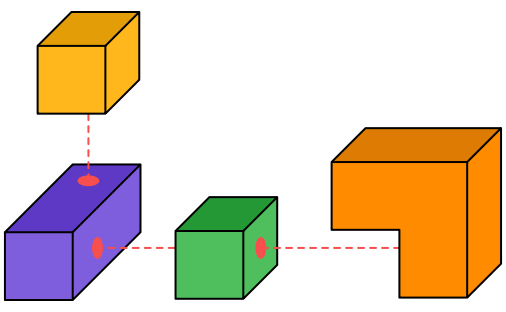
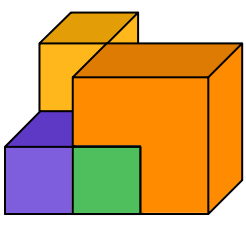
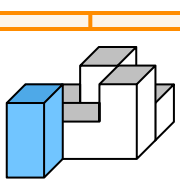
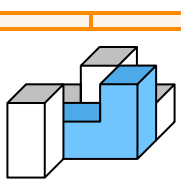
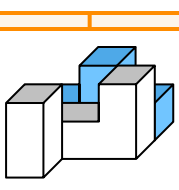
Combining 3D Shapes

In **Combining 3D Shapes** questions, you have to select the group of blocks that can be combined to make a particular 3D shape.





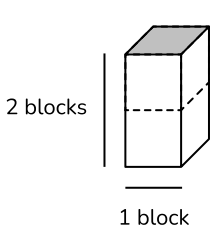
There are **three types of block**: fully visible, partially hidden and obscured.

Fully visible	Partially hidden	Obscured
		
The full size and shape of these blocks can be seen.	We can't see parts of these blocks, but we can work out what they are.	We can't see enough of the block(s) to work out what they are without looking at the answer options.

Method

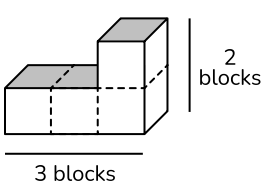
1 Start by looking at blocks that are **clearly visible.**

- How many cubes **wide, long** and **tall** are the fully visible blocks?
- Rule out any answer options that don't contain these blocks.



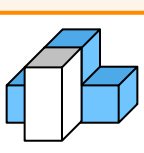
2 Next, focus on any blocks that are **partially hidden.**

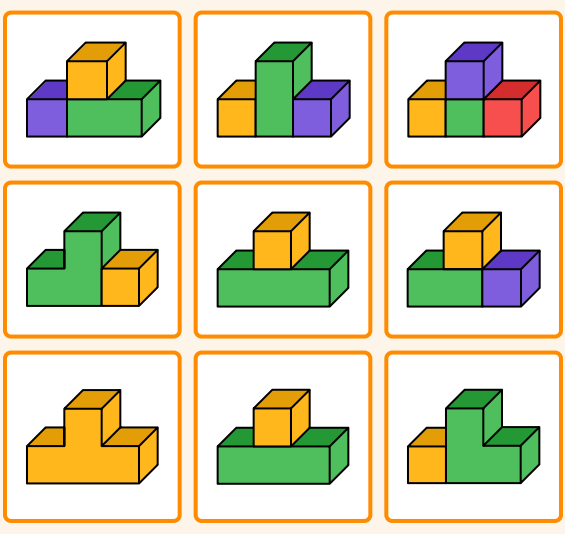
- Use what you **can** see to help you figure out what you **can't** see.
- Imagine removing any blocks that are in the way.



3 Use any remaining answer options to figure out the size and shape of any **obscured blocks**.

- An obscured section can be made up of different **arrangements** and different **numbers** of blocks!
- Go through the remaining options and **rule them out** until you are left with the only possible answer!

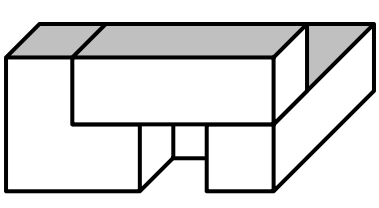


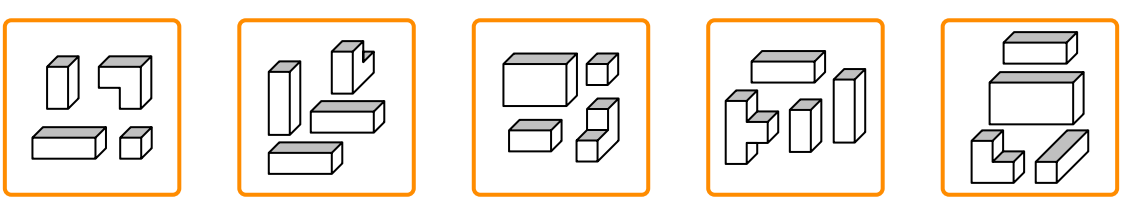


Remember! Every block in your answer **must** be used to make the 3D shape.

Example Question

Which set of blocks could be used to make this 3D shape?

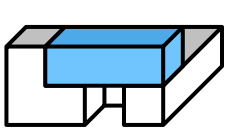




A B C D E

1 Focus on the **dimensions** of the **fully visible block.**

The cuboid is 3 cubes wide, 1 cube long and 1 cube tall.

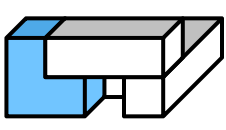


We can rule out...

- **C** - it does not contain this block!

2 Look at the **partially hidden block.**

The **L shaped block** on the left is 2 cubes wide, 1 cube long and 2 cubes tall.

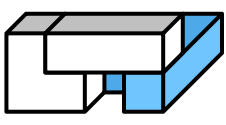


We can rule out...

- **D** because there is no 'L' shaped block!

3 Figure out the shape and size of any **obscured blocks** using the answer options.

On the right, there is another long cuboid, which is **3 cubes long** and at least **1 cube wide.**



We can rule out...

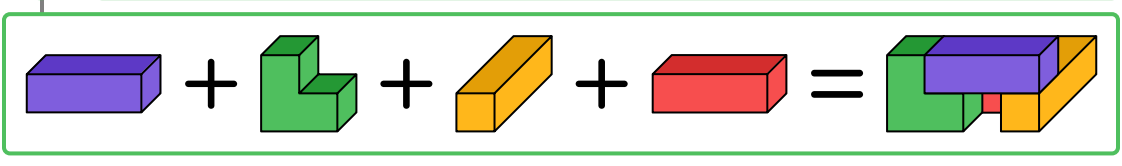
- **A** because it only contains **one** long cuboid shape, instead of two!

The **obscured block** does not poke out, so we can deduce that its maximum size is 3 cubes wide, 2 cubes long and 1 cube tall.

We can rule out...

- **E** because the **large cuboid** is too big to fit into our 3D shape!

B is the correct answer! It is the only option that can make the 3D shape!



Top Tips

- Look at how the blocks are positioned - are there any **gaps** between them?
- Pay attention to the **dimensions** of each block - how tall or short are they? How narrow or wide?
- The blocks in the answer options may be **rotated**, but their **proportions** (size) will always remain the same!