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Class 6 - ICSE CHEMISTRY

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Matter
Revise Notes

States of Matter

Matter exists in 3 states – solid, liquid & gas



Properties of 3 states of Matter

1) Shape

Solid	Liquid	Gas
Definite	Not definite	Not definite

2) Volume

Solid	Liquid	Gas
Definite	Definite	Not definite

3) Arrangement of particles

Solid	Liquid	Gas
Closely packed	Less closely packed than solids	Far apart

4) Interparticular space

Solid	Liquid	Gas
Negligible	Considerable; more than solids	Large

Smaller particles occupy spaces between larger particles e.g. NaCl (Na particles occupy spaces between chlorine particles)

5) Interparticular force of attraction

Solid	Liquid	Gas
Strong	Less strong than solids	Weak

Cohesive force → Force of attraction between same particles

6) Movement of particles

Solid	Liquid	Gas
Cannot move freely; can only vibrate along mean position	Can move freely/random motion	Can move freely/random motion

Brownian motion/movement - Random motion of particles suspended in medium (gas/liquid)

Reason

1) Random motion of particles of medium (Gas/Liquid).

2) Collision between particles & particles of medium.

7) Reason for difference in properties of 3 states of matter – Interparticular force of attraction

Effect of heat on matter

1) Expansion of matter

All 3 states of matter – solid, liquid, gas expands on heating & contracts on cooling.

2) Conversion of states of matter

Melting → Conversion of substance from its solid state to liquid state.

Melting point → Temperature at which substance from its solid state changes into liquid state at a particular pressure. For e.g. M.P of water → 0 ^{o}C

Freezing → Conversion of substance from its liquid state to solid state.

Boiling → Conversion of substance from its liquid state to gaseous state at boiling point.

Boiling point → Temperature at particular pressure beyond which substance exists only in gaseous state

Evaporation → Conversion of substance from its liquid state to gaseous state at any temperature below B.P & above M.P of substance

Difference between evaporation & boiling

Evaporation	Boiling
Natural Process	Not Natural process
Temperature of liquid falls & temperature of substance in contact of liquid also falls	Temperature of liquid remains constant

Condensation → Conversion of substance from its gaseous state to liquid state

Sublimation → Conversion of substance from its solid state into gaseous state directly without passing through liquid state on heating

Deposition → Conversion of substance from its gaseous state into solid state directly without passing through liquid state on cooling

Sublimable substances → Substances which can undergo sublimation & deposition
e.g. Naphthalene, Camphor, Iodine, Ammonium chloride

Do all substances change state on heating? → No, some substances undergo chemical change on heating.

3) Chemical change
Change in which new substance is formed whose chemical composition & properties are different from the original substance.
e.g. Burning of paper, Burning of wax

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