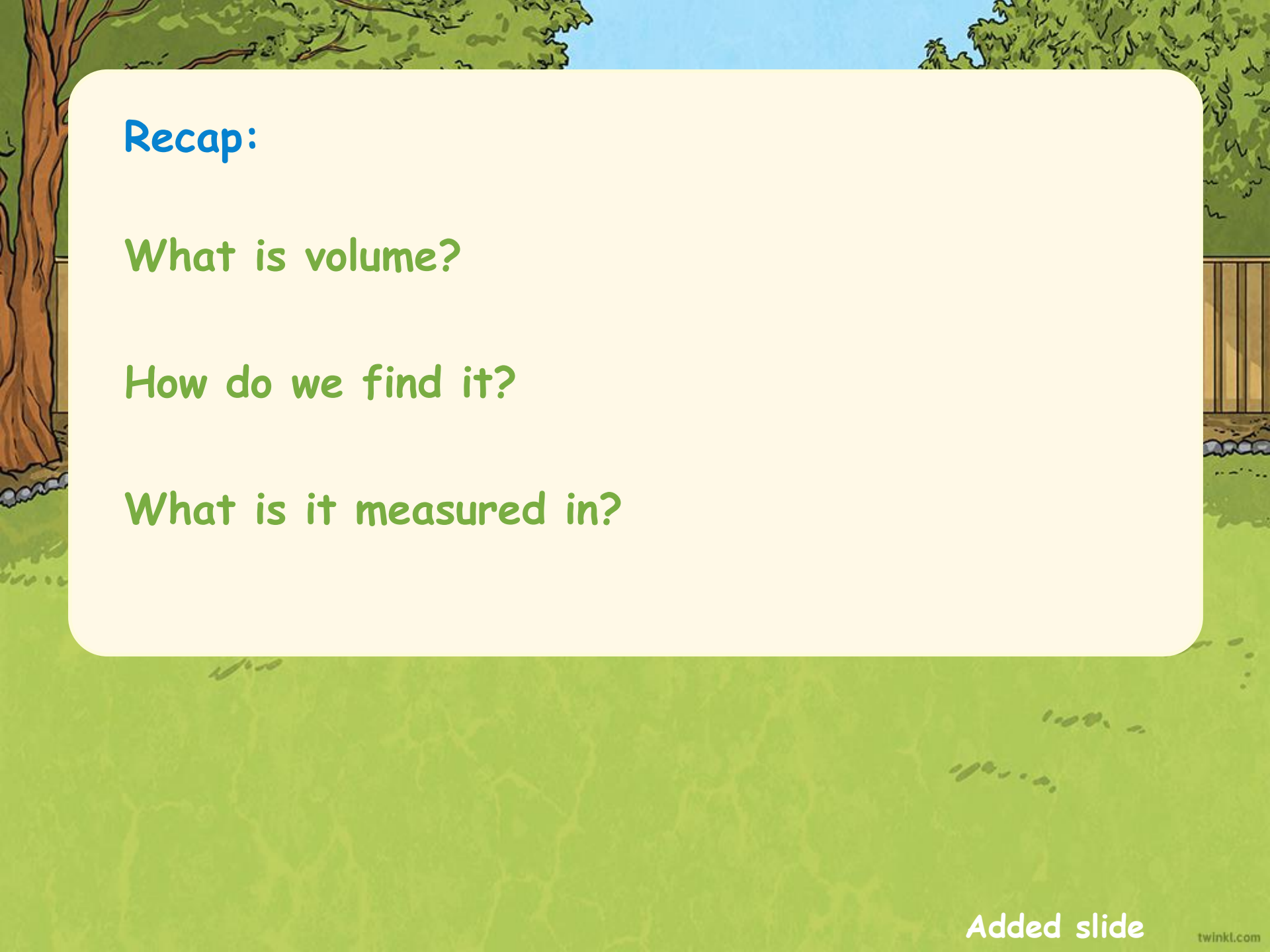


WALT compare volume.

