

● **Matter** is anything that has **mass** and **occupies space**. Everything around us—air, water, food, clothes—is made up of matter.

● **Types of Matter:** Matter is classified into:

#### A. Elements

- **Definition:** A pure substance made of **only one kind of atom**.
- **Examples:**
  - **Gold (Au)**
  - **Oxygen (O<sub>2</sub>)**
  - **Iron (Fe)**
- **Properties:**
  - Cannot be broken down into simpler substances.
  - Found on the **Periodic Table**.

#### B. Compounds

- **Definition:** A substance formed when **two or more elements combine chemically**.
- **Examples:**
  - **Water (H<sub>2</sub>O)** – made of Hydrogen and Oxygen
  - **Salt (NaCl)** – made of Sodium and Chlorine
- **Properties:**
  - Have **fixed proportions**.
  - Can be broken down into simpler substances **chemically**, not physically.

#### C. Mixtures

- **Definition:** A combination of **two or more substances** that are **not chemically combined**.
- **Examples:**
  - **Air** – a mixture of gases like oxygen, nitrogen, carbon dioxide
  - **Sand and salt**
- **Properties:**
  - Components retain their own properties.
  - Can be **separated physically**.

- Differences Between Elements, Compounds & Mixtures**

Feature	Element	Compound	Mixture
<b>Composition</b>	One kind of atom	Two or more elements	Two or more substances
<b>Combined How?</b>	Not combined	Chemically	Physically
<b>Separation</b>	Cannot be separated	Only chemically	Easily separated physically
<b>Examples</b>	Oxygen, Gold	Water ( $H_2O$ ), Salt ( $NaCl$ )	Air, Salt in sand

- Separation of Mixtures**

Method	Used For	Example
<b>Hand picking</b>	Different sizes, shapes	Stones from rice
<b>Sieving</b>	Different particle sizes	Sand from gravel
<b>Filtration</b>	Solid-liquid separation	Sand from water
<b>Evaporation</b>	Dissolved solids from liquids	Salt from salt water