

- Q1 → Define the term density of a substance.
- Q2 → State the S.I. & the CGS unit of density how they are related?
- Q3 → ~~How~~ How does the density of water change when heated from 0 to 4 degree Celsius?
- Q4 → The mass of 5L water is 5 kg find the volume in gram per centimeter cube

A1 = Density of a substance defined as the mass per unit volume of the material.

It is given by $D = \frac{M}{V}$, here $D =$ Density, $M =$ mass, $V =$ volume.

A2 = SI unit of density is kilogram per cubic meter = (kg/m^3) ,

CGS unit of density is gram per cubic centimeter = (g/cm^3) .

one g/cm^3 is equal to one thousand kg/m^3 .

$$1 \text{ kg}/\text{m}^3 = \text{g}/1000 \text{ cm}^3$$

Q3 = When water is heated from 0°C , its volume decreases because its density increases & we can see this effect upto 4°C increases.

Q4 Mass = $5\text{ kg} = 5000\text{g}$ (M)
Volume $V = 5\text{ litre} = 5000\text{cm}^3$ (V)

Density of water $d = \frac{M}{V}$

$$= \frac{5000\text{g}}{5000\text{cm}^3}$$

$$= 1\text{gcm}^{-3}$$