

# Varied Fluency

## Step 12: Make Patterns with 3D Shapes

### National Curriculum Objectives:

Mathematics Year 2: (2G1b) [Compare and sort common 3-D shapes and everyday objects](#)

Mathematics Year 2: (2G2b) [Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces](#)

### Differentiation:

**Developing** Questions to support recognising and continuing 2-step patterns using 3D shapes including spheres, cylinders, cones, cubes and cuboids.

**Expected** Questions to support recognising and continuing 3-step patterns using 3D shapes including spheres, cylinders, cones, cubes, cuboids, square based and triangular based pyramids.

**Greater Depth** Questions to support recognising and continuing 3 and 4-step patterns using 3D shapes including spheres, cylinders, cones, cubes, cuboids, square based and triangular based pyramids, hemispheres and different prisms.

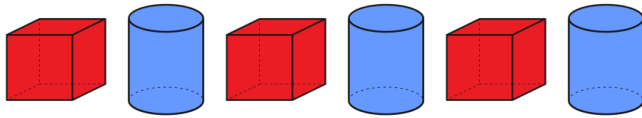
More [Year 2 Properties of Shape](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

# Make Patterns with 3D Shapes

# Make Patterns with 3D Shapes

1a. Which 3D shapes are being used to create this 2-step pattern?



cube

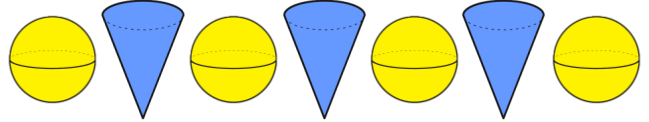
sphere

cylinder



VF

1b. Which 3D shapes are being used to create this 2-step pattern?



circle

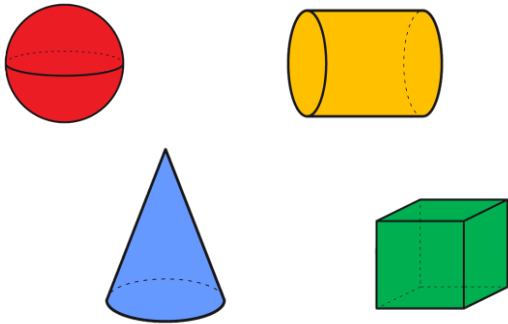
cone

sphere



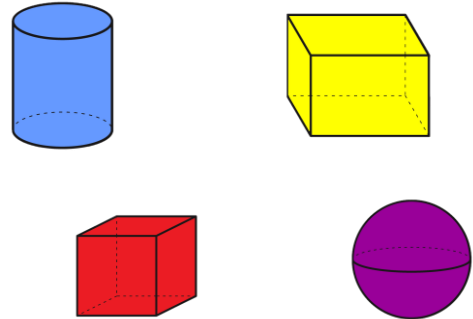
VF

2a. Use two of these shapes to create a 2-step repeating pattern.



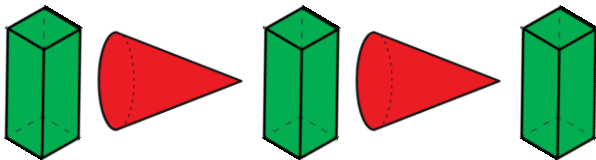
VF

2b. Use two of these shapes to create a 2-step repeating pattern.



VF

3a. True or false?

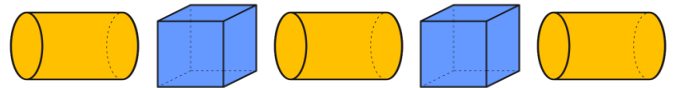


The next shape in the pattern is a cone.



VF

3b. True or false?



The next shape in the pattern is a cylinder.



VF

4a. Liz has found 3D objects and used them to create a 2-step repeating pattern.



Which shape will be the next shape in her pattern?



VF

4b. Adam has found 3D objects and used them to create a 2-step repeating pattern.



Which shape will be the next shape in his pattern?

