

→ Types of Mixtures

(a) Homogeneous (Uniform) Mixtures

The mixture in which the substances are completely mixed together & are indistinguishable from one another, are called homogeneous or uniform mixtures.

Example: Sugar dissolved in water, Salt dissolved in water, etc.

(b) Heterogeneous (Non-Uniform) Mixtures

The mixture in which the substances remain separate and one substance is spread throughout the other substance as small particles, droplets, or bubbles are called heterogeneous or non-uniform mixtures.

Examples: Sand in water, Oil in water, etc.

* What are Minerals?

- Minerals are natural, solid substances found on the Earth. They have a fixed chemical composition.

- Most of them are compounds, but rarely, they can also be pure elements.

* Examples → Quartz, Calcite, Mica, Olivine, etc.

→ Classification of elements:

• Elements are classified into three categories:

- Metals: Ex → Iron (Fe), Gold (Au), Copper (Cu), etc.
- Non-Metals: Ex → Carbon (C), Hydrogen (H), Oxygen (O), etc.
- Metalloids: Ex → Boron (B), Silicon (Si), Arsenic (As), etc.

* Comparative Study of Metals & Non-Metals:

Property Metals Non-Metals

- State : Solid at room temperature
Except: Hg & Ga are liquids.

Mostly gases.
Except: C, S, P are solids & Bromine is liquid.
- Melting & Boiling : Very high melting & boiling points.

Low melting & boiling points.
- Hardness : Generally hard

Brittle.
- Conductivity : Good conductor of heat & electricity.

Bad conductors of heat & electricity.
- Lustre : Have lustre

No lustre.
- Tensile : Highly tensile

Low tensile.
- Density : High density

Low density.

Nature Of Matter:

Elements, Compounds, Mixtures.

Key Words:

Elements:

An 'element' is a substance which cannot be split up into two or more simpler substances by the usual chemical methods of applying heat, light or electric energy.

* Example $\rightarrow$ Silver (Ag), Iron (Fe), Oxygen (O), etc.

Compounds:

A pure substance, which is composed of 'two or more elements', combined chemically in a definite ratio, such that it can be broken into elements only by chemical means is called compound.

* Example $\rightarrow$ Water (H_2O), Carbon di-oxide (CO_2), Sodium Chloride (NaCl), etc.

Mixtures:

When two or more substances (elements, compounds, or both) mixed together in any proportion, and do not go or perform any change but retain their individual properties, the resulting mass is called as mixture.

* Example $\rightarrow$ Air, Alloy, Smoke, etc.