Wednesday 15th July

Year 5
What is Volume?

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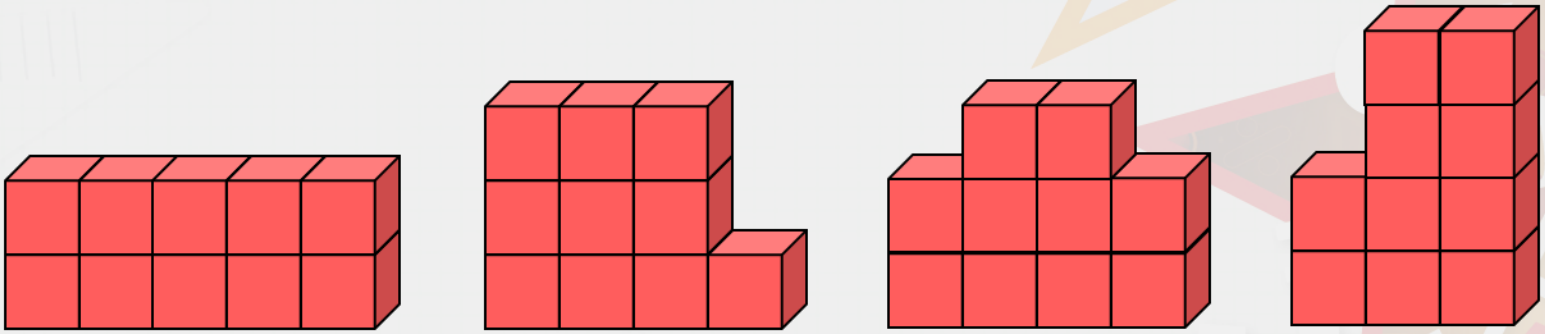
Introduction

What information do you need to find the volume of a shape?

The length, width, and height of a shape.

How many different flat shapes can you make using 1cm cubes that have a volume of 10cm³?

Various answers, including:



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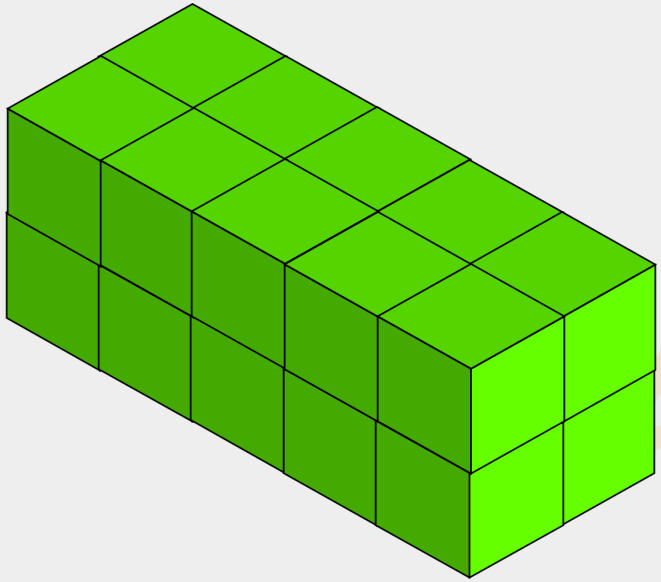
Varied Fluency 1

Complete the stem sentences to show the volume of this cuboid.



The cuboid is made up of _____ 1cm cubes.
The volume of the cuboid is _____ cm^3.

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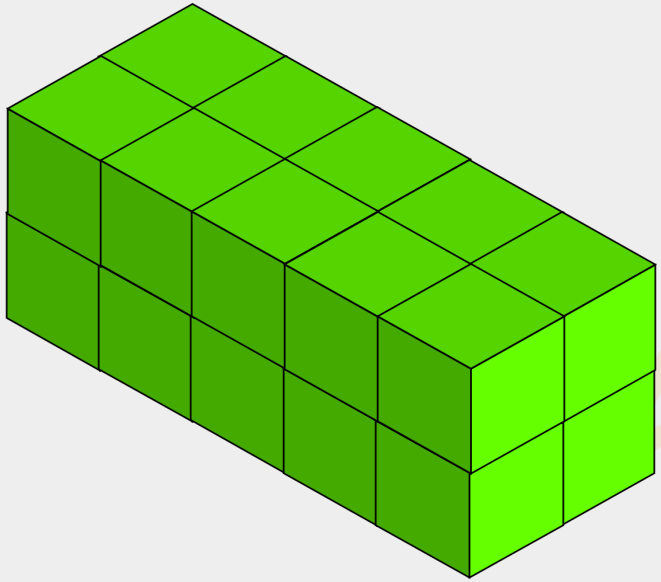
Varied Fluency 1

Complete the stem sentences to show the volume of this cuboid.