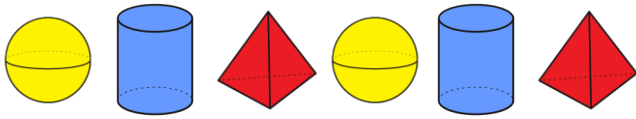


VF

# Make Patterns with 3D Shapes

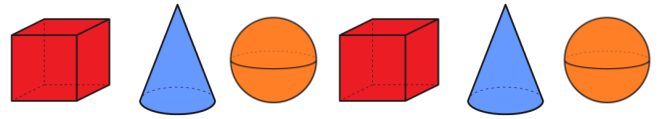
# Make Patterns with 3D Shapes

5a. Which 3D shapes are being used to create this 3-step pattern?



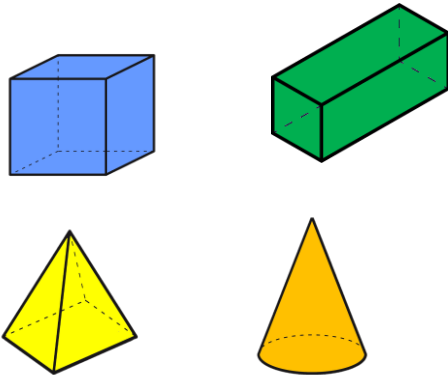
VF

5b. Which 3D shapes are being used to create this 3-step pattern?



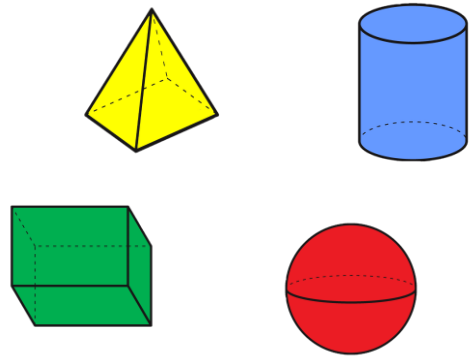
VF

6a. Use three of these shapes to create a 3-step repeating pattern.



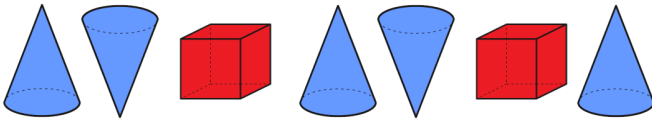
VF

6b. Use three of these shapes to create a 3-step repeating pattern.



VF

7a. True or false?

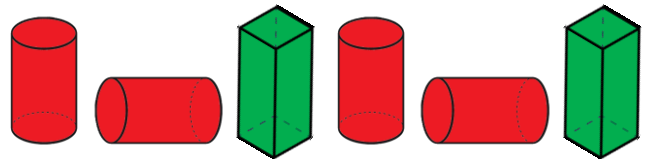


The next shape in the pattern is a cube.



VF

7b. True or false?



The next shape in the pattern is a cylinder.



VF

8a. Tom has found 3D objects and used them to create a 3-step repeating pattern.



Which shape will be the tenth shape in his pattern?



VF

8b. Tara has found 3D objects and used them to create a 3-step repeating pattern.



Which shape will be the twelfth shape in her pattern?

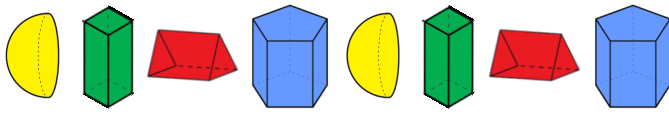


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# Make Patterns with 3D Shapes

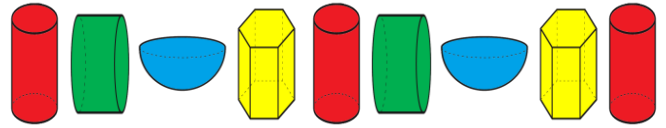
# Make Patterns with 3D Shapes

9a. Which 3D shapes are being used to create this 4-step pattern?



