Physics

Sl no. | Physical Quantities and Measurement

1) Measurement is a process of comparison of the given unknown quantity with a fixed known quantity of the same kind called the unit. The magnitude of the quantity is expressed as

* Magnitude = number of times the unit is contained in the quantity × unit.

2) A smaller unit of volume is cubic centimeter (cm^3)

RELATIONSHIP BETWEEN (m^3) AND (CM^3)

$1 m^3 = 1m \times 1m \times 1m$

$= 100cm \times 100cm \times 100cm$

$= 1000000\ cm^3$

$= 10^6\ cm^3$

3) The S.I. Unit of density is $Kg\ m^{-3}$ and the C.G.S unit of density is $g\ cm^{-3}$.

Relationship Between $kg\ m^{-3}$ and $g\ cm^{-3}$

$$1\ g\ cm^{-3} = \frac{\frac{1}{1000}\ kg}{\frac{1}{1000000}\ m^3}$$

$$= \frac{1000000}{1000}\ kg\ m^{-3}$$

$$= 1000\ kg\ m^{-3}$$

Thus $1\ g\ cm^{-3} = 1000\ kg\ m^{-3}$

4) ~~$800\ m^3 = 800 \times 10,00,000\ cm^3$~~

~~$= 800000000\ cm^3$~~

~~$= 8 \times 10^8\ cm^3$~~

~~$= 80^8\ cm^3$~~

Sl no.

5) i) Volume of the lead piece = 10ml = 10 cm^3

ii) Density of the lead piece = $\frac{115\ g}{10\ cm^3}$ = 11.5 $g\ cm^{-3}$

MOTION