WILF:

- Understand what volume is.
- Know what a cubed measurement is and where to use it (3).
- Estimate volume.
- Compare volume.
- Use problem solving language.



Recap:

What is volume?

How do we find it?

What is it measured in?

Recap:

What is volume?

Volume is how much space 3D shapes take up.

How do we find it?

Multiply - height $\times$ width $\times$ depth

What is it measured in?

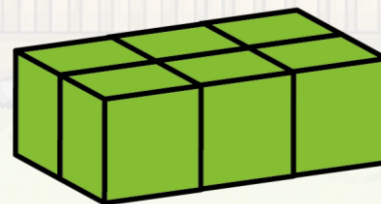
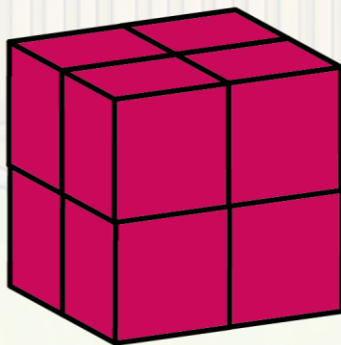
cm^3 The 3 is pronounced 'cubed'.



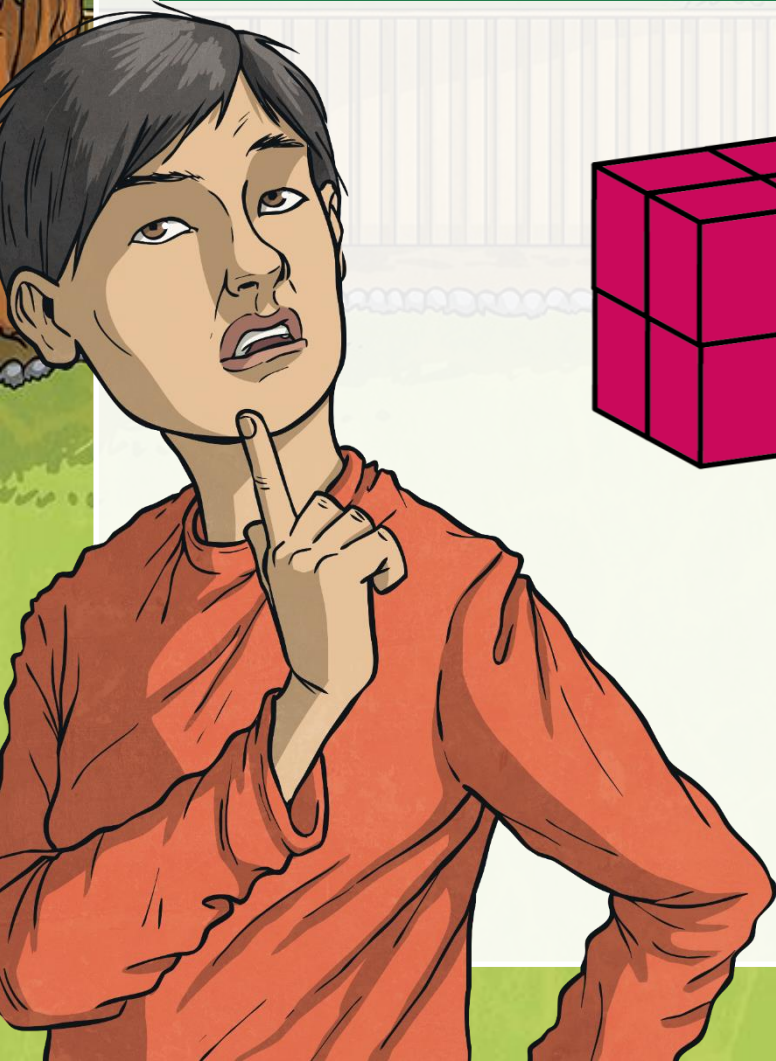
Compare Volume



Which of these shapes has the greatest volume?



