Homework/Extension
Step 10: Count Vertices on 3D Shapes

National Curriculum Objectives:

Mathematics Year 2: (2G2b) Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
Mathematics Year 2: (2G1b) Compare and sort common 3-D shapes and everyday objects

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)
Developing Match the 3D shape to the number of edges and vertices it has. All shapes presented in the same orientation and size. Perspective lines visible on all shapes.
Expected Match the 3D shape to the number of edges and vertices it has. All shapes presented in different orientations and sizes. Perspective lines visible on some shapes.
Greater Depth Match the 3D shape to the number of edges and vertices it has. All shapes presented in different orientations and sizes. No perspective lines visible on shapes, with the use of some real-life objects.

Questions 2, 5 and 8 (Varied Fluency)
Developing Tick the statements that are true for the shape given. All shapes presented in the same orientation and size. Perspective lines visible on all shapes.
Expected Tick the statements that are true for the shape given. All shapes presented in different orientations and sizes. Perspective lines visible on some shapes.
Greater Depth Tick the statements that are true for the shape given. All shapes presented in different orientations and sizes. No perspective lines visible on shapes, with the use of some real-life objects.

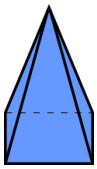
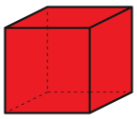
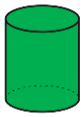
Questions 3, 6 and 9 (Reasoning and Problem Solving)
Developing Identify and explain if the statement is true. Visual support with perspective lines provided.
Expected Identify and explain if the statement is true. All shapes presented in different orientations and sizes. Visual support without perspective lines provided.
Greater Depth Identify and explain if the statement is true. All shapes presented in different orientations and sizes. No visual support provided.

More Year 2 Properties of Shape resources.

Did you like this resource? Don't forget to review it on our website.

Count Vertices on 3D Shapes

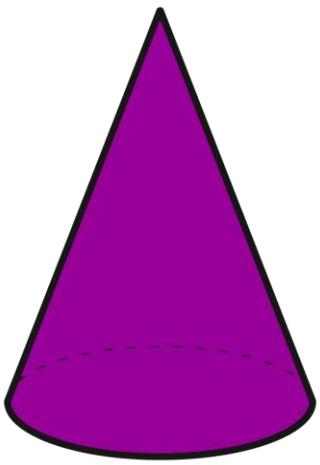
1. Draw lines to match the shape to the number of edges and the number of vertices.

Shape	Edges	Vertices
	12	0
	2	5
	8	8

D

VF
HW/Ext

2. Tick the <u>two</u> statements that are correct for the following shape.



A. The 3D shape is not a cone. ☐

B. The 3D shape has 2 vertices. ☐

C. The 3D shape has 1 face. ☐

D. The 3D shape has 1 vertex. ☐

D

VF
HW/Ext

3. Hattie is making 3D shapes. She is using lollipop sticks for the edges and playdough balls for the vertices.

I need 4 balls of playdough and 8 lollipop sticks to make a square-based pyramid.

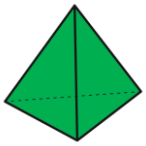
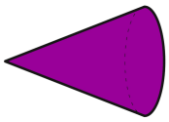
Is Hattie correct? Explain your answer.

D

RPS
HW/Ext

Count Vertices on 3D Shapes

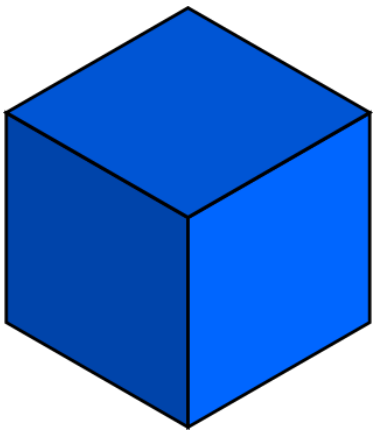
4. Draw lines to match the shape to the number of edges and the number of vertices.