The cuboid is made up of 20 1cm cubes.
The volume of the cuboid is $20cm^3$.

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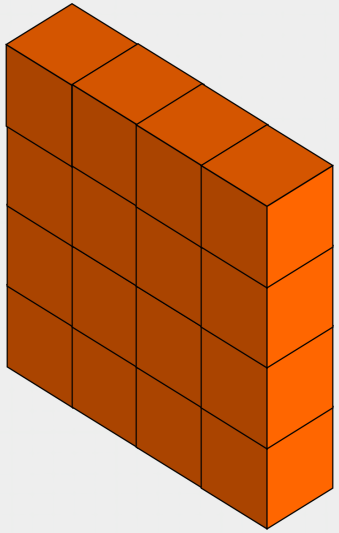
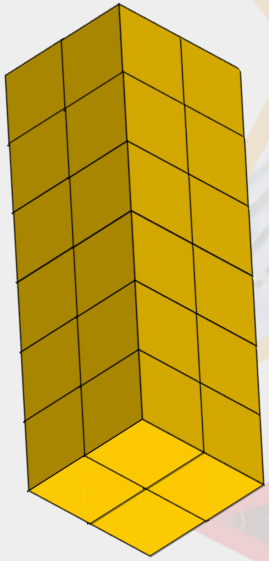
Varied Fluency 2

Count the cm cubes to work out the volume of the cuboids.

A.



B.



A =	cm^3
B =	cm^3

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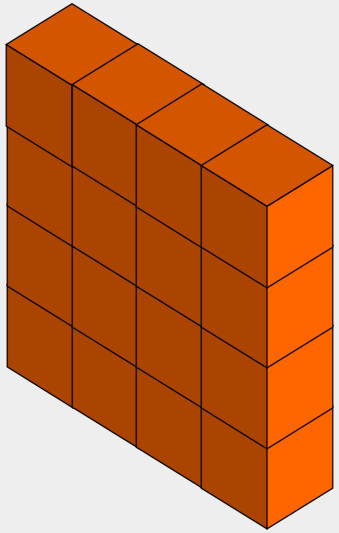
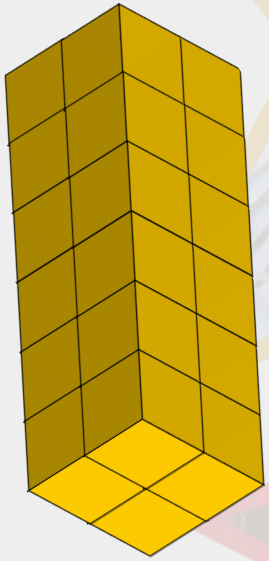
Varied Fluency 2

Count the cm cubes to work out the volume of the cuboids.

A.



B.



$A = 16\ cm^3$

$B = 24cm^3$

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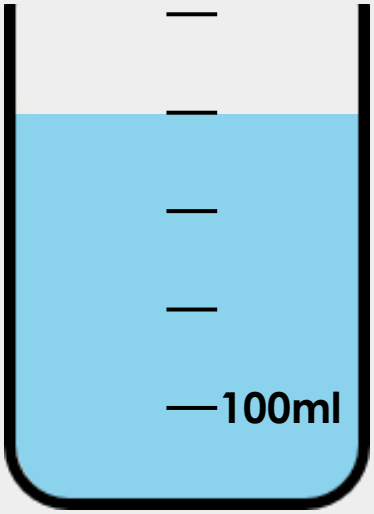
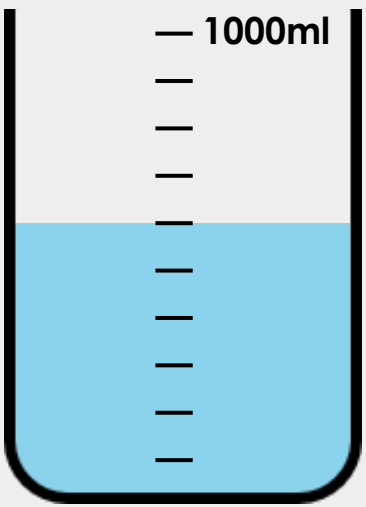
Varied Fluency 3

Match the liquid in each container to the correct volume.

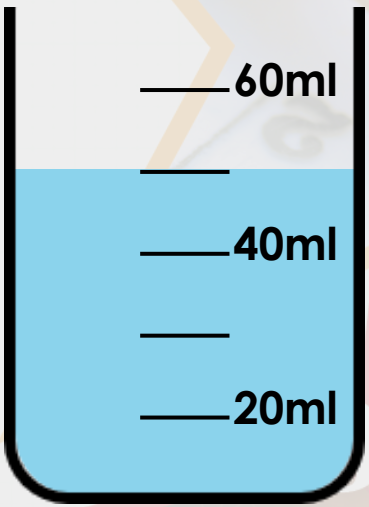
A.



