## Properties of 3D Shapes

## Challenge

3D shapes are shapes which you are able to pick up. They have faces (sides), edges and vertices (corners). Complete the table below, identifying the different properties each 3D shape has.

| Name | Surfaces |  | Edges |  | Vertices | Picture |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Flat | Curved | Straight | Curved |  |  |
| sphere |  |  |  |  |  |  |
| cube |  |  |  |  |  |  |
| cuboid |  |  |  |  |  |  |
| cylinder |  |  |  |  |  |  |
| square-based pyramid |  |  |  |  |  |  |
| tetrahedron |  |  |  |  |  |  |
| triangular prism |  |  |  |  |  |  |
| pentagonal prism |  |  |  |  |  |  |
| hexagonal prism |  |  |  |  |  |  |
| octagonal prism |  |  |  |  |  |  |
| octahedron |  |  |  |  |  |  |

## An Amazing Fact a Day

The shape of a Pringle is called a hyperbolic paraboloid.

You could also try to find out:

- how they are made;
- how many ordinary packets of crisps a tube of Pringles would fill;
- about other unusual mathematical names for 3D shapes.



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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Flat | Curved | Straight | Curved |  |  |
| sphere | 0 | 1 | 0 | 0 | 0 |  |
| cube | 6 | 0 | 12 | 0 | 8 |  |
| cuboid | 6 | 0 | 12 | 0 | 8 |  |
| cone | 1 | 1 | 0 | 1 | 0* | $0$ |
| cylinder | 2 | 1 | 0 | 2 | 0 |  |
| square-based pyramid | 5 | 0 | 8 | 0 | 5 |  |
| tetrahedron | 4 | 0 | 6 | 0 | 4 |  |
| triangular prism | 5 | 0 | 9 | 0 | 6 |  |
| pentagonal prism | 7 | 0 | 15 | 0 | 10 |  |
| hexagonal prism | 8 | 0 | 18 | 0 | 12 |  |
| octagonal prism | 10 | 0 | 24 | 0 | 16 |  |
| octahedron | 8 | 0 | 12 | 0 | 6 |  |

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[^0]:    * 1 Vertex is also an acceptable answer.

