

Homework/Extension

Step 8: Recognise and Describe 3D Shapes

National Curriculum Objectives:

Mathematics Year 3: (3G3b) [Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them](#)

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

Developing Match the 3D shapes to the correct descriptions using knowledge of 3D shapes and their properties; includes edges, vertices and faces. Shapes include cone, cylinder and square-based pyramid.

Expected Match the 3D shapes to the correct descriptions using knowledge of 3D shapes and their properties; includes edges, vertices and faces. Shapes include triangular prism, sphere and cuboid.

Greater Depth Match the 3D shapes to the correct descriptions using knowledge of 3D shapes and their properties; includes edges, vertices and faces. Shapes include cylinder, octagonal prism and tetrahedron and shapes may be presented in different orientations.

Questions 2, 5 and 8 (Varied Fluency)

Developing Complete the table using knowledge of 3D shapes and their properties, including edges, vertices and faces. Shapes include cuboid, sphere and cube.

Expected Complete the table using knowledge of 3D shapes and their properties, including edges, vertices and faces. Shapes include triangular-based pyramid, square-based pyramid, cylinder.

Greater Depth Complete the table using knowledge of 3D shapes and their properties, including edges, vertices and faces. Shapes include pentagonal prism, hexagonal prism, octahedron.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

Developing Explain whether the guessed shape matches the given description using knowledge of 3D shapes and their properties, including edges, vertices and faces. Shapes may include cube, cuboid, cylinder, sphere, cone or square-based pyramid.

Expected Explain whether the guessed shape matches the given description using knowledge of 3D shapes and their properties, including edges, vertices and faces. Shapes may include cube, cuboid, cylinder, sphere, cone, triangular-based pyramid, square-based pyramid or triangular prism.

Greater Depth Explain whether the guessed shape matches the given description using knowledge of 3D shapes and their properties, including edges, vertices and faces. Shapes may include cube, cuboid, cylinder, sphere, cone, various pyramids and prisms.

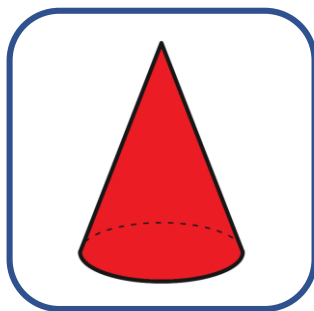
More [Year 3 Properties of Shapes](#) resources.

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

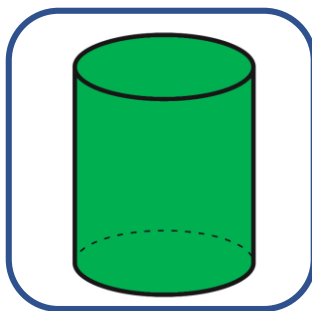
Recognise and Describe 3D Shapes

1. Match the shapes to the correct descriptions.

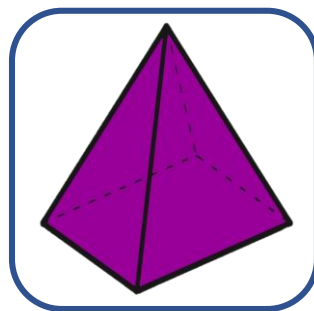
1



2



3



A

5 faces
8 edges
5 vertices

B

1 curved surface
1 circular base
1 edge
1 vertex

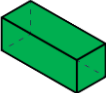

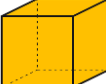
C

1 curved surface
2 faces
2 curved edges
0 vertices



VF
HW/Ext

2. Complete the table.

	Number of faces/surfaces	Number of edges	Number of vertices
cuboid 			
sphere 			
cube 			



VF
HW/Ext

3. Cameron is thinking of a shape. Claire is trying to guess the shape.



Cameron

My shape has 1 curved
surface, no edges and no
vertices.

It must be a cylinder.



Claire

Could Claire be correct? Explain your answer.