B.



C.



$600cm^3$	$50cm^3$	$400cm^3$

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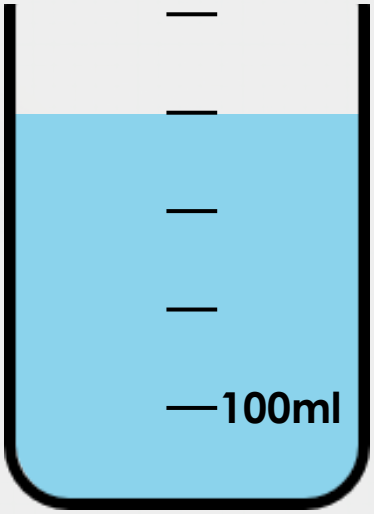
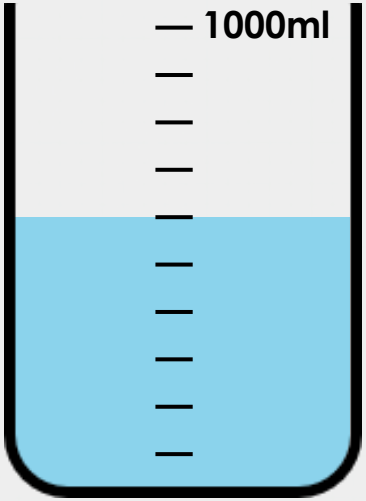
Varied Fluency 3

Match the liquid in each container to the correct volume.

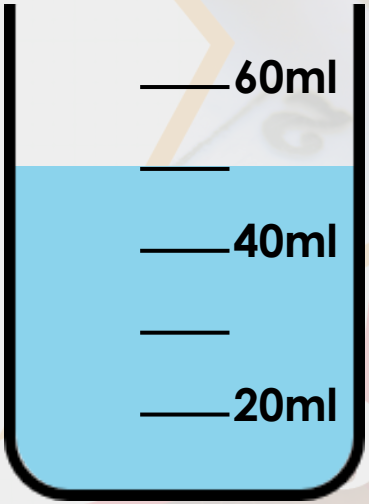
A.



B.



C.



B = 600cm^3

C = 50cm^3

A = 400cm^3

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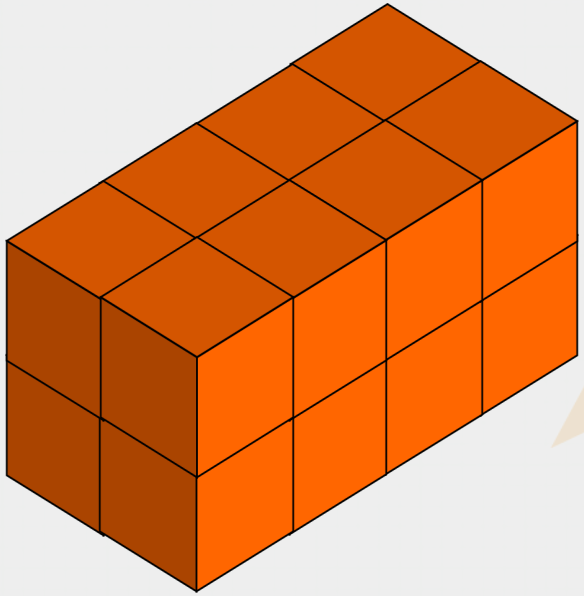
Varied Fluency 4

True or false? The volume of this cuboid is 20cm^3.



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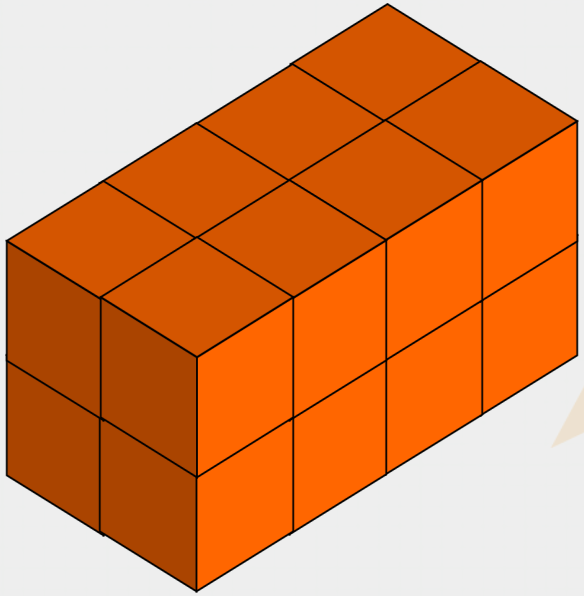
Varied Fluency 4

True or false? The volume of this cuboid is 20cm^3.



