STEPPING STONE SCHOOL (HIGH)

CLASS :7

Subject: physics
Topic: Measurement

Date:01.05.2020
Time Limit:30 min

Worksheet No.:3

[Copy the questions following the notes and solve them on a sheet of paper date wise. Keep the worksheets ready in a file to be submitted on the opening day.]

VOLUME

Volume – The space occupied by a substance is known as volume.
S.I unit of volume is cubic metre.
C.G.S unit of volume is cubic centimetre

MEASUREMENT OF VOLUME OF LIQUID

The volume of liquid is generally measured in litre (symbol l).
The sub-multiple unit of volume is millilitre (symbol ml).
1 litre = 1000ml
1ml = 1cubic centimetre
1 litre = 1000 cubic centimetre
1 cubic metre = 1000000 cubic centimetre = 1000000ml

Litre = One litre is the volume of a body equal to 1000 cubic centimetre.
Millilitre = One millilitre is the volume of a body equal to 1 cubic centimetre.

INSTRUMENTS USED FOR MEASURING VOLUME

1) Measuring Cylinder
2) Measuring Flask
3) Measuring Mug
4) Pipette
5) Burette

MEASUREMENT OF VOLUME OF IRREGULAR SOLID BY MEASURING CYLINDER

1) Take a measuring cylinder and almost half fill it with water. By keeping the eye at the lowest point of concave surface of water we will record the volume of water. Let us call this volume as initial volume of water.

2) Now we will tie the given irregular solid with a wax coated cotton thread. We will gently immerse the solid in the water till it rest on the bottom of the cylinder. The irregular shaped body will displace water equal to its own volume so, the water level in the cylinder will rise. We will record the new volume of water. Let us call this volume as final volume.
3) Now we can find the volume of irregular shaped body easily by subtracting initial volume from final volume.

Let X = Final volume
Y = Initial volume,THEN

volume of irregular shaped body = (X – Y) ml

Note – We can use measuring cylinder to find the volume of regular shaped body.
We can also find the volume of bodies lighter than water with the help of measuring cylinder.
In this case we will need a sinker which will enable the body to immerse in the liquid.

ANSWER THE FOLLOWING QUESTIONS

1) Define litre and millilitre.
2) Name some instruments used for measuring volume.
3) Why the volume of match box is not measured in SI system.
4) Explain briefly how you will find the volume of an irregular stone using measuring cylinder.
5) Name at least two units in which the volume of liquid is measured.
6) How many millilitres are contained in
   a) 1 cubic metre. b) 1 litre
7) A book is 25cm long, 15cm wide and 2cm high. What is the volume of the book in cubic metre.
8) The level of water in a measuring cylinder is 12.5 ml. When a stone is lowered in it the new volume recorded is 21.0 ml. What is the volume of the stone and the volume of water displaced by the stone.