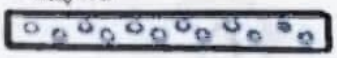
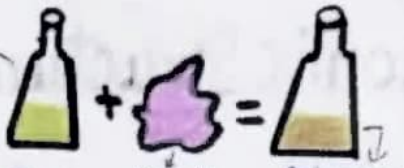
MATTER:-





MAP OF:-

● → Neutral particles
● → Free electrons
○ → Ions
○ → Ions

State:-

Solid:-
- High density.
- Not compressible.
- Can not flow.
- Fixed Volume.
- Has mass.
- Strong intermolecular forces.
- Tightly particle arrangement

Liquid:-
- High density.
- Moderate compressible.
- Can flow
- Fixed volume.
- Has mass.
- Moderate intermolecular forces.
- Loosely particle arrangement.

Gas:-
- Low density.
- Very compressible.
- Can flow.
- Indefinite volume.
- Has mass.
- Weak intermolecular forces.
- Far apart particle arrangement.

Plasma:-
- Low density.
- Highly compressible.
- Can flow
- Indefinite volume.
- Has mass.
- Weak intermolecular forces.
- Far apart particle arrangement.

Element:-
- Cannot be converted to other simpler substances.
- Are atoms.

Example:- Ag, C, H

Mixture:- → Compound
- Can converted to other substances.
- Are molecules or ions

Example:- CO_2, $C_6H_{12}O_6$, H_2O

Mixture:-
- Composition of two substances.

Example:- Tea

Aqueous Solution:-
Definition:- A type of solution that acts as the solvent and dissolve one or more substances.

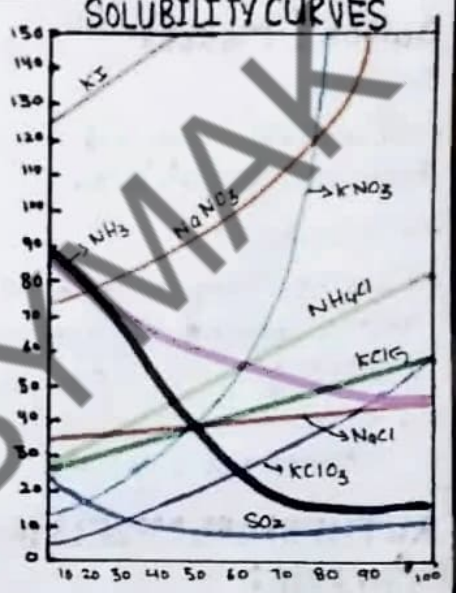
Example:- Tapwater which contains various substances like chlorine, fluoride and minerals like calcium and magnesium dissolved in water.

Saturated Solution:-
- Containing maximum solute.
- Dynamic equilibrium exists.
- Stable solution.
- Concentrated solution.

Unsaturated Solution:-
- Containing minimum solute.
- Dynamic equilibrium not exists.
- Stable solution.
- Dilute solution.

Supersaturated Solution:-
- More concentrated than a saturated solution.
- Dynamic equilibrium not exists.
- Unstable solution.
- Most concentrated solution.

SOLUBILITY CURVES



Solute	Solvent	State	Example
Gas	Gas	Gas	Air
Gas	Liquid	Liquid	Soda water
Gas	Solid	Solid	H_2 absorbed on Ni, Pb, Pd
Liquid	Gas	Gas	Mist, fog, cloud
Liquid	Liquid	Liquid	Alcohol in water
Liquid	Solid	Solid	Amalgams
Solid	Gas	Gas	carbon particles in air
Solid	Liquid	Liquid	Sugar in water
Solid	Solid	Solid	Alloys

Solute Solvent State !

Concentrated Solution
- ✓ Large amount of solute.
- ✓ Small amount of solvent.
- ✓ **Example:-** Brine

Dilute Solution:-
- ✓ Large amount of solvent.
- ✓ Small amount of solute.
- ✓ **Example:-** Adding a pinch of salt in 100 g of water.