

SUBJECT: MATHEMATICS

CLASS: IX

CHAPTER NUMBER: 13

CHAPTER NAME: SURFACE AREAS AND VOLUMES

EXPERIENTIAL LEARNING ACTIVITY: CLASSROOM ACTIVITY

Materials required: Cones and cylinder of same base and height, sand.

- Take a set of cone and cylinder having same base radius(r) and height (h).
- Fill up the cone with sand.
- Pour the sand from the cone to cylinder.
- Repeat the above point until the cylinder gets completely filled with sand.
- Students have to observe how many times ,they need to pour to fill the cylinder completely.

i.e. Volume of Cylinder = 3 x volume of cone

- $\pi r^2 h = 3 \times \text{volume of cone}$
- Volume of cone = $\frac{1}{3}\pi r^2 h$

CURIOSITY QUESTIONS:

1. Can you differentiate 2D and 3D figures?
2. How will you say a cube is a cuboid?
3. Can we say cuboid is a cube? Why? Or why not?

THINK ABOUT

1. A solid cube is cut into two cuboids of equal volumes. Find the ratio of the total surface area of the given cube and one of the cuboid.
2. Three cubes each of side 5cm are joined end to end. Find the surface area of the resulting cuboid.
3. A solid cylinder has total surface area of 462cm^2 . Its curved surface area is one third of its total surface area. Find the radius and height of the cylinder.