False. It is 16cm^3

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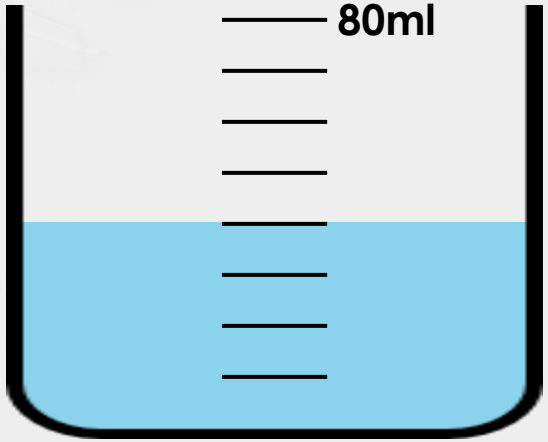
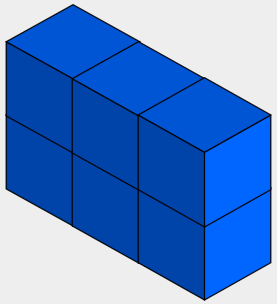
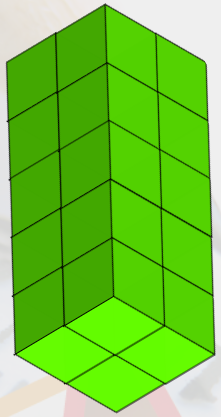
Circle the cuboids that total the volume of the liquid inside the container.



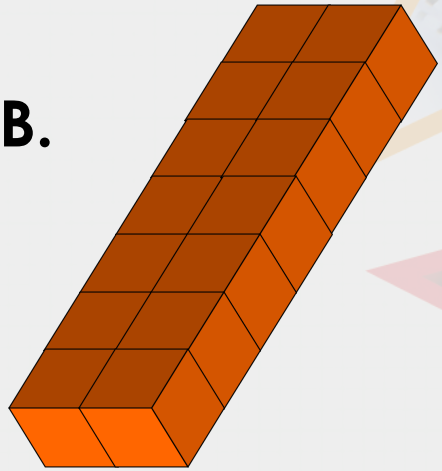
A.



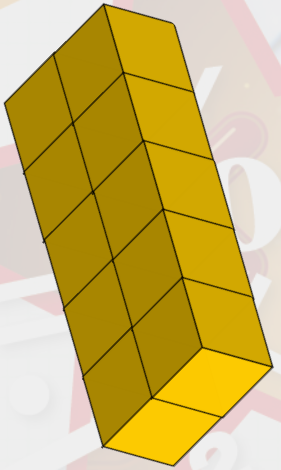
C.



B.



D.



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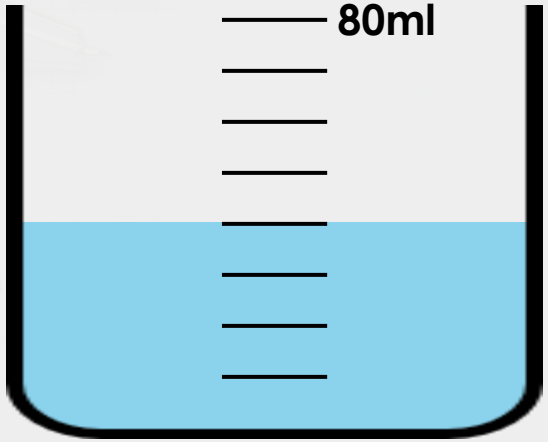
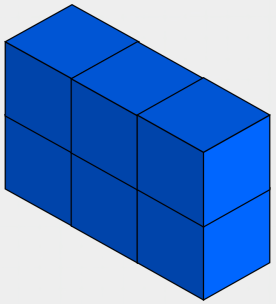
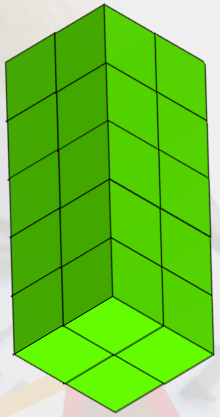
Circle the cuboids that total the volume of liquid inside the container.



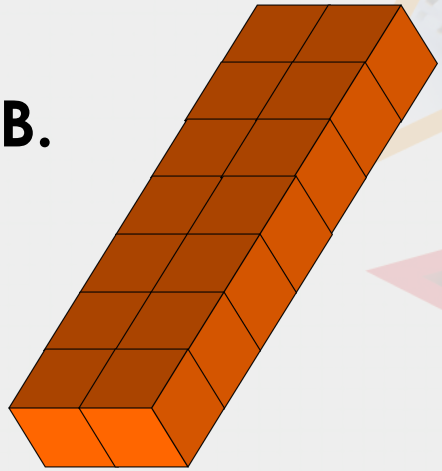
A.