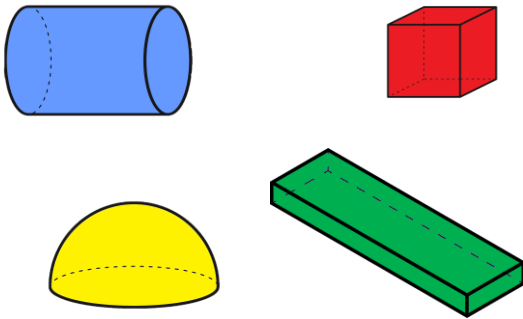
VF

9b. Which 3D shapes are being used to create this 4-step pattern?



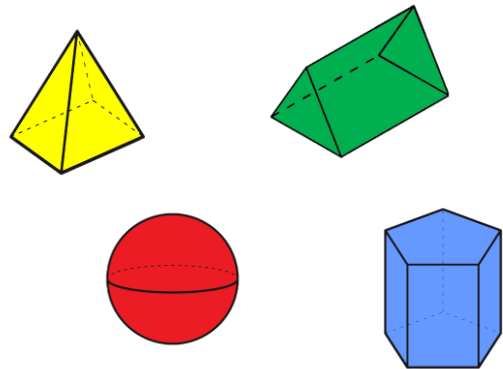
VF

10a. Choose from these shapes to create a 4-step repeating pattern.



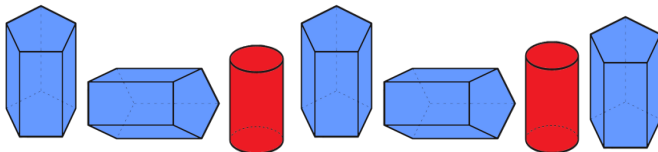
VF

10b. Choose from these shapes to create a 4-step repeating pattern.



VF

11a. True or false?

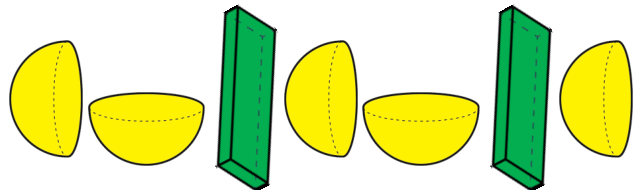


The next shape in the pattern is a cylinder.



VF

11b. True or false?



The next shape in the pattern is a cuboid.



VF

12a. Alex has found 3D objects and used them to create a 3-step repeating pattern.



Which shape will be the twelfth shape in his pattern?



VF

12b. Beth has found 3D objects and used them to create a 3-step repeating pattern.



Which shape will be the tenth shape in her pattern?



VF

**Varied Fluency**  
**Make Patterns with 3D Shapes**

**Developing**

- 1a. **Cube and cylinder.**
- 2a. **Various answers, for example: sphere and cylinder; cone and cube.**
- 3a. **True.**
- 4a. **Cylinder.**

**Expected**

- 5a. **Sphere, cylinder and triangular based pyramid.**
- 6a. **Various answers, for example: cube, cuboid and cone; square based pyramid, cube and cone.**
- 7a. **False, it is a cone.**
- 8a. **Cylinder.**

**Greater Depth**

- 9a. **Hemisphere, cuboid, triangular prism and pentagonal prism.**
- 10a. **Various answers, for example: cube, cuboid, hemisphere and cylinder; hemisphere, cylinder, cube and cuboid.**
- 11a. **False, it is a pentagonal prism.**
- 12a. **Hemisphere.**

**Varied Fluency**  
**Make Patterns with 3D Shapes**

**Developing**

- 11b. **Sphere and cone.**
- 2b. **Various answers, for example: cylinder and cuboid; cube and sphere.**
- 3b. **False, it is a cube.**
- 4b. **Sphere.**

**Expected**

- 5b. **Cube, cone and sphere.**
- 6a. **Various answers, for example: square based pyramid, cylinder and cuboid; sphere, cuboid and cylinder.**
- 7a. **True.**
- 8a. **Cuboid.**

**Greater Depth**

- 9b. **Cylinder, cylinder, hemisphere and hexagonal prism.**
- 10a. **Various answers, for example: square based pyramid, triangular prism, sphere and pentagonal prism; sphere, pentagonal prism, triangular prism and square based pyramid.**
- 11a. **False, it is a hemisphere.**
- 12a. **Triangular prism.**