Shape	Edges	Vertices
	9	1
	1	4
	6	6

E

VF
HW/Ext

5. Tick the <u>two</u> statements that are correct for the following shape.



A. The 3D shape is a square. ☐

B. The 3D shape has 8 vertices. ☐

C. The 3D shape has 6 faces. ☐

D. The 3D shape has 6 vertices. ☐

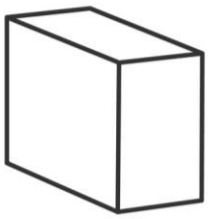
E

VF
HW/Ext

6. Azzam is making 3D shapes. He is using lollipop sticks for the edges and playdough balls for the vertices.

I need 12 balls of playdough and 12 lollipop sticks to make a cuboid.





Is Azzam correct? Explain your answer.

E

RPS
HW/Ext

Count Vertices on 3D Shapes

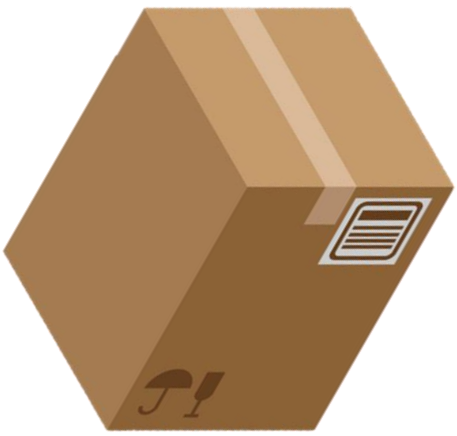
7. Draw lines to match the shape to the number of edges and the number of vertices.

Shape	Edges	Vertices
	2	8
	8	0
	12	5

GD

VF
HW/Ext

8. Tick the <u>two</u> statements that are correct for the following shape.



A. The 3D shape is a cube. ☐

B. The 3D shape has 12 vertices. ☐

C. The 3D shape has 6 faces. ☐

D. The 3D shape has 8 vertices. ☐

GD

VF
HW/Ext

9. Tallulah is making 3D shapes. She is using lollipop sticks for the edges and playdough balls for the vertices.

I need 9 balls of playdough and 9 lollipop sticks to make a triangular prism.

Is Tallulah correct? Explain your answer.

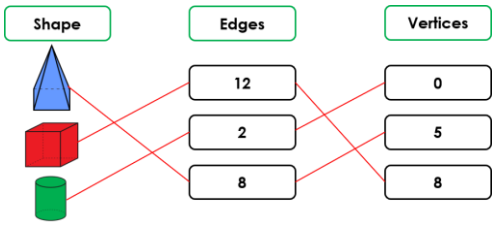
GD

RPS
HW/Ext

Homework/Extension
Count Vertices on 3D Shapes

Developing

1.

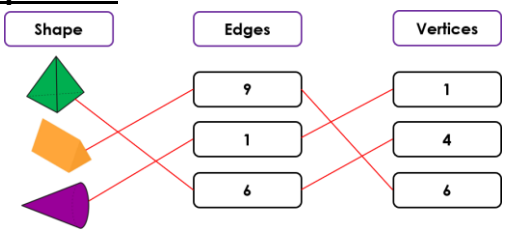


2. C and D

3. Hattie is incorrect because a square-based pyramid has 5 vertices not 4, so 5 balls of playdough are needed.

Expected

4.

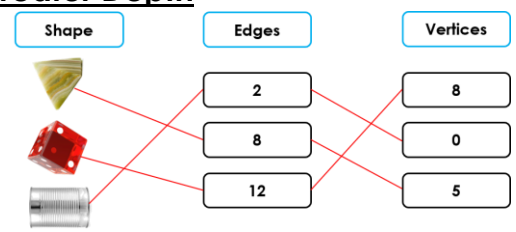


5. B and C

6. Azzam is incorrect because a cuboid has 8 vertices not 12, so 8 balls of playdough are needed.

Greater Depth

7.



8. C and D

9. Tallulah is incorrect because a triangular prism has 6 vertices not 9, so 6 balls of playdough are needed.