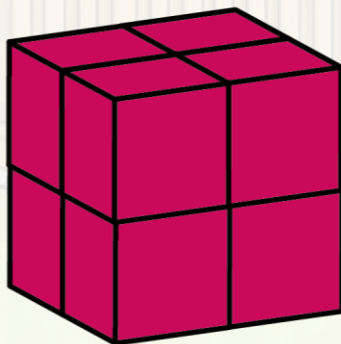
Remember, each cube is 1cm^3



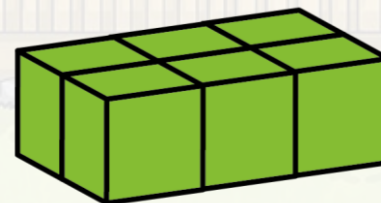
Compare Volume



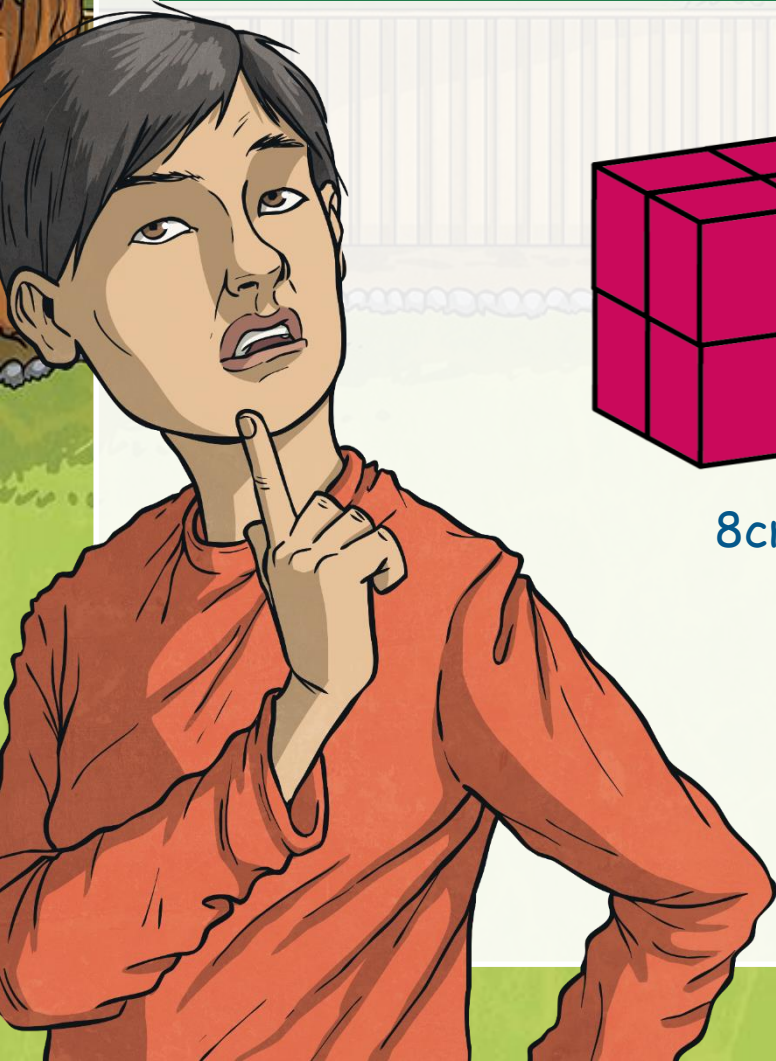
Which of these shapes has the greatest volume?



