

Yr 6 Shape Unit 4 (6263)

Additional teacher instructions for practice sheets

These notes indicate which practice sheets are most appropriate for which groups.

Day 1 All about the cubes Sheet 1

Working towards ARE do questions 1a, 1b, 1c, 1d, 2a, 2b, 2c, 2d, 3 and 4, and have a go at the challenge.

Working at ARE do all except questions 2i, 2j and 2k. They also have a go at the challenge.

Greater Depth do the whole sheet.

Day 2 Faces of prisms and pyramids Sheet 1

All children to attempt the main activity – you could set a number of different 3-D shapes to find for each group.

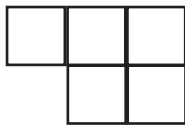
Visualising is an important skill in maths, but if children find this activity tricky, provide a concrete resource, such as Polydron, to help.

All about the cubes

Sheet 1

1. Which of these would make an open cube (a cube with no 'top')?

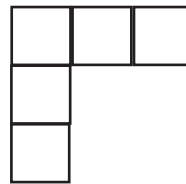
A



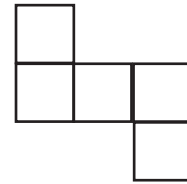
B



C



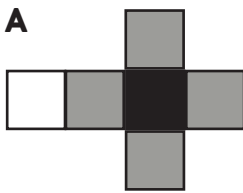
D



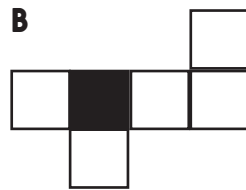
2. Here are some nets of cubes that have one face shaded black. When folded back into a cube, which four faces will be adjacent to the shaded face?

Shade them. The first one has been done for you.

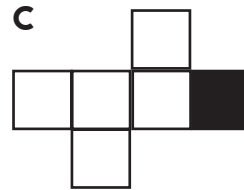
A



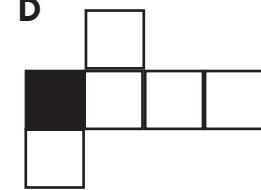
B



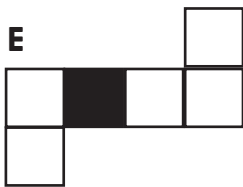
C



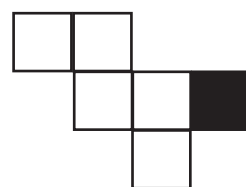
D



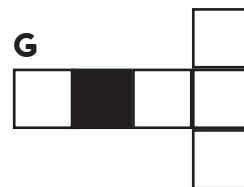
E



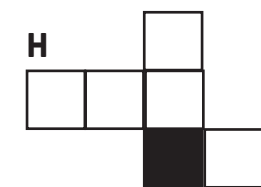
F



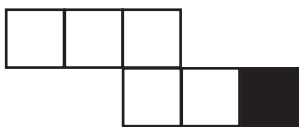
G



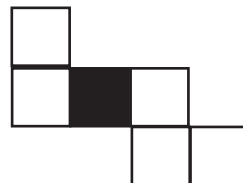
H



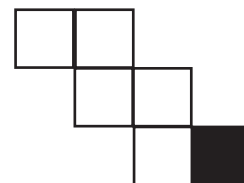
I



J



K



Did you discover a pattern or rule that helped?

3. Here are some shapes describing themselves. Which one is the cube?

- I have 4 vertices, 6 edges and 4 faces.
- I have 12 vertices, 18 edges and 8 faces.
- I have 6 vertices, 12 edges and 8 faces.
- I have 8 vertices, 12 edges and 6 faces.

4. Here are some more shapes describing themselves. Which one is **not** a cube?

What shape is it?

- Each corner of each of my faces is a right angle.
- I have 3 pairs of parallel faces.
- Every point on my surface is an equal distance from my centre.
- I am a regular polyhedron with 6 faces.

Challenge

Can you make up some more puzzles like these about cubes?