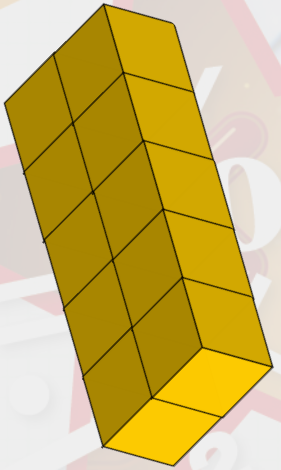
C.



B.



D.



A + B + C. A has 6 cubes, B has 14 cubes and C has 20 cubes.
6 + 14 + 20 = 40.

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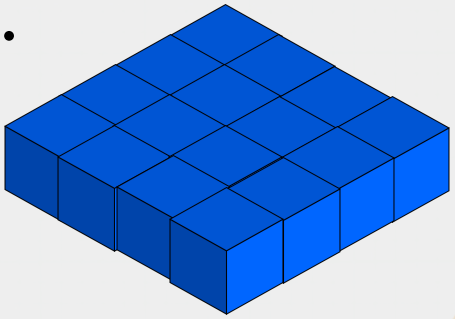
Problem Solving 1

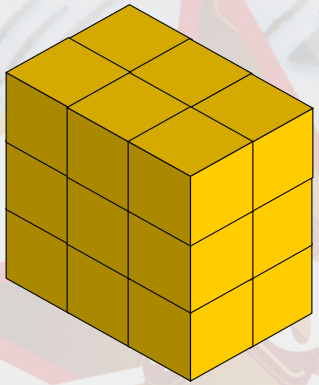
Find the odd one out by matching the shape to the correct volume.

$18cm^3$
$16cm^3$
$14cm^3$
$16cm^3$

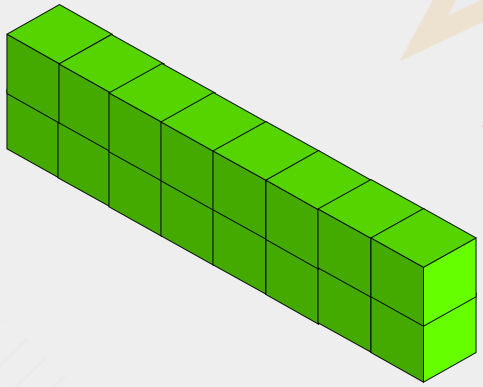
A.



B.



C.



Explain your reasoning.

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Problem Solving 1

Find the odd one out by matching the shape to the correct volume.

$18cm^3$
$16cm^3$
$14cm^3$
$16cm^3$

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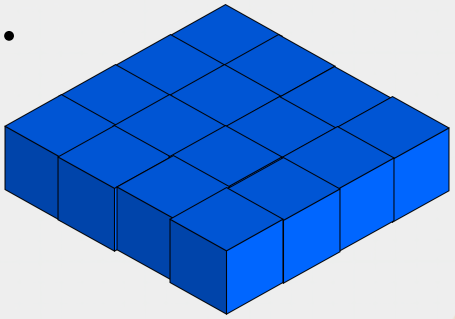
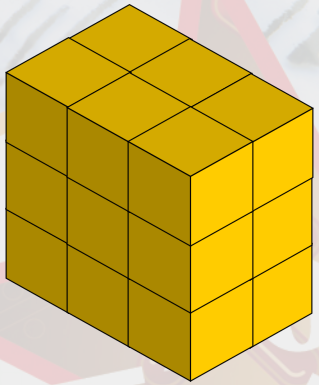
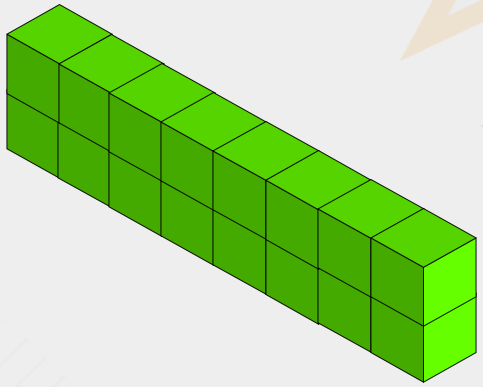


B.



C.



Explain your reasoning.

$14cm^3$ is the odd one out because there is no cuboid that has this number of cubes.

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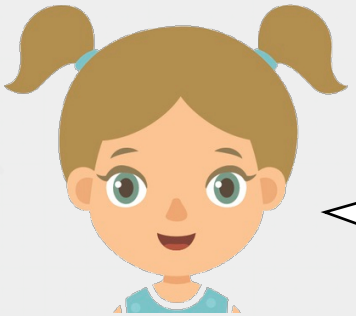
Reasoning 2

Grace is calculating the volume of her shape.