8cm^3



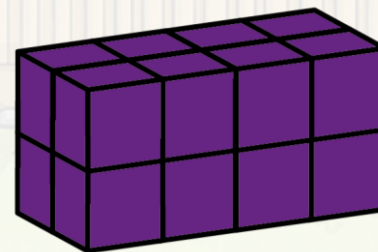
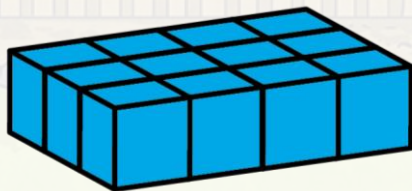
6cm^3



Compare Volume



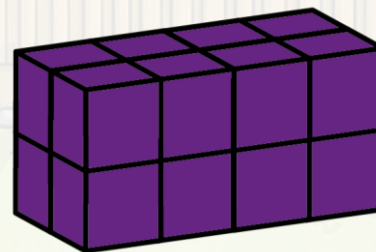
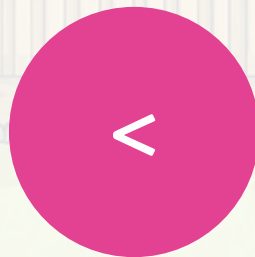
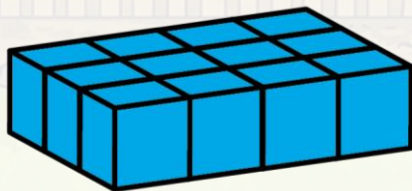
Use $<$ and $>$ symbols to compare these:



Compare Volume



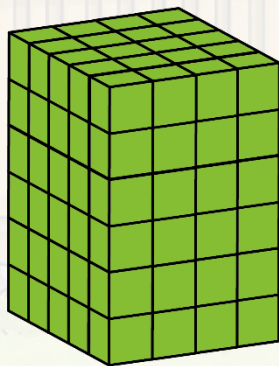
Use $<$ and $>$ symbols to compare these:



Compare Volume



What is the volume of this cuboid?



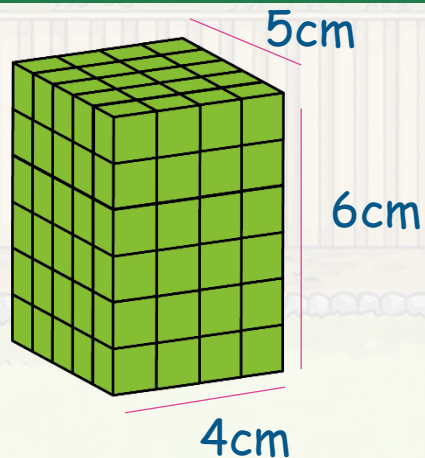
Remember: length $\times$ width $\times$ height

Could these cubes be arranged any other way?

Compare Volume



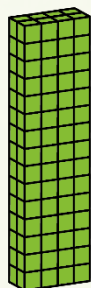
What is the volume of this cuboid?



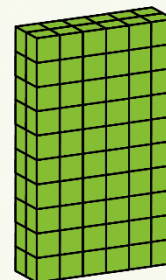
$$5 \times 4 = 20$$
$$20 \times 6 = 120$$

120cm³

Could these cubes be arranged any other way?



