

Reasoning and Problem Solving

Step 2: Sort 3D Shapes

Teaching note: We recommend that this resource is printed in colour.

National Curriculum Objectives:

Mathematics Year 1:(1G1b) [Recognise and name common 3-D shapes \[for example, cuboids \(including cubes\), pyramids and spheres\]](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain whether shapes have been identified correctly. Includes cubes, spheres, cuboids and triangular-based pyramids where the same shape is presented in different sizes, colours and orientations and with perspective lines visible.

Expected Explain whether shapes have been identified correctly. Includes cubes, cuboids, spheres, cones, square-based pyramids, triangular-based pyramids and cylinders where the same shape is presented in different sizes, colours and orientations and with some perspective lines visible.

Greater Depth Explain whether shapes have been identified correctly. Including cubes, cuboids, spheres, cones, square-based pyramids, triangular-based pyramids and cylinders where the same shape is presented in different sizes, colours and orientations. No perspective lines visible and some use of real life objects.

Questions 2, 5 and 8 (Problem Solving)

Developing Identify the odd one out. Find two possibilities. Differentiation as described in question 1.

Expected Identify the odd one out. Find two possibilities. Differentiation as described in question 4.

Greater Depth Identify the odd one out. Find two possibilities. Differentiation as described in question 7 without use of real life objects.

Questions 3, 6 and 9 (Reasoning)

Developing Explain whether shapes have been identified correctly when size, colour or orientation has changed. Differentiation as described in question 1.

Expected Explain whether shapes have been identified correctly when size, colour or orientation has changed. Differentiation as described in question 4.

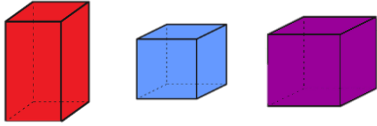
Greater Depth Explain whether shapes have been identified correctly when size, colour or orientation has changed. Differentiation as described in question 7.

More [Year 1 Shape](#) resources.

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

Sort 3D Shapes

1a. Joe has three 3D shapes.



He says,



I have 3 cubes.

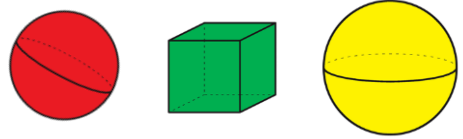
Do you agree? Explain your answer.



R

Sort 3D Shapes

1b. Ava has three 3D shapes.



She says,



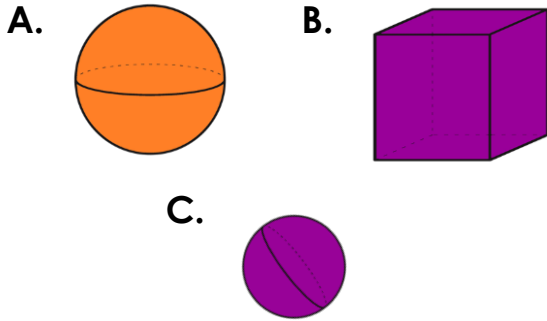
I have 3 spheres.

Do you agree? Explain your answer.



R

2a. Which shape is the odd one out?

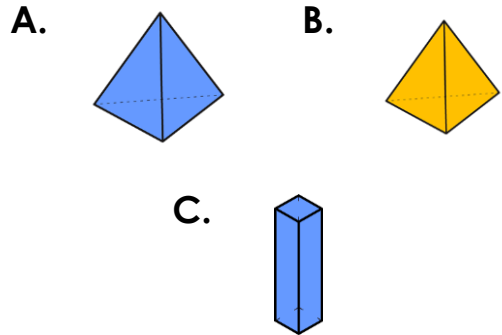


Find 2 possible answers.



PS

2b. Which shape is the odd one out?



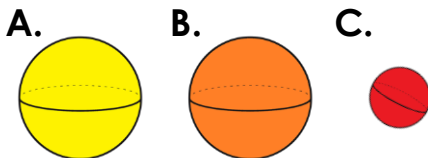
Find 2 possible answers.



PS

3a. Lee says,

C is the only shape that isn't a sphere.



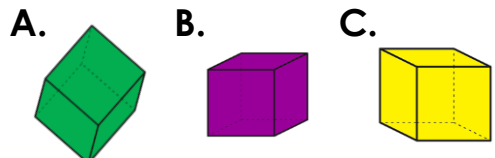
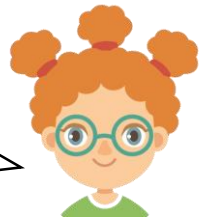
Do you agree? Explain your answer.



R

3b. Molly says,

A is the only shape that isn't a cube.



Do you agree? Explain your answer.



R

Sort 3D Shapes

4a. Katie has three 3D shapes.



She says,



I have three cylinders.

Do you agree? Explain your answer.



R

Sort 3D Shapes

4b. Theo has three 3D shapes.



He says,



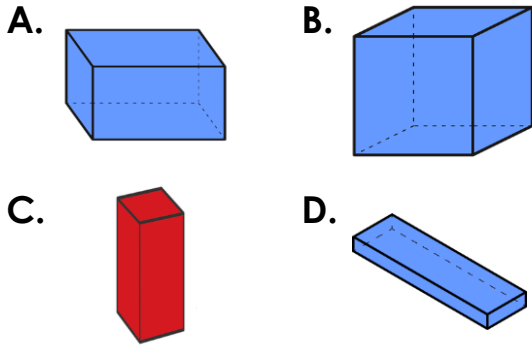
I have three cones.