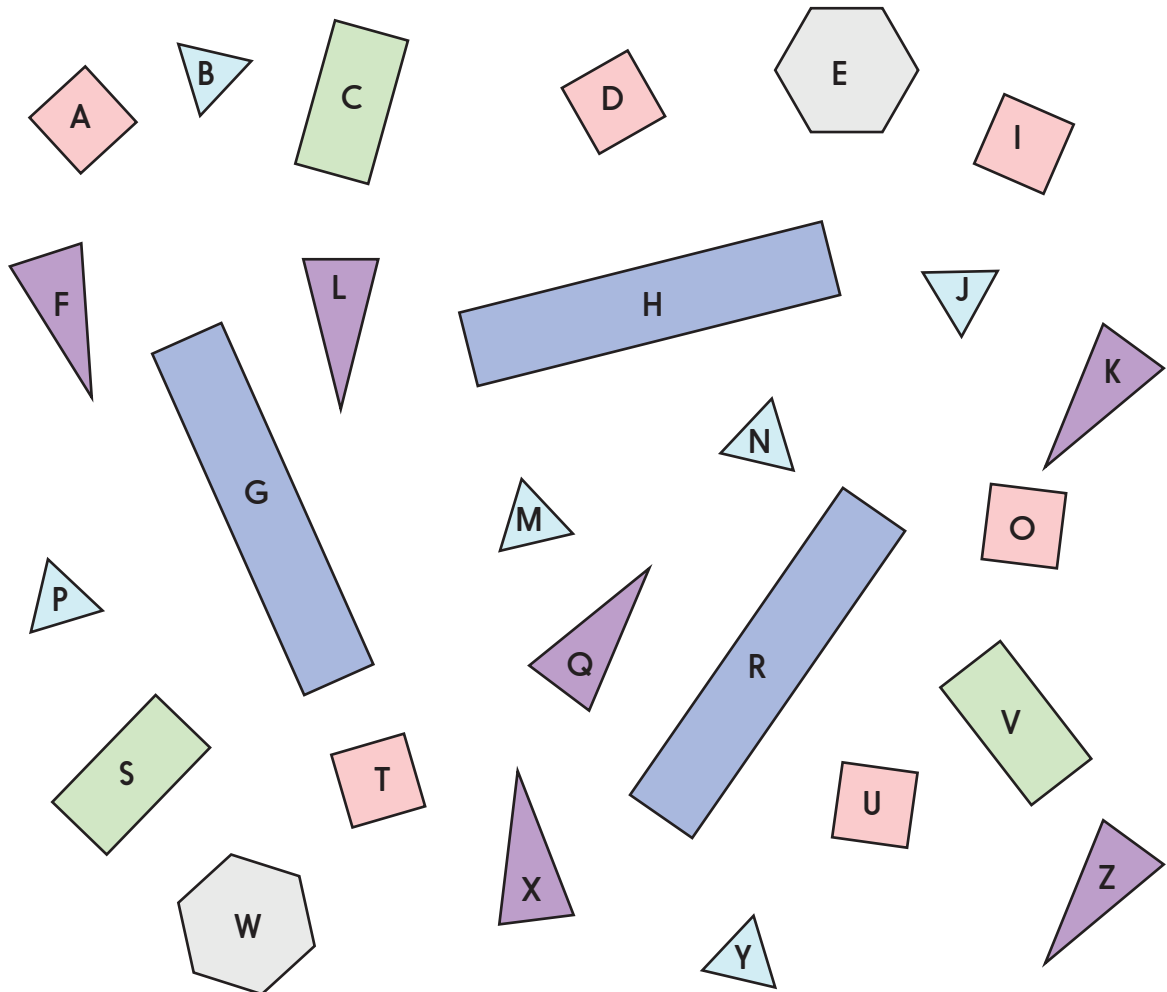
Faces of prisms and pyramids

Sheet 1

What different 3D shapes can you make using the faces below?

Write the name of each shape (e.g. triangle-based pyramid) and list the faces that would be on it. How many different 3D shapes can you find?

All shapes are drawn to scale.



Challenge

Tyrone wants to make a triangular prism. He uses G, L and F.
What shapes will he need to draw to be the other two faces?

Draw the net of his prism.

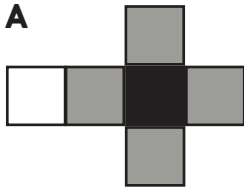
Shape Answers

Day 1 All about the cubes Sheet 1

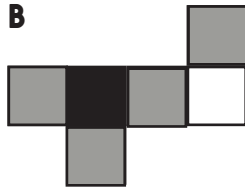
1. D

2.

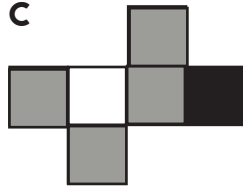
A



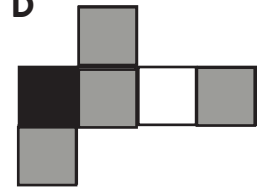
B



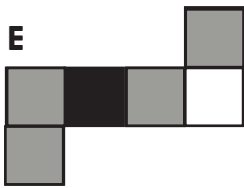
C



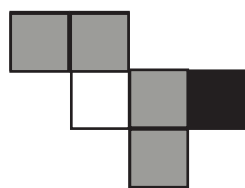
D



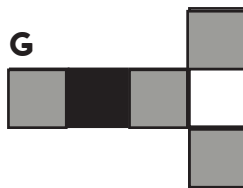
E



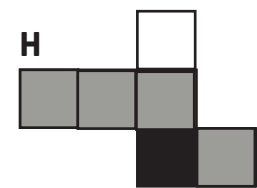
F



G



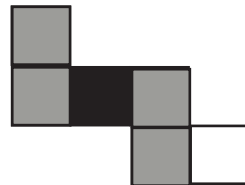
H



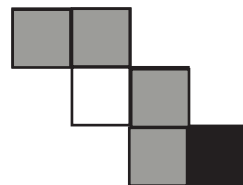
I



J



K



3. d

4. c is a sphere.

Day 2 Faces of prisms and pyramids Sheet 1

Cube = A, D, T, U, I, O

Tetrahedron = B, J, M, N (or P or Y)

Triangle-based pyramid = B (or J, M, N, P or Y) with any three of F, L, K, Q, X or Z

Square-based pyramid = A (or D, I, O, T or U) with any four of F, L, K, Q, X or Z

Triangular prism = any two of B, J, M, N, P and Y with either C, S and V or G, H and R

Challenge

Tyrone needs to draw two rectangles. These have a long side the length of the long side on G. They have a short side the length of the long side on F.

