Varied Fluency
Step 1: What is Volume?

National Curriculum Objectives:

Mathematics Year 5: (5M8) Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]

Differentiation:

Developing Questions to support measuring volume in cm^3, up to $12cm^3$, using cubes/cuboids or liquid volumes where scales are in multiples of 10 or 100 and measurements fall on marked increments.
Expected Questions to support measuring volume in cm^3, up to $24cm^3$, using cubes/cuboids or liquid volumes where scales are in multiples of 10 or 100 but not all increments are marked.
Greater Depth Questions to support measuring volume in cm^3 up to $24cm^3$ using compound 3D shapes or liquid volumes where scales are in multiples of 10 or 100 but not all increments are marked and some measurements fall between increments.

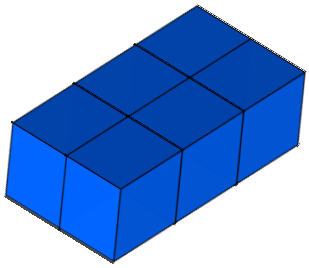
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What is Volume?

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

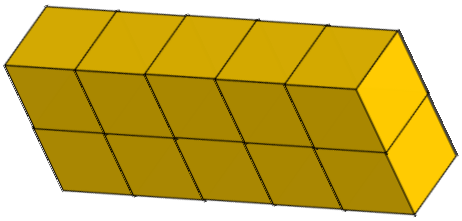


The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____ cm^3.

D VF

What is Volume?

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

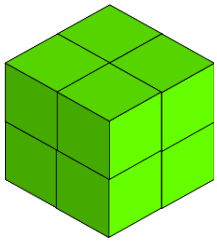


The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____cm^3.

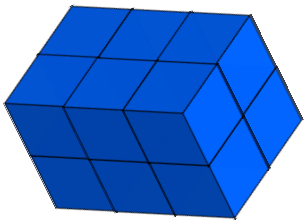
D VF

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

A.



B.

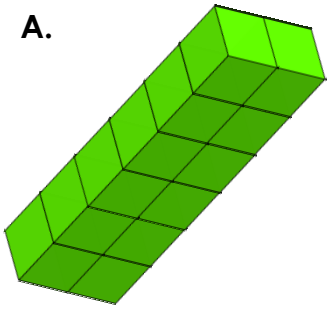


A = cm^3 B = cm^3

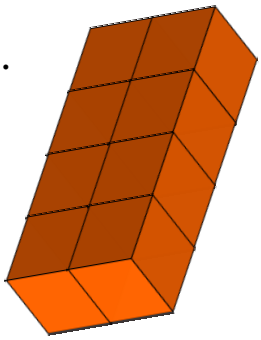
D VF

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

A.



B.

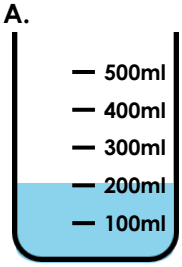


A = cm^3 B = cm^3

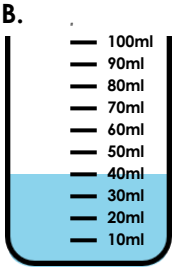
D VF

3a. Match the containers to the correct volume.

A.



B.

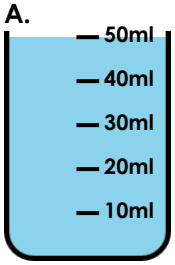


$40cm^3$ $200cm^3$

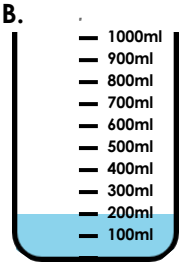
D VF

3b. Match the containers to the correct volume.

A.



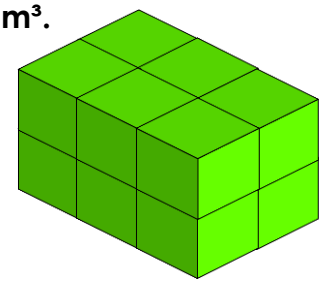
B.



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

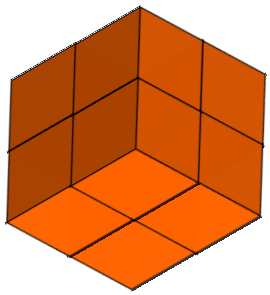
D VF

4a. True or false? The volume of this cuboid is $16cm^3$.



D VF

4b. True or false? The volume of this cuboid is $12cm^3$.

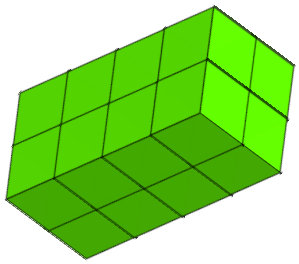


D VF

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What is Volume?

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

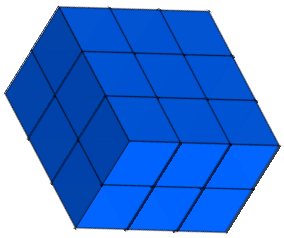


The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____ cm^3.

VF

What is Volume?

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

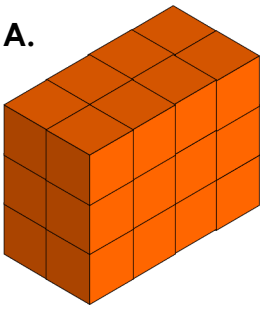


The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____cm^3.

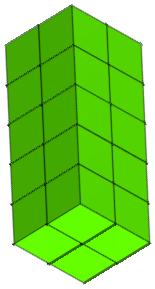
VF

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

A.



B.



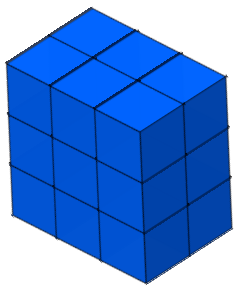
A = cm^3

B = cm^3

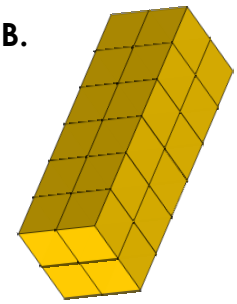
VF

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

A.



B.

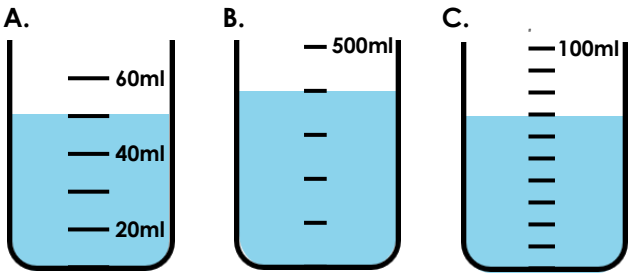


A = cm^3

B = cm^3

VF

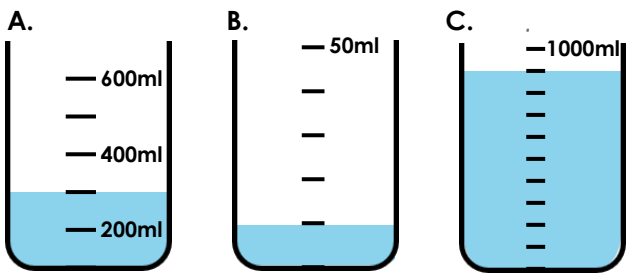
7a. Match the containers to the correct volume.



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

VF

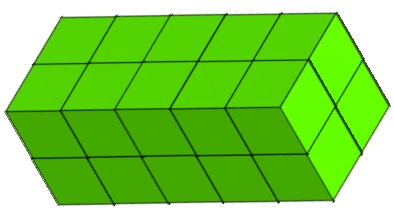
7b. Match the containers to the correct volume.



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

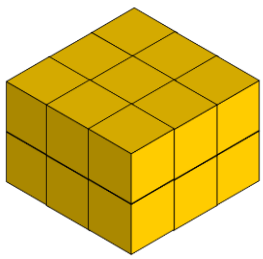
VF

8a. True or false? The volume of this cuboid is 24cm^3.



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8b. True or false? The volume of this cuboid is 21cm^3.

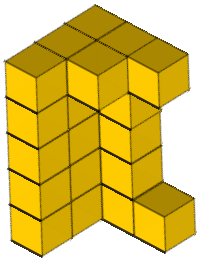


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What is Volume?

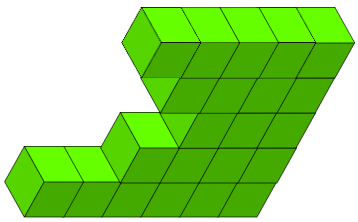
9a. Complete the stem sentences to show the volume of this cuboid.



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

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

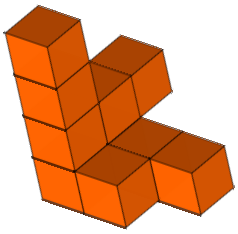


The cuboid is made up of _____cm cubes.
The volume of the cuboid is _____cm^3.

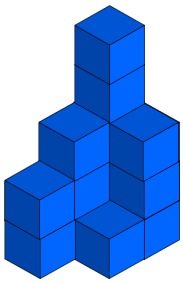
GD VF

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

A.



B.

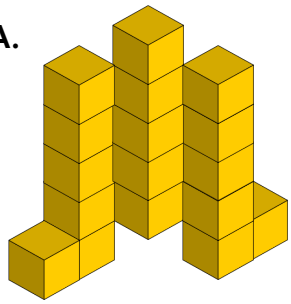


A = cm^3 B = cm^3

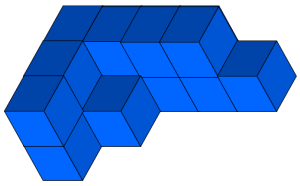
GD VF

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

A.



B.

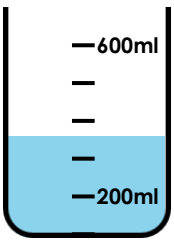


A = cm^3 B = cm^3

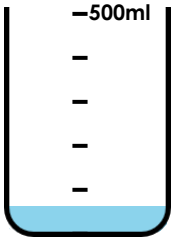
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11a. Match the containers to the correct volume.

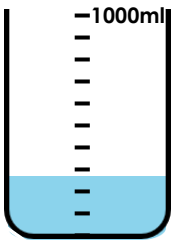
A.



B.



C.

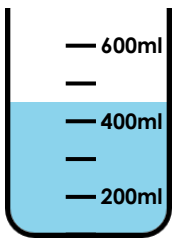


$50cm^3$ $250cm^3$ $350cm^3$

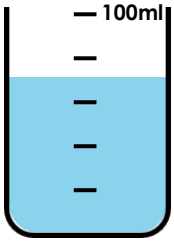
GD VF

11b. Match the containers to the correct volume.

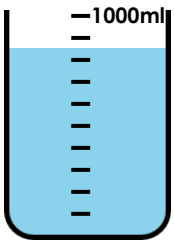
A.



B.



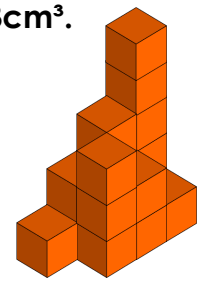
C.



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

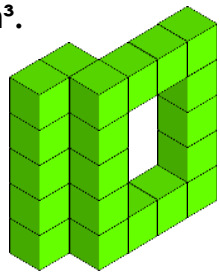
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12a. True or false? The volume of this cuboid is $13cm^3$.



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12b. True or false? The volume of this cuboid is $21cm^3$.



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Varied Fluency
What is Volume?

Developing

1a. The cuboid is made out of 6 cm cubes.
The volume of the cuboid is 6cm^3

2a. A = 8cm^3; B = 12cm^3

3a. A. 200cm^3; B. 40cm^3

4a. False. It is 12cm^3

Expected

5a. The cuboid is made out of 16 cm cubes. The volume of the cube is 16 cm^3.

6a. A = 24cm^3; B = 20cm^3.

7a. A. 50cm^3; B. 400cm^3; C. 70cm^3.

8a. False. It is 20cm^3

Greater Depth

9a. The cuboid is made out of 23 cm cubes.
The volume of the cube is 23 cm^3

10a. A = 10cm^3; B = 14cm^3.

11a. A. 350cm^3; B. 50cm^3; C. 250cm^3.

12a. False. It is 17cm^3

Varied Fluency
What is Volume?

Developing

1b. The cuboid is made out of 10 cm cubes. The volume of the cube is 10 cm^3

2b. A = 12cm^3; B = 8cm^3

3b. A. 50cm^3; B. 200cm^3

4b. False. It is 8cm^3

Expected

5b. The cuboid is made out of 18 cm cubes. The volume of the cube is 18 cm^3.

6b. A = 18cm^3; B = 24cm^3.

7b. A. 300cm^3; B. 10cm^3; C. 900cm^3.

8b. False. It is 18cm^3

Greater Depth

9b. The cuboid is made out of 22 cm cubes.
The volume of the cube is 22 cm^3

10b. A = 18cm^3; B = 14cm^3.

11b. A. 450cm^3; B. 70cm^3; C. 850cm^3.

12b. False. It is 24cm^3

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