
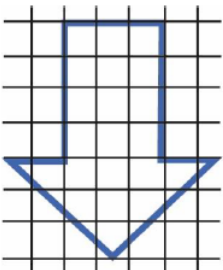


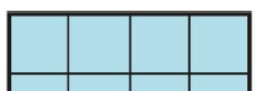

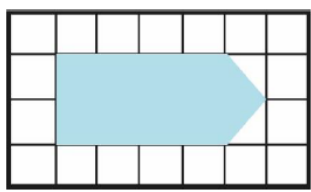


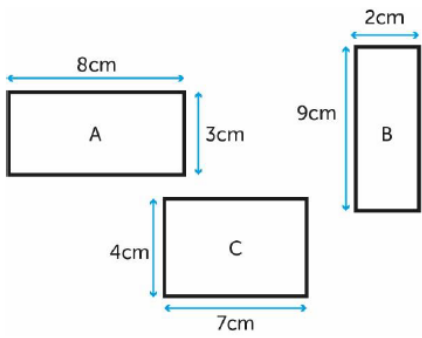

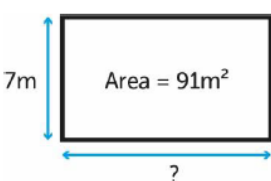


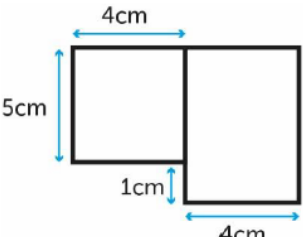


Maths home learning tasks for 1 week

You are going to be focusing on: Area and volume and capacity

Monday 18th May – Today you will finish our unit of learning about area and complete the destination questions!

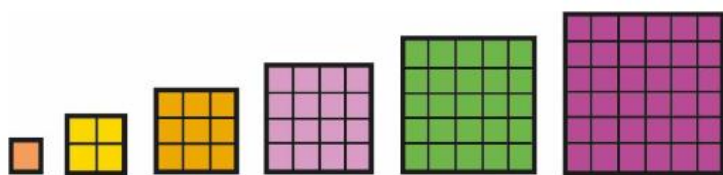
Complete the destination questions as best as you can and then mark them:

Destination Questions		
<p>1 </p> <p>Estimate the area of the arrow in squares.</p> 	<p>2 </p> <p>Which is the most accurate estimate for the area covered by a £5 note?</p> <p>80cm² 200mm² 1m² 200cm²</p>	<p>3 </p>  <p>This is part of a rectangle drawn on centimetre-squared paper.</p> <p>It has an area of 32cm².</p> <p>How many rows does it have?</p>
<p>4 </p>  <p>This shape has been drawn on cm² paper.</p> <p>Draw a rectangle with the same area.</p> <p>Is it possible to draw more than one? Prove it.</p>	<p>5 </p> <p>A square has an area of 121cm².</p> <p>What are its dimensions?</p>	<p>6 </p> <p>Put these shapes in order from smallest to greatest number of squares which would be covered if they were drawn on cm² paper.</p>  <p>NOT TO SCALE</p>
<p>7 </p> <p>What is the missing measure? How do you know?</p> 	<p>8 </p> <p>A rectangle has an area of 42cm².</p> <p>What could be its width and length?</p>	<p>9 </p>  <p>What is the combined area of the rectangles?</p>

Now mark your destination questions. The answers are:

1. Answers between $20 - 22\text{cm}^2$
2. 80cm^2
3. 32 divided by 4 = 8cm
4. Yes it is possible - you could have rectangles with $2\text{cm} \times 4.5\text{cm} = 9\text{cm}^2$ and $1\text{cm} \times 9\text{cm} = 9\text{cm}^2$ for example.
5. 121cm^2 divided by 11 = 11cm
6. B, A, C
7. 91m^2 divided by 7m = 13m
8. You could have: $6\text{cm} \times 7\text{cm}$, $1\text{cm} \times 42\text{cm}$, $2\text{cm} \times 21\text{cm}$, $3\text{cm} \times 14\text{cm}$ because they all equal 42cm^2 !
9. $5\text{cm} \times 4\text{cm} = 20\text{cm}^2$ and $4\text{cm} \times 6\text{cm} = 24\text{cm}^2$ add them together = 44cm^2

Tuesday 19th May - Square numbers and area



What do you notice?
What links can you make?


What do you already know about square numbers? Have a think and create a mind map of what you know about them.

How does the sequence continue and how can this be recorded?

Some ideas for what you may said are:

- Each shape is a square so it has the same number of rows and columns.
- This represents square numbers. $1^2 = 1 \times 1 = 1$ then $2^2 = 2 \times 2 = 4$...
- The total number of squares inside each shape is 1, 4, 9, 16, 25 and 36.
- The next one would be $7 \times 7 = 49$.
- The area of each shape is a square number. It makes a square shape.
- You can square anything. It just means multiply by itself.
- For example, in area m^2 means $\text{m} \times \text{m}$.
- If you know a number is a square number, you know it is the product of a number multiplied by itself.


On the next page complete the table, you can draw it out rather than printing it.

1  Complete the table below.

value	squared
3	9
7	
	25
11	
	81
	cm^2
a	

(The answers are on the following page.)

