# Surface Areas and Volumes

## Solids
The bodies occupying space are called solids.
The solid bodies occur in various shapes such as: a cuboid, a cube, a cylinder, a cone, a sphere, etc.

## Volume of a Solid
The space occupied by a solid body is called its volume.
The units of volume are cubic centimeters (written as $cm$ ) or cubic metres
(Written as $m^3$)

## Surface Area
The Area occupied by a solid body is called its Surface Area.
The units of Surface Area are square centimeters (written as $c$   ) or square  meters ( written as
   )

## Cuboid
A solid bounded by six rectangular faces is called a cuboid.
A match box, a chalk box, a brick, a tile, a book, etc., are all examples of a cuboid.
A cuboid has 6 rectangular faces, 12 edges and 8 vertices.

## Cube
A cuboid whose length, breadth and height are all equal is called a cube.

## Cylinders
Cylinder solids like circular pillars, circular pipes, circular pencils, measuring jars, road rollers and gas cylinders, etc., are said to be in cylindrical shapes.

## Hollow Cylinders
Solids like iron pipes, rubber tubes, etc., are in the shape of hollow cylinders.

## Right Circular Cone
The solid generated by the rotation of a right angled triangle about one of the sides containing the right angle is called a right circular cone.
We see around us many objects such as an ice-cream cone, a conical vessel, a clown's cap, etc., The objects are said to have the shape of a right circular cone.

### Sphere

Objects like football, volleyball, throw ball, etc., are said to have the shape of a sphere.

In geometry, the solid generated by revolving a circular lamina about any of its diameters, is called a sphere.

The centre and radius of this circle are called respectively the centre and the radius of the sphere.

### Spherical Shell

The solid enclosed between two concentric spheres.

### Hemisphere

When a plane through the centre of a sphere cuts it into two equal parts, then each part is called a hemisphere.