My cuboid's length is 3 cubes and it's height is 2 cubes. I multiply these together to find the volume so the volume of my cuboid is $6cm^3$.

Is Grace correct? Explain your answer.

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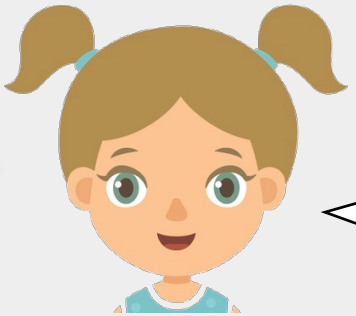
Reasoning 2

Grace is calculating the volume of her shape.



My cuboid's length is 3 cubes and it's height is 2 cubes. I multiply these together to find the volume so the volume of my cuboid is $6cm^3$.

Is Grace correct? Explain your answer.

No, she is not correct because…

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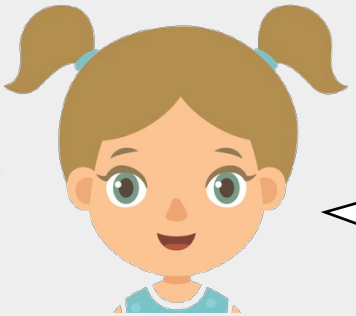
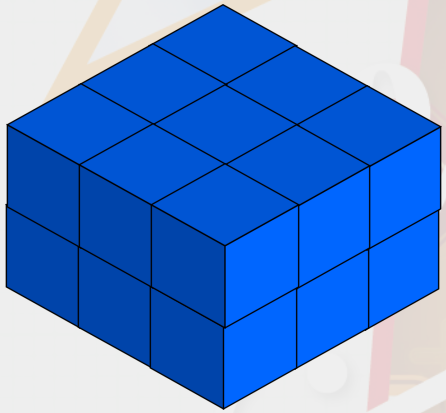
Reasoning 2

Grace is calculating the volume of her shape.



My cuboid's length is 3 cubes and it's height is 2 cubes. I multiply these together to find the volume so the volume of my cuboid is 6cm^3.



Is Grace correct? Explain your answer.

No, she is not correct because to find the volume you have to multiply by the width as well. The width is 3 cubes so 3 x 3 x 2 = 18cm^3

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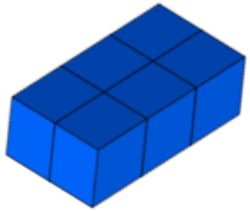
Year 5 Developing

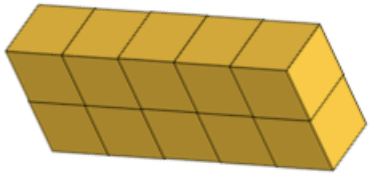
1a. Complete the stem sentences to show the volume of this cuboid.



The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____ cm^3.

D VF

1b. Complete the stem sentences to show the volume of this cuboid.



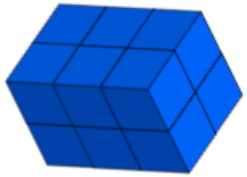
The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____cm^3.

D VF

2a. Count the cm cubes to work out the volume of the cuboids.

A.

B.

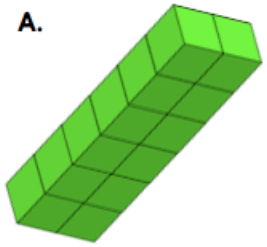


A = cm^3 B = cm^3

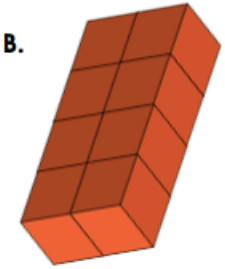
D VF

2b. Count the cm cubes to work out the volume of the cuboids

A.



B.

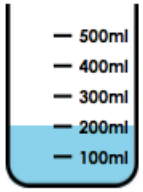


A = cm^3 B = cm^3

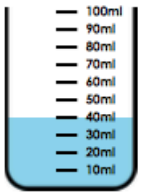
D VF

3a. Match the liquid in each container to the correct volume.

A.



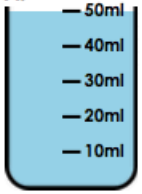
B.



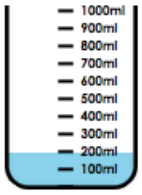
$40cm^3$ $200cm^3$

3b. Match the liquid in each container to the correct volume.

A.

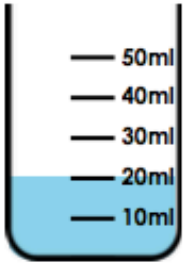


B.



$200cm^3$ $50cm^3$

1a. Circle the cuboids that total the volume of liquid inside the container.



A.

C.

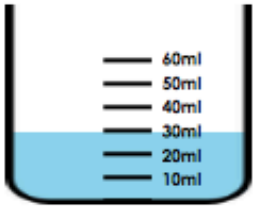
B.

