MOLE IN CHEMISTRY

What is a mole?

One mole is the amount of a substance that contains exactly 6.022×10^{23} atoms, molecules, ions. This number is known as AVOGADRO NUMBER

Mole Day!

23rd October

6.022×10^{23}

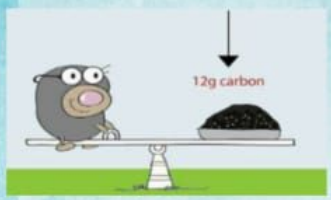
6.02am-6.02pm

LORENZO R.A.C AVOGADRO
(1776–1856)
ITALIAN SCIENTIST

$= 6.022 \times 10^{23}$

Why we use moles?

1 MOLE CARBON = 6.022×10^{23} CARBON ATOMS



How we calculate mole?

We use gm, kg etc. to measure things in our daily life. But chemistry deals with "microscopic particles" like atoms and molecules , and to measure them we use 'mole' as a unit.

$$\text{Mole no.} = \frac{\text{Mass of the given sample}}{\text{Molar mass of the sample}}$$

WHAT IS MOLAR MASS?

Mass of one mole substance in grams

1 mole = Molar mass

1 mole= 22.4 litres of ideal gas at NTP

LET'S DISCUSS SOME IMPORTANT FACTORS!

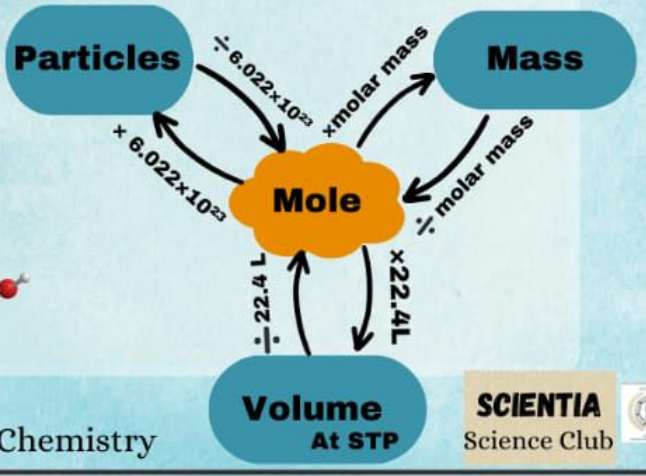
$$\text{Molarity} = \frac{\text{No.of moles of solute}}{\text{Vol of solution (in L)}}$$

$$\text{Molality} = \frac{\text{No.of moles of solute}}{\text{Mass of solvent (in kg)}}$$

$$\text{Normality} = \frac{\text{No. of gram equivalent of solute}}{\text{Vol of solution (in L)}}$$

Mole symbol ⟶ mol

LET'S SEE IT WITH A DIAGRAM!



Barasat government college | Department of Chemistry

SCIENTIA
Science Club