$$2 \times 15 = 30$$
$$30 \times 4 = 120$$



$$2 \times 10 = 20$$
$$20 \times 6 = 120$$

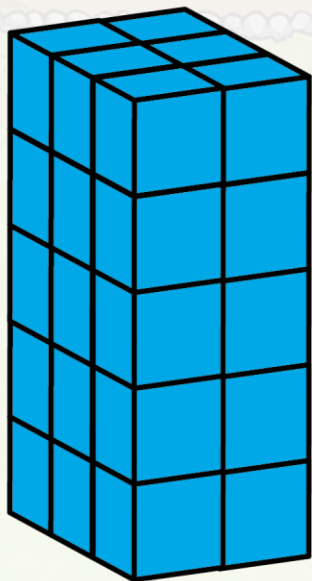
Compare Volume



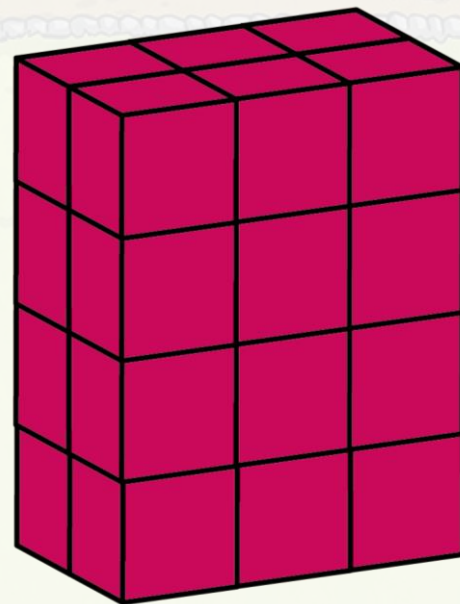
Amelie has made a shape out of 1cm cubes. Its volume is smaller than the blue model but greater than the pink model.

What could her shape look like? Make or draw it!

What **could** its volume be?



To figure this out,
calculate the volume of
the blue and pink cuboids.
Then, follow the rules
above.



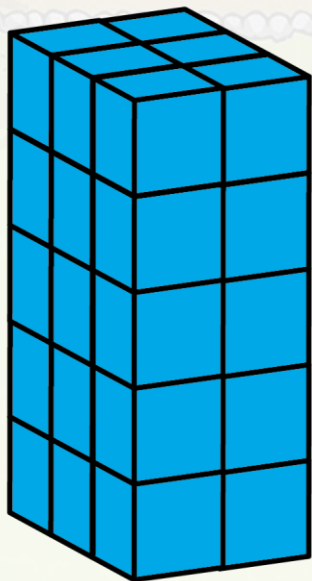
Compare Volume



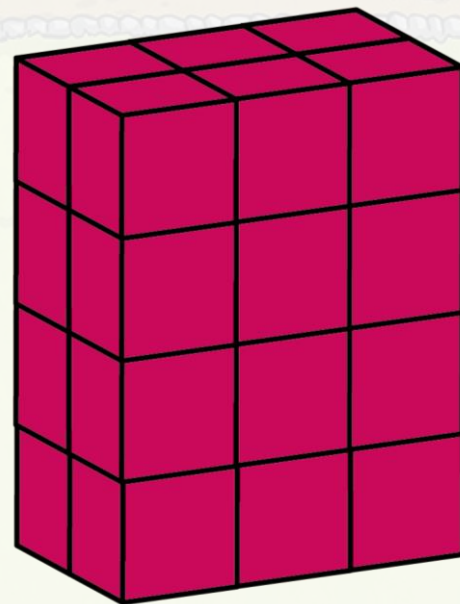
Amelie has made a shape out of 1cm cubes. Its volume is smaller than the blue model but greater than the pink model.

What could her shape look like? Make or draw it!

What **could** its volume be?



Anywhere between
 25cm^3 to 29cm^3



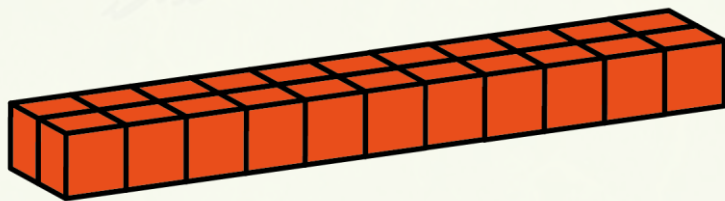
Compare Volume



A shape made of 1cm cubes with a base that is 3cm long and 2cm wide can't have a volume greater than this shape.



Is Sam correct?