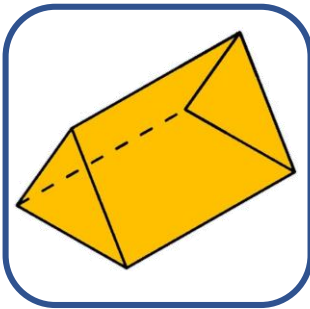


RPS
HW/Ext

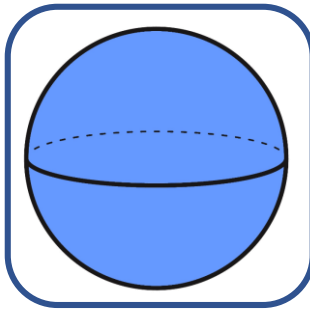
Recognise and Describe 3D Shapes

4. Match the shapes to the correct descriptions.

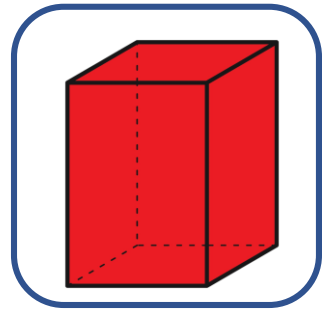
1



2



3



A

1 curved surface
0 edges
0 vertices

B

6 faces
12 edges
8 vertices

C

5 faces
9 edges
6 vertices



VF
HW/Ext

5. Complete the table.

	Number of faces/surfaces	Number of edges	Number of vertices
triangular- based pyramid			
square-based pyramid			
cylinder			



VF
HW/Ext

6. Thali is thinking of a shape. Jane is trying to guess the shape.



Thali

My shape has 6 faces, 12
edges and 8 vertices.

It must be a cuboid.



Jane

Could Jane be correct? Explain your answer.

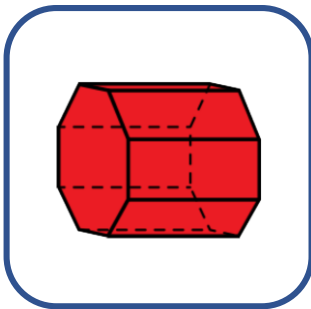


RPS
HW/Ext

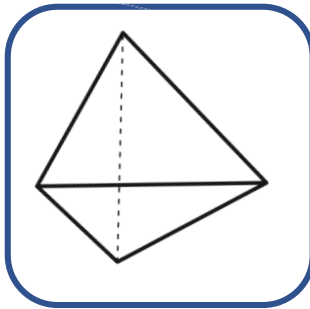
Recognise and Describe 3D Shapes

7. Match the shapes to the correct descriptions.

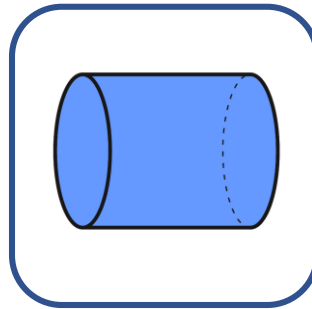
1



2



3



A

3 faces
2 edges
0 vertices

B

10 faces
24 edges
16 vertices

C

4 faces
6 edges
4 vertices



VF
HW/Ext

8. Complete the table.

	Number of faces/surfaces	Number of edges	Number of vertices
pentagonal prism			
hexagonal prism			
octahedron			



VF
HW/Ext

9. Georgia is thinking of a shape. Andy is trying to guess the shape.



Georgia

My shape has 4 faces, 4
vertices and 6 edges.

It must be a square-based
pyramid.



Andy

Could Jane be correct? Explain your answer.



RPS
HW/Ext

Homework/Extension

Recognise and Describe 3D Shapes

Developing

1. **1B; 2C; 3A**

2.

	Number of faces/surfaces	Number of edges	Number of vertices
cuboid	6	12	8
sphere	1	0	0
cube	6	12	8

3. **Claire is incorrect as a cylinder has 2 curved edges. The shape Cameron is thinking of is a sphere.**

Expected

4. **1C; 2A; 3B**

5.

	Number of faces/surfaces	Number of edges	Number of vertices
triangular-based pyramid	4	6	4
square-based pyramid	5	8	5
cylinder	3	2	0

6. **Jane is correct but the shape could also be a cube. A cube also has 6 faces, 12 edges and 8 vertices.**

Greater Depth

7. **1B; 2C; 3A**

8.

	Number of faces/surfaces	Number of edges	Number of vertices
pentagonal prism	7	15	10
hexagonal prism	8	18	12
octahedron	8	12	6

9. **Andy is incorrect as a square-based pyramid has 5 faces, 5 vertices and 8 edges. The shape Georgia is thinking of is a triangular-based pyramid.**