

<b>CLASS</b>	<b>VI</b>
<b>SUBJECT</b>	<b>MATHS</b>
<b>TOPIC</b>	<b>UNDERSTANDING ELEMENTARY SHAPES</b>
<b>SUBTOPIC</b>	<b>3D SHAPES</b>
<b>NO. OF SESSIONS</b>	<b>1</b>

### 3D-Shapes




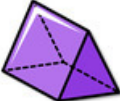





3D is short of 3 Dimensional having the dimensions of length, breadth and height.

In our day to day life we come across different types of 3D-shapes. Let us see few examples as below:



3D shapes are described using the following properties:

- Faces: The outside surfaces of a 3D shape
- Edges: The line segment where the two faces meet
- Vertex: The point where the three edges meet. Plural of vertex is vertices

Shape	Shape	Edges	Faces	Vertices
Cuboid		12	6	8
Cube		12	6	8
Rectangular Prism		12	6	8
Triangular Prism		9	5	6
Square Base Pyramid		8	5	5
Triangular Base Pyramid		6	4	4
Cylinder		2	3	0
Cone		1	2	1
Sphere		0	1	0

**Note:**

- Cube is a special type of cuboid in which all the faces are square.
- Cube and Cuboid are also rectangular prism.
- Prism has two opposite similar faces (also known as bases of prism) which can be any polygon. Remaining faces in prism are rectangular. Examples include Triangular Prism, Rectangular Prism, Pentagonal Prism, Hexagonal Prism and so on.
- Pyramid has one base which is a regular polygon and the remaining faces are triangular. Examples include Triangle base pyramid (also known as Tetrahedron), Square base pyramid and so on.
- In cylinder there are two identical circular bases connected with curved face
- In cone there is one circular base tapering down to a point with curved face
- Cone and Pyramid have one base.
- Cylinder and Prism have two identical bases.
- Sphere has only one circular face.
- The cylinder, cone and sphere have no straight edges

**Assignment**

1. Fill in the blanks:
  - a. Triangular base Pyramid is also known as \_\_\_\_\_
  - b. 3D shape one circular base is known as \_\_\_\_\_
  - c. Cube and Cuboid are also known as \_\_\_\_\_
  - d. Triangular prism has two identical bases which are \_\_\_\_\_ in shape.
  - e. The line segment in 3-D shape where two faces meet is known as \_\_\_\_\_
  - f. The plural of vertex is known as \_\_\_\_\_
  - g. Each side of a cube is a flat surface known as \_\_\_\_\_ of a cube.
  - h. Square base pyramid has \_\_\_\_\_ edges, \_\_\_\_\_ faces and \_\_\_\_\_ vertices
  - i. Sphere has \_\_\_\_\_ vertex
  - j. Cylinder and Prism have two identical faces also known as \_\_\_\_\_

**Homework:** Exercise 5.9

**Video Link:** [Link for a short video on 3D shapes](#)