Ch-2 Is Matter Around Us Pure?

1. **Compounds –** Compound is a pure substance made up of two or more elements combined chemically in a definite ratio.
    a. **Characteristics –**
        i. The properties of compound differ from those of its constituents.
        ii. Compound has fixed melting point and boiling point.
        iii. Compound is a homogeneous substance.
        iv. Constituent elements can be separated by chemical process.
2. **Mixtures –** It is made up of two or more elements or compounds mixed in any ratio/proportion.
    a. **Properties –**
        i. It may be homogeneous of heterogeneous.
        ii. The properties of constituent substances are retained.
        iii. No new compound is formed.
        iv. Elements can be separated by simple physical processes.
        v. It does not have fixed melting and boiling point.
3. **Separation of Mixtures –**

Type of Mixture	Separation method
Two immiscible liquids. Example, oil + water	By using separating funnel
Ammonium chloride + sand	Sublimation
Dyes in black ink. (One solvent different constituents)	Chromatography
Two miscible liquids. (Acetone + water)	Distillation
Solid particles insoluble from (solvent) liquid. (Milk + Cream)	Centrifugation

4. **Physical and Chemical Change –**

Physical Change	Chemical Change
No new substance is formed.	A new substance is formed.
Properties of constituent elements / substance is retained.	Properties of constituent elements / substance changes.
Change does not involve loss or gain of heat.	Loss or gain of heat may be involved in this reaction.
This change is generally reversible.	This change is generally irreversible.

5. **Solution –** It is a homogeneous mixture of two or more substances.

Solute	Solvent
A substance which is dissolved in a solvent. Ex., salt, sugar.	Liquid part of solution in which is dissolved. Ex., water.
Solute can be solid, liquid or gas.	Solvent can be liquid, solid or gas.

Suspension	Solvent
Size of solute particles are visible with naked eyes.	Size of solute particles are not visible with naked eyes.
Shows tyndall effect	Shows tyndall effect
Translucent	Translucent
Solute particles settle Down	Colloidal particles do not settle down

6. **Different Types of Colloids –**

Dispersed Phase	Dispersing Medium	Type	Example
Liquid	Gas	Aerosol	Fog, clouds, mist
Solid	Gas	Aerosol	Smoke, automobile exhaust
Gas	Liquid	Foam	Shaving cream
Liquid	Liquid	Emulsion	Milk, face cream
Solid	Liquid	Solution	Milk of magnesia, mud
Gas	Solid	Goam	Sponge, pumice
Liquid	Solid	Gel	Jelly, cheese, butter
Solid	Solid	Solid sol	Coloured gemstone, milky glass