Prove it.

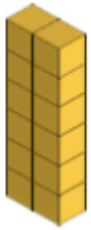
D

R

1b. Circle the cuboids that total the volume of liquid inside the container.



A.



C.

B.

D.

Prove it.

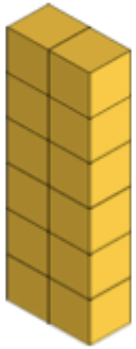
D

R

2a. Find the odd one out by matching the shape to the correct volume.

8cm³
12cm³
12cm³
14cm³

A.



B.

C.

Explain your reasoning.

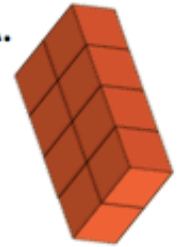
D

PS

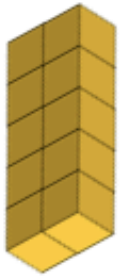
2b. Find the odd one out by matching the shape to the correct volume.

6cm³
8cm³
10cm³
12cm³

A.



B.



C.

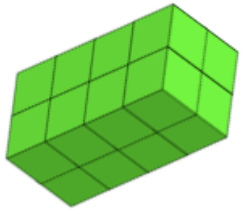
Explain your reasoning.

D

PS

Year 5 Expected

5a. Complete the stem sentences to show the volume of this cuboid.



The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____ cm^3.

VF

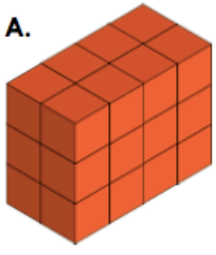
5b. Complete the stem sentences to show the volume of this cuboid.

The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____cm^3.

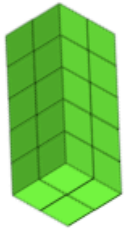
VF

6a. Count the cm cubes to work out the volume of the cuboids.

A.



B.

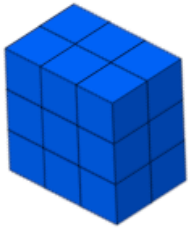


A = cm^3 B = cm^3

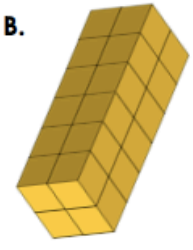
VF

6b. Count the cm cubes to work out the volume of the cuboids

A.



B.

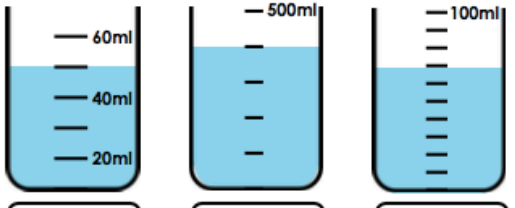


A = cm^3 B = cm^3

VF

7a. Match the liquid in each container to the correct volume.

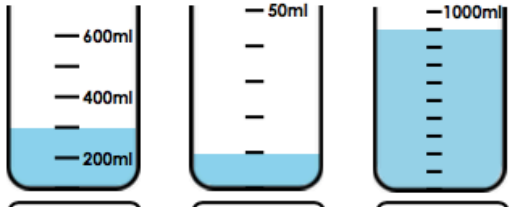
A. B. C.



400cm^3 70cm^3 50cm^3

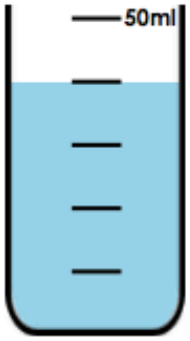
7b. Match the liquid in each container to the correct volume.

A. B. C.



10cm^3 900cm^3 300cm^3

4a. Circle the cuboids that total the volume of liquid inside the container.



A.

C.

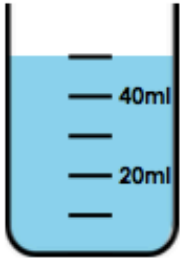
B.

D.

Prove it.

R

4b. Circle the cuboids that total the volume of liquid inside the container.



A.

C.

B.

D.

Prove it.

R

5a. Find the odd one out by matching the shape to the correct volume.

18cm³

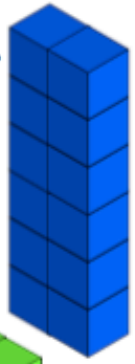
16cm³

12cm³

8cm³

A.

B.



C.

Explain your reasoning.

PS

5b. Find the odd one out by matching the shape to the correct volume.

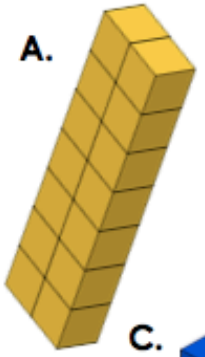
12cm³

18cm³

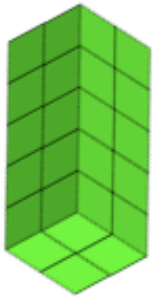
20cm³

14cm³

A.



