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| **MOLECULAR FORMULA** |   |
| The molecular formula of a compound is defined as:**"The formula of a compound which not only expresses the relative number of atoms of each kind but also expresses the actual number of atoms of each element present in one molecule".** |
| Molecular formula and empirical formula of a compound are related as:**MOLECULAR FORMULA = (EMPIRICAL FORMULA)n** |
|    Where "n" is an integer and is given by: |
|    n = molecular mass of compound / Empirical formula mass of compound |
|    Molecular formula of propane = C3H8.   Molecular formula of sugar = C12H22O11. |
| **SYMBOL** |   |
| **A symbol is an abbreviation or short form for the chemical name of an element** |
| A symbol represents only one atom of an element. |
|    **EXAMPLE:**   Carbon = C, Hydrogen= H, Chlorine = Cl, Gold = Au, Silver = Ag, Sodium = Na, bismuth = Bi etc. |
| **FORMULA** |   |
| **The representation of a molecule of a substance or compound inthe form of symbols is called "formula".** |
|    With the help of formula we can find.    (1) Name of elements present in the molecule.   (2) Number of atoms of each element.   (3) Composition of compound. |
|    **EXAMPLE:**   NH3, CO2, CaCO3, H2O, H2SO4 etc. |
| **COMPOUND** |   |
| **"Compounds are pure substances, which consist of two ormore elements combined chemically in a fixed ratio."** |
|    Compounds always have a definite composition. |
|    **EXAMPLE:**   H2SO4, CaCl2, H2O, CO2 etc. |
| **MIXTURE** |   |
| **"A mixture is a substance, which consists of two or more pure substancesnot chemically combined with each other in a definite composition ."** |
|    Mixtures do not have definite composition. |
|    **EXAMPLE:**   Air, soil, brass ( cu + zinc) etc. |
| **DIFFERENCE BETWEEN COMPOUND AND MIXTURE** |
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| **S.No** | **COMPOUND** | **MIXTURE** |
| 1. | It is a pure substance. | It is an impure substance. |
| 2. | It can not be separated by physical method. | It can be separate by physical method. |
| 3. | Element loose their properties in a compound. | Substances forming mixture retain their properties. |
| 4. | Its composition is fixed through out its mass. | It has no fixed composition. |
| 5. | It has fixed melting point. | It has no sharp melting point. |

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