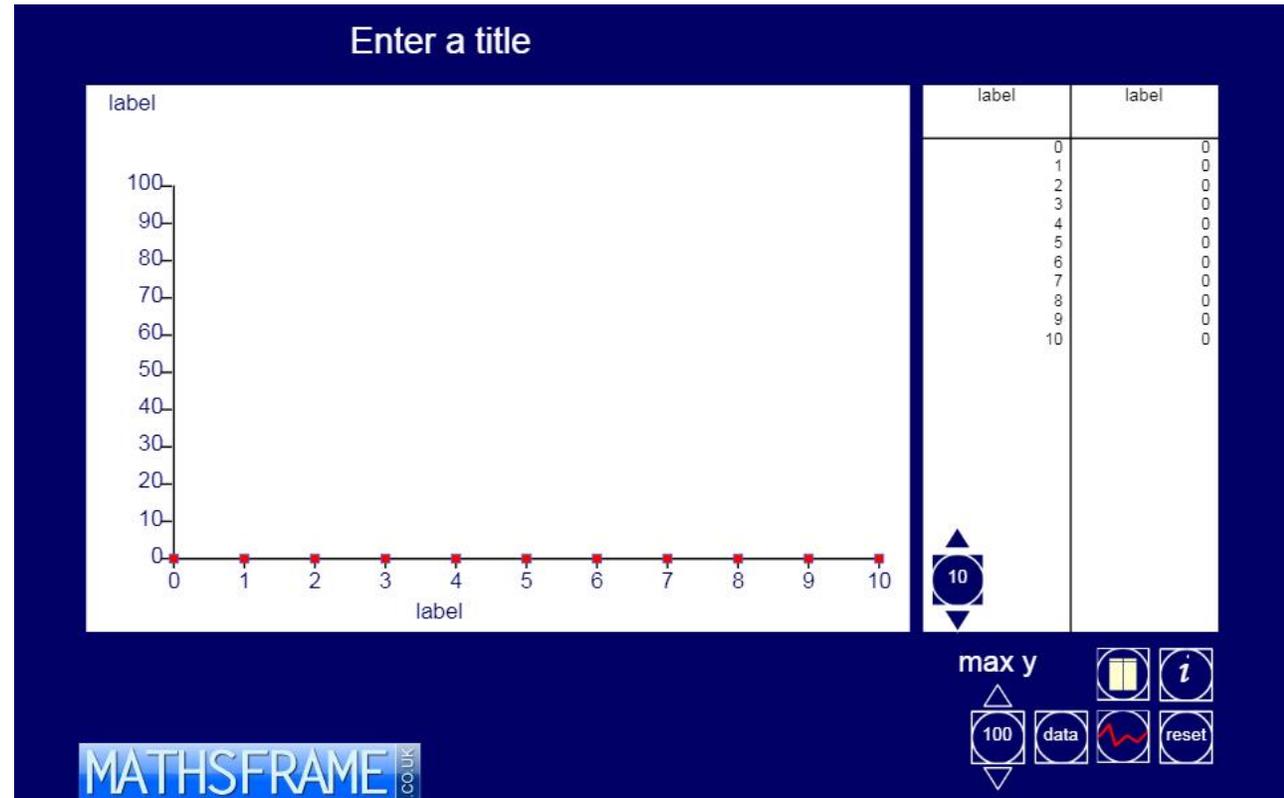
Line Graphs

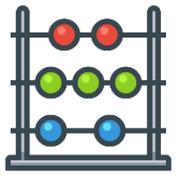
Challenge Task...

Can you create your own data to represent in a Line graph? Remember, it needs to represent a change over time. E.G how many steps you walk daily over 7 days.

You can draw your graph or use the link to make it online.

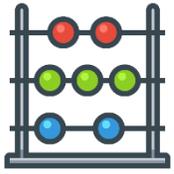
<https://mathsframe.co.uk/en/resources/resource/111/itp-line-graph>





Maths – Day 5

Long Multiplication



Long Multiplication

Let's recap...

Parent help

This video from [Maths with Parents](#) will help you understand how to do long multiplication. Why not make some notes as you watch the video to help you remember later?

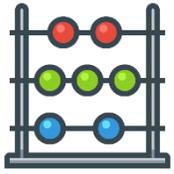
Video...

<https://www.bbc.co.uk/bitesize/articles/zjbyvk7>

Website help link...

<https://www.bbc.co.uk/bitesize/articles/z4chnrd>

	Th	H	T	O
	1	3	4	3
×			2	6



Long Multiplication

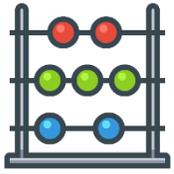
How would we solve 35×11 ?

We need to use long multiplication.

This is how we would set out our calculation:

$$\begin{array}{r} 35 \\ \times 11 \\ \hline \\ \hline \\ \hline \end{array}$$

We need to draw in 2 sets of equals when multiplying by a 2-digit number.