B.



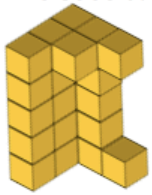
C.

Explain your reasoning.

PS

Year 5 Greater Depth

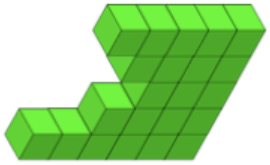
9a. Complete the stem sentences to show the volume of this cuboid.



The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____ cm^3.

GD VF

9b. Complete the stem sentences to show the volume of this cuboid.

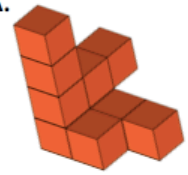


The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____cm^3.

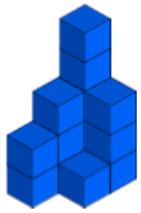
GD VF

10a. Count the cm cubes to work out the volume of the cuboids.

A.



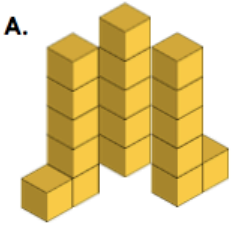
B.



GD A = cm^3 B = cm^3 VF

10b. Count the cm cubes to work out the volume of the cuboids

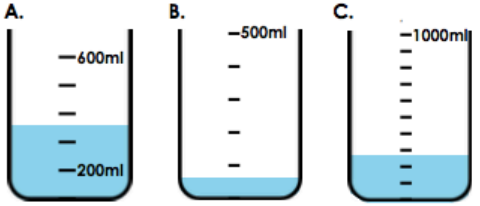
A.



B.

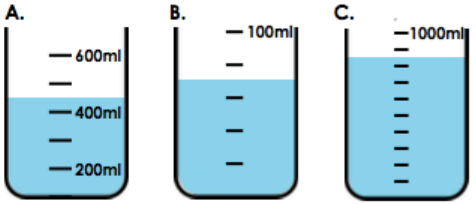
GD A = cm^3 B = cm^3 VF

11a. Match the liquid in each container to the correct volume.



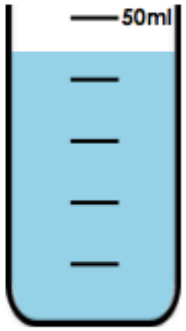
50cm^3 250cm^3 350cm^3

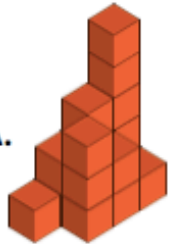
11b. Match the liquid in each container to the correct volume



70cm^3 850cm^3 450cm^3

7a. Circle the cuboids that total the volume of liquid inside the container.



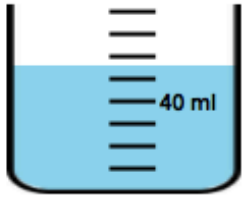


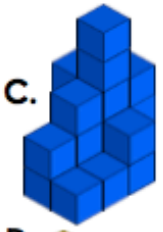
Prove it

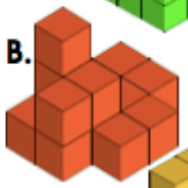
GD

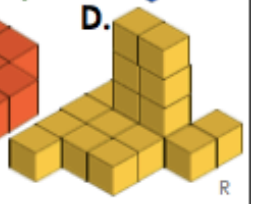
R

7b. Circle the cuboids that total the volume of liquid inside the container.









Prove it

GD

R

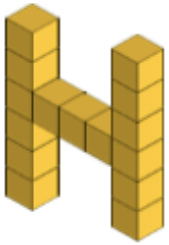
8a. Find the odd one out by matching the shape to the correct volume.

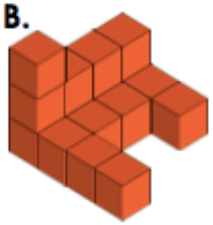
9cm³

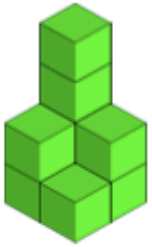
16cm³

8cm³

15cm³







Explain your reasoning.

GD

PS

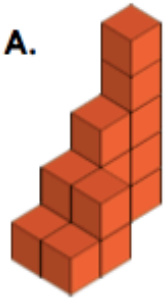
8b. Find the odd one out by matching the shape to the correct volume.

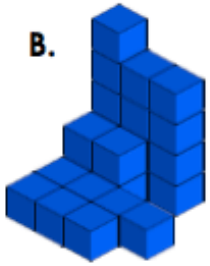
23cm³

24cm³

20cm³

14cm³





Explain your reasoning.

GD

PS