Answers to the table:

1  Complete the table below.

value	squared
3	9
7	49
5	25
11	121
9	81
cm	cm ²
a	a ²

Wednesday 20th May - cube numbers

Now we are going to learn about cube numbers!

Have a think about these questions:

What do you think a cube number is? Do you think you could build one?

What is the difference between a cube and a square number?

The difference between a square number and a cube number is that a cube has an extra dimension - it is three dimensional!



Look at this cube It represents 2 cubed and that is $2 \times 2 \times 2$ which can be represented as 2^3

Answer the questions on the following page:

1. What is 3^3 ?
2. What is 4^3 ?
3. $216 = ?$

4. Look at the cube:



Which cube number does this represent?

The answers are on the following page.

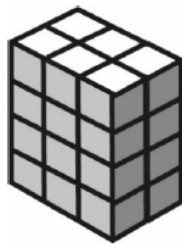
Please mark your work here are the answers!

1. $3 \times 3 \times 3 = 27$
2. $4 \times 4 \times 4 = 64$
3. $6 \times 6 \times 6 = 216$
4. 3^3

Thursday 21st May - exploring cuboids

The number of cubes needed to build the shape can be calculated as the number of cubes in the length multiplied by the number of cubes in the width, multiplied by the number of cubes in the height (number of layers).

The total number of cubes in the cuboid is the volume of the shape - this is the space taken up by the shape.



What is the area covered by this shape?

The area covered is $2 \times 3 = 6$ squares.

How many cubes would be needed to build it?

There are 2×3 cubes on each layer and there are 4 layers so you would need 24 cubes to build it.

Complete the sheet called cuboids. At the end of the sheet there is space for you to have a go at two of your own.

The answers are on the following page. Please mark your work afterwards.

Challenge:

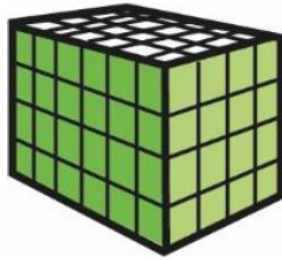
4

The first layer of a cuboid contains 6 cubes.

When finished, the cuboid will be 7 cubes in height.

How many cubes will there be in the complete cuboid?

5



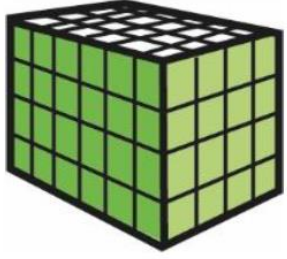


Volume of the shape = cubes.

Answers - please mark your work

Cuboid	Cubes in one layer	Number of layers	Total number of cubes
	$1 \times 3 = 3$	3	9
	$2 \times 3 = 6$	3	18
	$3 \times 2 = 6$	5	30
	$3 \times 4 = 12$	2	24
	$2 \times 3 = 6$	2	12
	$6 \times 4 = 24$	1	24
	$3 \times 3 = 9$	2	18

Challenge answers:

<p>4 </p> <p>The first layer of a cuboid contains 6 cubes.</p> <p>When finished, the cuboid will be 7 cubes in height.</p> <p>How many cubes will there be in the complete cuboid?</p> <div style="border: 1px solid black; padding: 10px; margin-top: 20px;">$2 \times 3 = 6$ $6 \times 7 = 42$</div>	<p>5 </p> <div style="text-align: center;"></div> <p>Volume of the shape = <input type="text"/> cubes.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 20px;">$4 \times 6 = 24$ $24 \times 4 = 96$</div>
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Friday 22nd May -

Start off with this open ended question today: volume and capacity

A cuboid is built using 24 cubes.

How many different ways could you build this cuboid? Write the calculations and describe the layers.

Now we are going to learn about volume and capacity.

Look at this fridge (and maybe your own fridge at home!) Think about the volume and capacity of this fridge. What is the same and what is different?



It's capacity is how much space is inside it. It's volume is how much space the fridge takes up.

Look at this table comparing volume and capacity.

Capacity	Volume
The space within a container.	The space taken up by something.
Standard metric units include millilitres and litres.	Can be measured in cubes (as in this sequence) and when using standard units these are cm^3 . Can also be measured in millilitres and litres.
Examples of capacity measured: – a box has a capacity of 24 cubes – a jug has a capacity of 250ml	Examples of volume measured: – 24 cubes are needed to fill a box – 250ml of water is needed to fill a jug

Look at the worksheet called household appliances.

Can you order the appliances from smallest to largest for capacity and then re-order them from smallest to largest for volume?

The answers are on the following page.

Next using a range of your own items from home can you estimate their capacity/ volume and order them from smallest to largest?

Items could include: a teaspoon, a mug, bucket, an egg cup and many more!

Have fun!

Final challenge:

6

Each cube is 1cm^3 .
What is the capacity of the box?
What is the volume taken up by the cubes?

Answers

Volume - Microwave, mini fridge, dishwasher

Capacity - mini fridge, microwave and dishwasher

Challenge answers

Capacity - The box has the capacity of 63 cubes

Volume - 23 cubes are currently filling the box

Finally I have included a 'Maths everywhere Y5' file.

These are optional and fun activities for you to try! Perhaps try them this week or over half term!

Best wishes

Mrs Crockett 😊