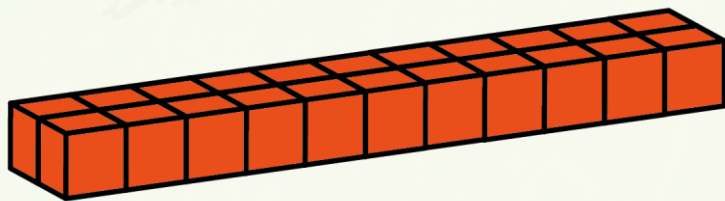
Compare Volume



A shape made of 1cm cubes with a base that is 3cm long and 2cm wide can't have a volume greater than this shape.



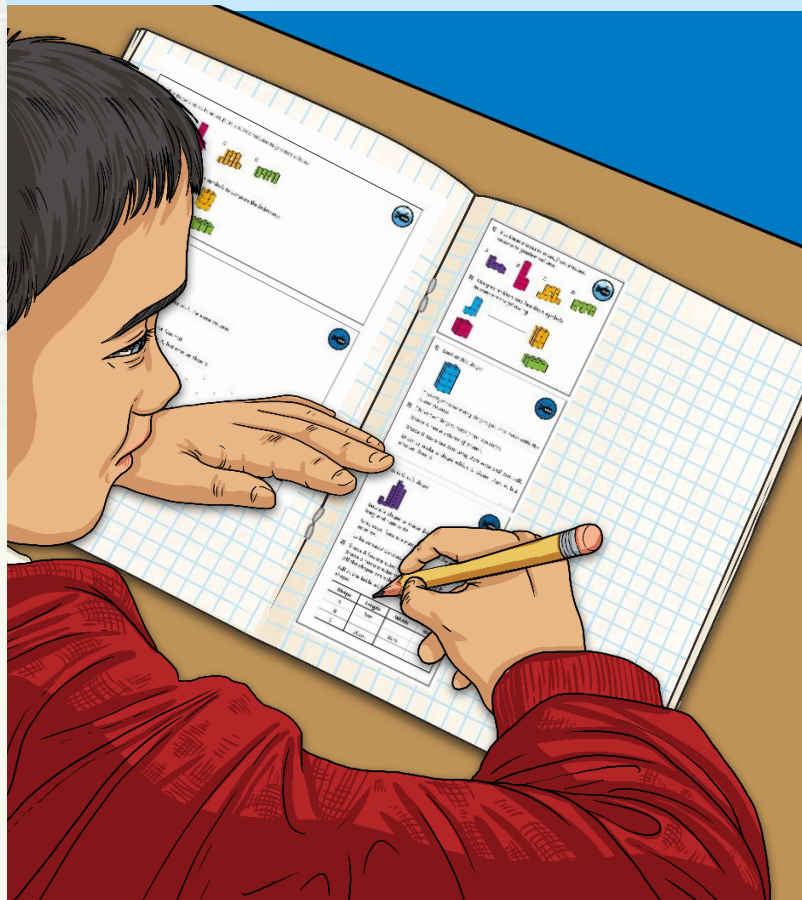
Is Sam correct?



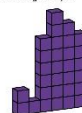
No. We only know that the base layer of cubes is equal to 6cm^3 – the shape could be any height.

Comparing Volume

Now complete today's activity. Challenge yourself with your selection.
If the sheet does not challenge you, move onto the next sheet.



1) This is Greg's shape:



Laurel's shape is made from 16 cubes.
Greg says, "Laurel's shape can't be made from 16 cubes."
Is he correct? Convincing

2) Shape A has a greater volume than Shape B.
All the shapes are cuboids.
Fill in the table with possible dimensions.

Shape	Length	Width	Height
A			
B			
C			

1) Put these shapes in order, from smallest volume to greatest volume:



2) Use greater-than and less-than symbols to compare the following:



1) Look at this shape:



Investigate how many shapes you can make with the same volume.

2) I have two shapes made from 1cm cubes.

Shape A has a volume of 14cm^3 .

Shape B has sides 3cm long, 2cm wide and 3cm tall.

Draw or make a shape which is bigger than A, but smaller than B:

