### Volume

Also, the **Oak Academy online lessons** have 5 sessions – including video, explanations and independent tasks
There are not any Volume lessons for Y6 but you could work on any subject area you feel you need to improve on:
https://www.thenational.academy/online-classroom/year-6/maths#subjects
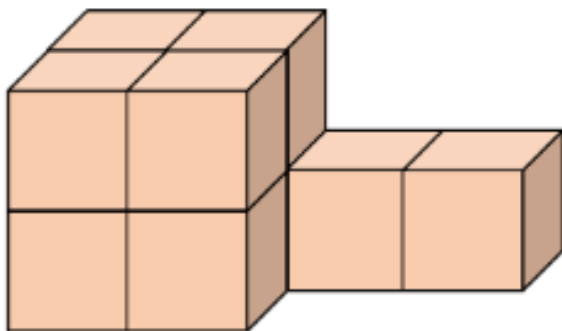
Step 1: Understand and visualise volume

If each cube has a volume of 1 cm³, find the volume of each solid.
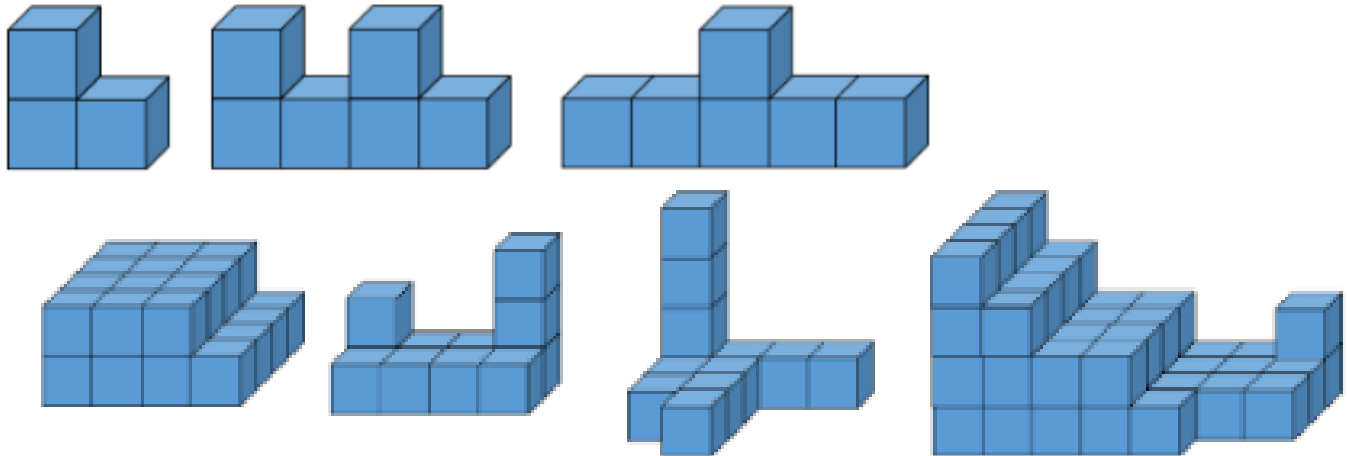
Step 2: Reasoning with blocks

Amir says he will need 8 cm³ to build this shape.

Dora says she will need 10 cm³.

Who do you agree with?

Explain why.

Tommy is making cubes using multilink.
He has 64 multilink cubes altogether.

How many different sized cubes could he make?

He says,

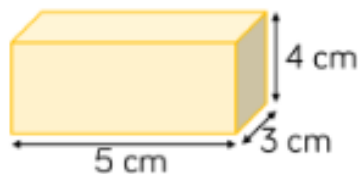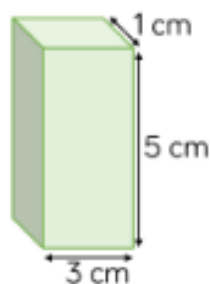> If I use all of my multilink to make 8 larger cubes, then each of these will be 2 by 2 by 2.

How many other combinations can Tommy make where he uses all the cubes?

Step 3:

Complete the sentences for each cuboid.

1 cm

5 cm

3 cm

4 cm

5 cm

3 cm

The length is: _____

The width is: _____

The height is: _____

The area of the base is: _____ × _____ = _____

Volume = The area of the base × _____ = _____
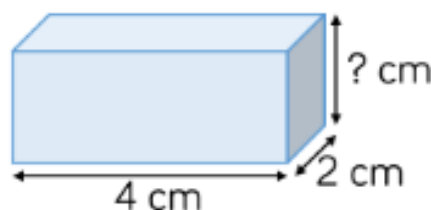
Calculate the volume of a cube with side length:

    4 cm   2 m   160 mm

Use appropriate units for your answers.

The volume of the cuboid is 32 cm³.
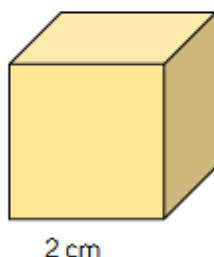
Calculate the height.

? cm

4 cm

2 cm

Step 4:

Rosie says,

You can't calculate the volume of the cube because you don't know the width or the height.
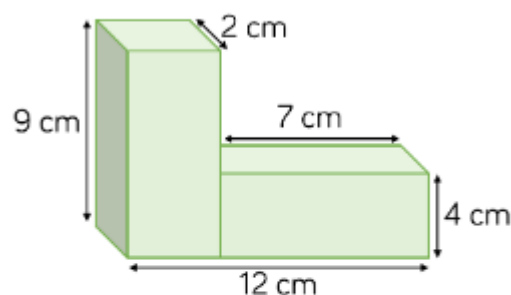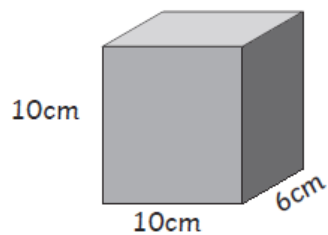
2 cm

Do you agree?

Explain why.

Calculate the volume of the shape.

2 cm

9 cm

7 cm

4 cm

12 cm

How many different ways can you make a cuboid with a volume of 48 cm³?

Step 5:

1.

10cm
10cm
6cm

Volume = [ ]

2.

6cm
5cm
9cm

Volume = [ ]

3.

7cm
3cm
4cm

Volume = [ ]

4.

3cm
4cm
6cm
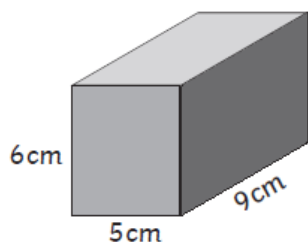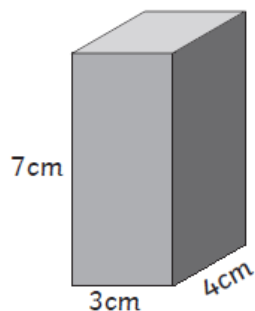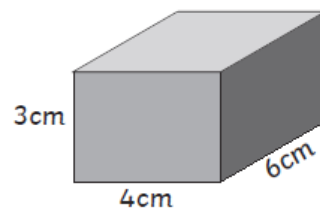
Volume = [ ]

Compare the volume of the following cuboids.

5.

4cm
1cm
7cm

Volume = [ ]

2cm
4cm
6cm

Volume = [ ]

6.

10cm
5cm
1cm

Volume = [ ]

3cm
3cm
6cm
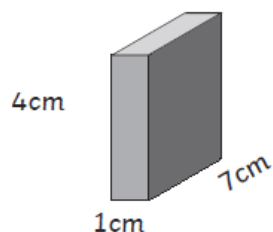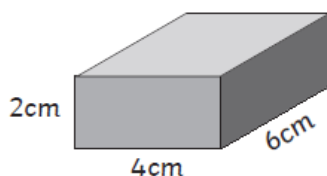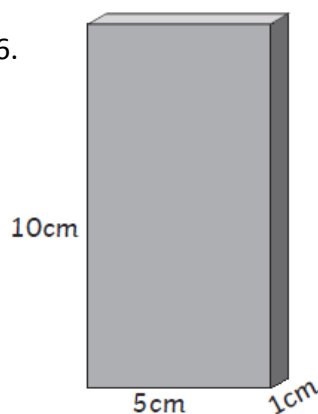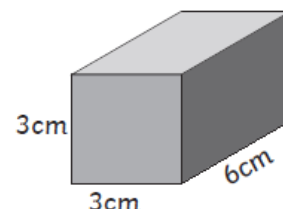
Volume = [ ]

Cube A and cuboid B have the same volume.

A

6cm

Not to scale

6cm
4cm
B
?
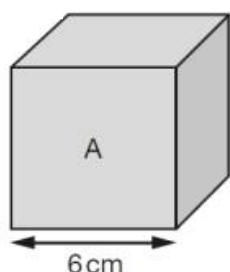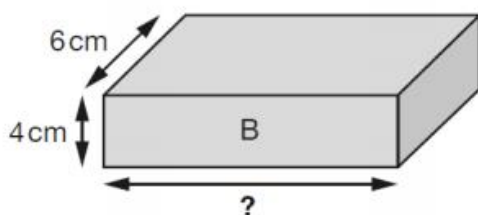
Calculate the missing length on cuboid B.

Additional areas to work on:

Play on Hit the Button - focus multiplication tables.

Work through the areas of an arithmetic paper (which can be found on the KS2 Maths Organiser on the school website) Look at the Calculation Policy on the school website under 'Curriculum' and then 'Maths' for help in how to support + - x and ÷

https://www.sampford-peverell-primary.devon.sch.uk/website/maths/459621