Mole Concept:

No. of moles = $\dfrac{given\ mass(m)}{Molar\ mass(M)} = \dfrac{given\ no.of\ particles(N')}{Avogadro\ No.(No)}$

- Molar mass is atomic mass expressed in gm units.

Valence Of some radicals

Chloride Cl^-	-1	Phosphate PO_4^{---}	-3	Flouride F^-	-1	Sulphide S^{--}	-2
Sulphate SO_4^{--}	-2	Oxide O^{--}	-2	Ammonium NH_4^+	+1	Iodide I^-	-1
Nitrate NO_3^-	-1	Carbonate CO_3^{--}	-2	Bicarbonate HCO_3^-	-1	Hydroxide OH^-	-1

1. Give the formulas for the following compounds :

   - Copper Chloride
   - Sodium Sulphate
   - Calcium bicarbonate
   - Aluminium Sulphide
   - Hydrogen Oxide

   - Potassium Iodide
   - Ammonium Chloride
   - Magnesium Phosphate
   - Lithium Oxide
   - Copper Nitrate

   - Zinc bicarbonate
   - Iron(III) Chloride

2. Calculate the no. of moles present in 294g of Sulphuric acid.
3. Calculate the no. oxygen atoms & oxygen molecules present in 150g CH_3COOH.
4. Calculate the no. of molecules required to obtain $5N_o$ nitrogen atoms from Ammonium Nitrate.
5. Calculate grams of sodium carbonate required to get 80gm of sulphur.
6. What is the mass of 6.5moles of Carbon dioxide .
7. As a product of a reaction a student obtained 12 moles of N^{3-} ions. Calculate the amount of reactant taken if the reactant was Ammonium Phosphate.
8. How many moles of water can be obtained if sufficient amt of hydrogen is made to react with 90moles of O_2 .
9. $HCl \rightarrow H^+ + Cl^-$

   $H_2SO_4 \rightarrow 2H^+ + SO_4^{--}$
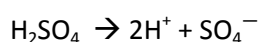
   If 5 moles of HCl & 2 moles of H_2SO_4 were mixed in beaker, calculate the:

   - Moles of H^+ in the solution.
   - Moles of Cl^- in the solution.
   - Moles of SO_4^{--} present in the solution.

10. $4Al + 3O_2 \rightarrow 2Al_2O_3$

    How many moles of Al_2O_3 can be obtained if 16 moles of Aluminium and 15moles of Oxygen are allowed to react under suiable conditions?

11. $2Mg + O_2 \rightarrow 2MgO$

    How many moles of O_2 and Mg are needed to get 4 moles of Magnesium Oxide as product?

12. If you are given

    - 6 mols N_2
    - 10 mols H_2
    - 7 mols O_2

    Then how many moles of Ammonium Hydroxide can u prepare from it.