Do you agree? Explain your answer.



R

5a. Which shape is the odd one out?

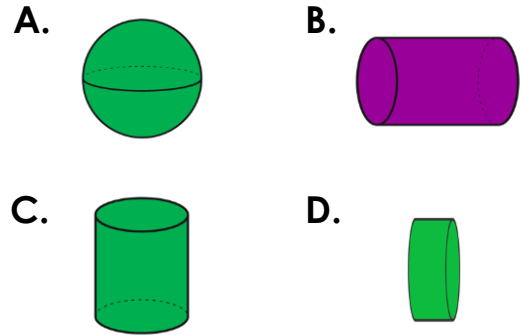


Find 2 possible answers.



PS

5b. Which shape is the odd one out?



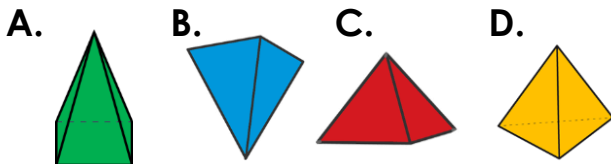
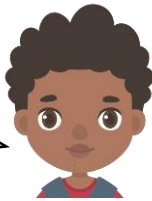
Find 2 possible answers.



PS

6a. Zac says,

B is the only shape that isn't a pyramid.



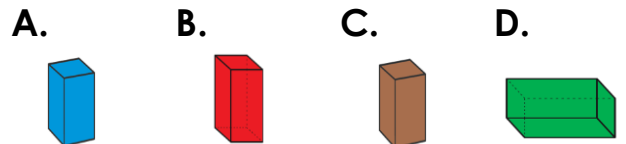
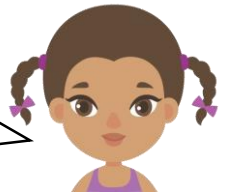
Do you agree? Explain your answer.



R

6b. Mia says,

D is the only shape that isn't a cuboid.



Do you agree? Explain your answer.



R

Sort 3D Shapes

7a. Lucas has three 3D shapes.



He says,



I have two cuboids and a pyramid.

Do you agree? Explain your answer.



R

Sort 3D Shapes

7b. Evie has three 3D shapes.



She says,



I have three prisms.

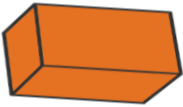
Do you agree? Explain your answer.



R

8a. Which shape is the odd one out?

A.



B.



C.



D.



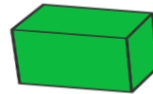
Find 2 possible answers.



PS

8b. Which shape is the odd one out?

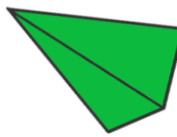
A.



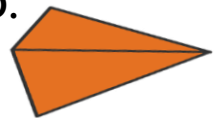
B.



C.



D.



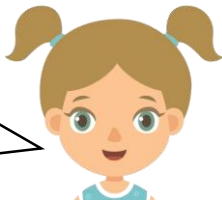
Find 2 possible answers.



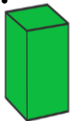
PS

9a. Amy says,

C is the only shape that isn't a prism.



A.



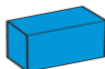
B.



C.



D.



Do you agree? Explain your answer.



R

9b. Jake says,

D is the only shape that isn't a pyramid.



A.



B.



C.



D.



Do you agree? Explain your answer.



R

Reasoning and Problem Solving Sort 3D Shapes

Developing

- 1a. Joe is incorrect because he has 2 cubes and 1 cuboid.
2a. Various answers, for example: B because it is the only cube. A because it is the only orange shape.
3a. Lee is incorrect. C is still a sphere that is shown in a different size.

Expected

- 4a. Katie is incorrect because she has 2 cylinders and 1 cone.
5a. Various answers, for example: B because it is the only cube. D as it has no square faces.
6a. Zac is incorrect. B is still a pyramid that is shown in a different orientation.

Greater Depth

- 7a. Lucas is incorrect because he has one cube, one cuboid and one pyramid.
8a. Various answers, for example: C because it is the only pyramid. B because it has no square faces.
9a. Amy is incorrect. B and C are not prisms but A and D are both prisms that are shown in different orientations.

Reasoning and Problem Solving Sort 3D Shapes

Developing

- 1b. Ava is incorrect because she has 2 spheres and 1 cube.
2b. Various answers, for example: C because it is the only cuboid. B because it is the only yellow shape.
3b. Molly is incorrect. A is still a cube that is shown in a different orientation.

Expected

- 4b. Theo is incorrect because he has 2 cones and 1 sphere.
5b. Various answers, for example: B because it is the only purple shape. A because it is the only sphere.
6b. Mia is incorrect. D is still a cuboid that is shown in a different orientation.

Greater Depth

- 7b. Evie is incorrect. The cube and the cuboid are both prisms but the cylinder is not.
8b. Various answers, for example: D because it is the only orange shape. A because it is the only cuboid.
9b. Jake is incorrect. D is still a pyramid that is shown in a different orientation. However B is not a pyramid, it is a cone.