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# DETERMINATION OF DENSITY OF IRREGULAR SOLID, DENSITY OF LIQUID, DENSITY BOTTLE :- HOME ASSIGNMENT

①

Density of alcohol =  $600 \text{ kg/m}^{-3}$   
In  $\text{g/cm}^{-3} = \frac{600}{1000} = 0.60 \text{ g/cm}^{-3}$

②

Mass of wood =  $150 \text{ g}$   
Volume of wood =  $200 \text{ cm}^3$

$$\text{Density} = \frac{M}{V}$$

$$D = \frac{150}{200}$$

$$D = 0.75 \text{ g/cm}^3$$

~~②~~ (c) In SI system

$$= 0.75 \times 1000 = 750 \text{ kg/m}^3$$

③

Mass of solid (M) =  $72 \text{ g}$

Initial volume of water  $V_1 = 24 \text{ mL}$

Final volume of water  $V_2 = 42 \text{ mL}$

$$\text{Volume of solid (V)} = V_2 - V_1$$

$$= 42 - 24 = 18 \text{ cm}^3$$

$$\text{Density of solid (D)} = \frac{M}{V}$$

$$= \frac{72}{18} = 4 \text{ g/cm}^3$$

④ As the temperature increases, volumes of most of the liquids also increase & when the volume increase, density decreases. Similarly, when temperature decreases, the volume of most liquids decreases which increases the density.

⑤ A density bottle is a specially designed bottle which is used to determine the density of a liquid. The size can be 25 ml or 50 ml.

The glass stopper has a narrow hole in it. When the bottle is filled with liquid and stopper is inserted. The excess liquid rises through the hole & drains out. Thus, the bottle will contain the same volume of liquid each time when it is filled. It is used to determine the density of a liquid.