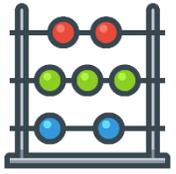
Long Multiplication

$$\begin{array}{r} 35 \\ \times 11 \\ \hline 35 \\ \hline 350 \\ \hline 385 \end{array}$$

This is our final answer.

To complete our calculation:

1. Firstly take the 5, and multiply it by the top row.
2. We then need leave a 0 in the ones column for the next row.
3. We then take the 3 and multiply it by the top row.
4. Finally, we add our two answers together and that is our final answer.



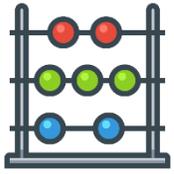
Long Multiplication

Now give these a go...

$$\begin{array}{r} 304 \\ \times 21 \\ \hline \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ \times 32 \\ \hline \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ \times 23 \\ \hline \\ \hline \\ \hline \end{array}$$



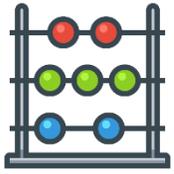
Long Multiplication

How did you do?

$$\begin{array}{r} 304 \\ \times 21 \\ \hline 304 \\ \hline 6080 \\ \hline 6384 \end{array}$$

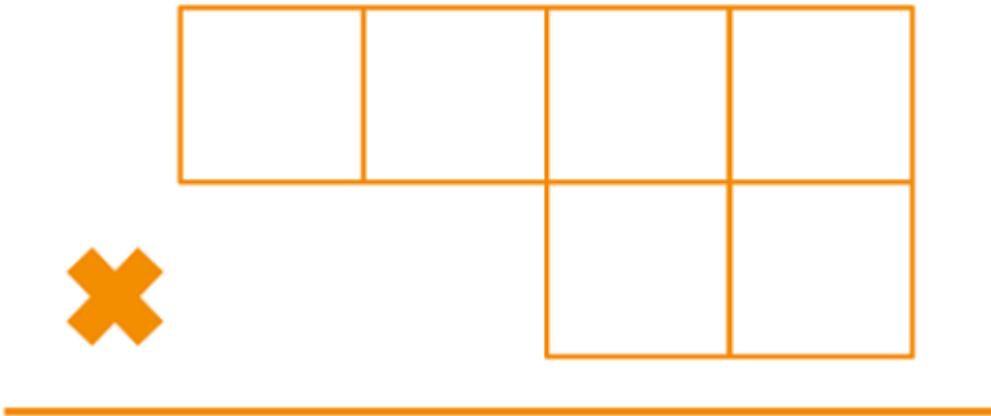
$$\begin{array}{r} 45 \\ \times 32 \\ \hline 90 \\ \hline 1350 \\ \hline 1440 \end{array}$$

$$\begin{array}{r} 62 \\ \times 23 \\ \hline 186 \\ \hline 1240 \\ \hline 1426 \end{array}$$



Long Multiplication

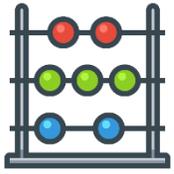
Let's practice...



Use a dice or a set of number cards 0-9 to generate your own 3 or 4 digit number.

Then generate a 2 digit number.

Practice multiplying them together.



Long Multiplication

Now try these, pick the ones you feel most confident with...

Bronze

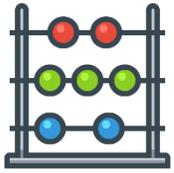
1. 21×12
2. 43×11
3. 12×20
4. 31×23
5. 44×22
6. 16×11
7. 13×12
8. 34×20

Silver

1. 43×11
2. 31×23
3. 50×11
4. 25×30
5. 48×23
6. 52×35
7. 63×39
8. 89×13

Gold

1. 52×35
2. 63×39
3. 89×13
4. 102×27
5. 275×35
6. 462×14
7. 138×12
8. 950×25



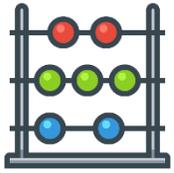
Long Multiplication

Extra sheets ...

https://bam.files.bbc.co.uk/bam/live/content/zmbbgwx/pdf#sa-link_location=blocks&intlink_from_url=https%3A%2F%2Fwww.bbc.co.uk%2Fbitesize%2Farticles%2Fzjbyvk7&intlink_ts=1593591167463-sa

One digit multiplication...

https://bam.files.bbc.co.uk/bam/live/content/zkhpg8/pdf#sa-link_location=blocks&intlink_from_url=https%3A%2F%2Fwww.bbc.co.uk%2Fbitesize%2Farticles%2Fzjbyvk7&intlink_ts=1593591482930-sa



Long Multiplication

Can you give this challenge a go?

This task is a real challenge! You may like to try trebling and all the digits first.

In the multiplication below, some of the digits have been replaced by letters and others by asterisks. Where a digit has been replaced by a letter, the same letter is used each time, and different letters have replaced different digits. Can you reconstruct the original multiplication?

$$\begin{array}{r} A B C \\ B A C \\ \hline * * * * \\ * * A \\ * * * B \\ \hline * * * * * * \end{array}$$