

VIDYA BHAWAN BALIKA VIDYA PITH

CLASS- 4

DATE – 20 . 0 2 .21

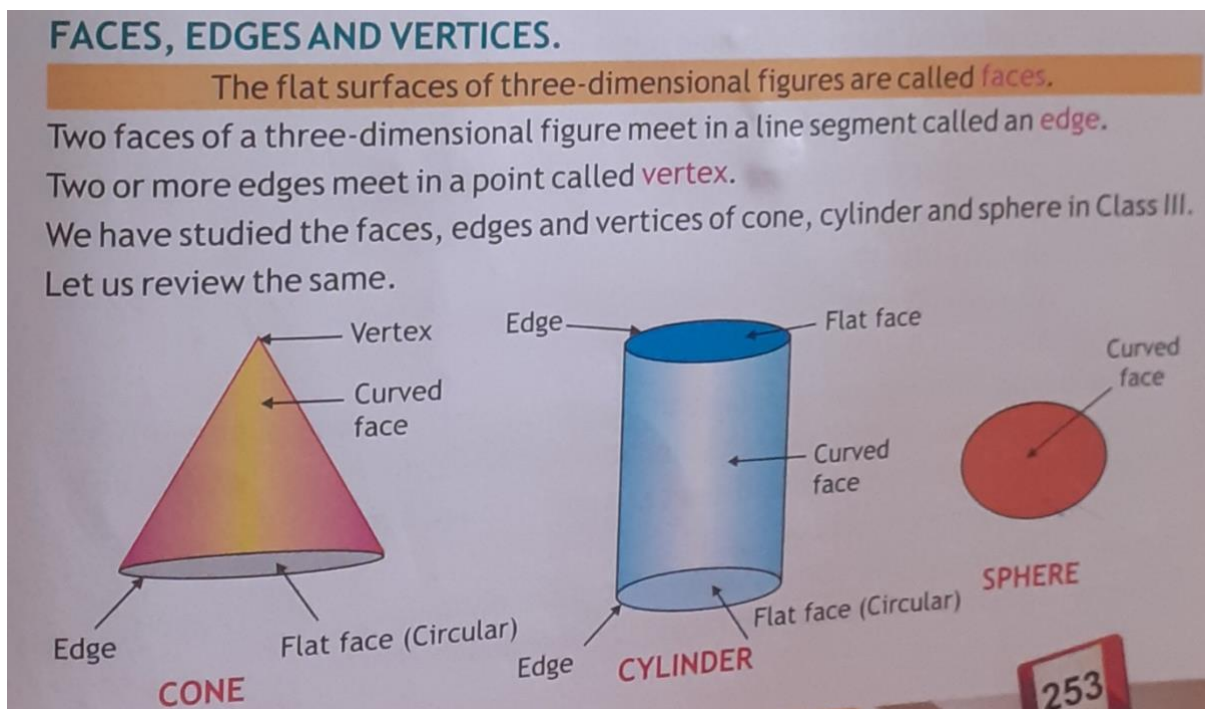
SUB – MATHS

S. T - PRAGYA

BASED ON N C R T PATTERN:-

CH- Three – Dimensional Shapes

SOLIDS - An object that has a fixed shape and size is called a solid .



Read and write carefully.

1. A cone has 2 faces (1 flat, 1 curved), 1 edge and 1 vertex.
2. A cylinder has 3 faces (2 flat, 1 curved), 2 edges and no vertex.
3. A sphere has 1 curved face, no edge and no vertex.

Now, we shall discuss in detail the various aspects of a cuboid, a cube and a pyramid.



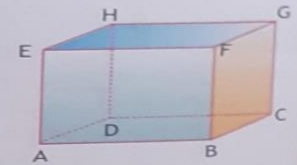
CUBOID

A solid bounded by six rectangular plane faces is called a **cuboid**.

Solids such as a wooden box, a match box, a brick, a book a room, an almirah etc are all in the shape of cuboid.

The figure of a cuboid is as shown alongside.

The various parts of a cuboid are as under :



1. **Faces** : A cuboid has 6 rectangular faces or opposite faces, namely :

- (i) the bottom face ABCD and the top face EFGH ;
- (ii) the front face ABFE and the back face DCGH ;
- (iii) the two side faces ADHE and BCGF.

2. **Edges** : Two adjacent faces of a cuboid meet in a line segment, called an edge of the cuboid. Thus, a cuboid, as shown above, has 12 edges namely, AB, BC, DC, AD, AE, DH, BF, CG, EF, FG, EH and HG.

You shall notice that the opposite edges of a cuboid being the opposite sides of a rectangular face are equal.

Thus, $AB = DC = HG = EF$;

$AD = BC = FG = EH$;

$AE = BF = CG = DH$.

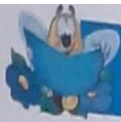
So, a cuboid has only three distinct dimensions known as length, breadth and height. In the above cuboid, we have : length = AB , breadth = BC and height = BF.

3. **Vertices** : Three edges of a cuboid meet at a point, called a vertex.

The plural of vertex is vertices.

Thus, a cuboid, as shown above, has 8 vertices namely A, B, C, D, E, F, G and H.

Hence, a cuboid has 6 rectangular faces, 12 edges and 8 vertices.



CUBE

A cuboid in which length, breadth and height are equal, is called a **cube**.

The figure of a cube is as shown alongside.

Each side of a cube is called its edge.

Thus, all the edges of a cube are equal.

Ice cubes, sugar cubes, dice etc. are all examples of a cube.

Clearly, a cube has 6 square faces, 12 edges and 8 vertices..

