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^3) 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 cm^2) or square meters (written as m^2)

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.