

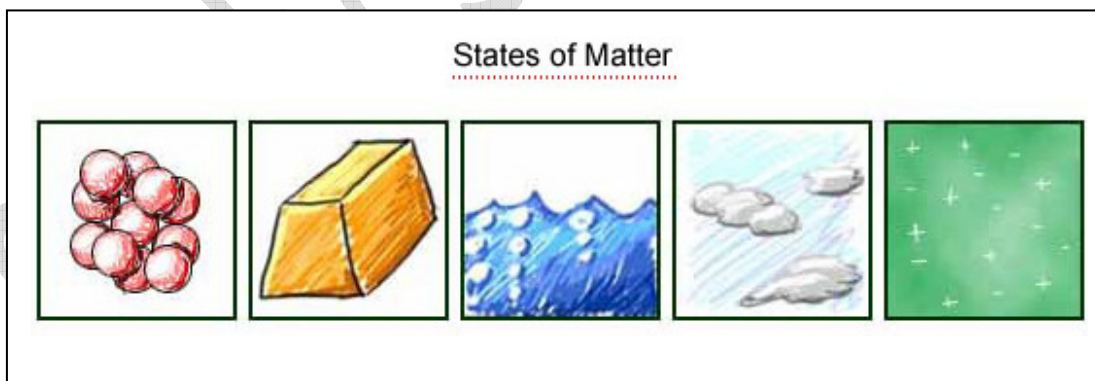
CHAPTER – 1

WORLD OF MATTER

Matter is made up of tiny particles. All objects are made up of matter, anything that has mass and occupies space is called matter. It is a physical quantity which expresses the amount of matter in a body. The space that is inside the container, which has been occupied by matter is said to be its Volume. Density is the ratio of Mass to Volume.

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

Matter can be classified into solids, liquids and gases.



SOLIDS:

Solids have a definite shape and volume. They have the property of rigidity, elasticity and plasticity.

Eg.: wood, chalk, blackboard, table, book etc.

Liquids:

Liquids have definite volume but not a definite shape they take the shape of the container. They have the property of fluidity.

Eg.: kerosene, water, milk, & diesel etc.

Gases:

Gases have no definite volume and definite shape. They can be compressed easily.

Eg.: air, oxygen, carbon dioxide, water vapour etc.

The state of matter can be changed from one state to the other. Ice on heating changes into liquid and liquid on heating changes into vapour. Sometimes Solids directly change into gaseous state which is known as

Sublimation.

Eg. : camphor, naphthalene balls.

Evaporation:

Evaporation causes cooling and converts liquid into gaseous state.

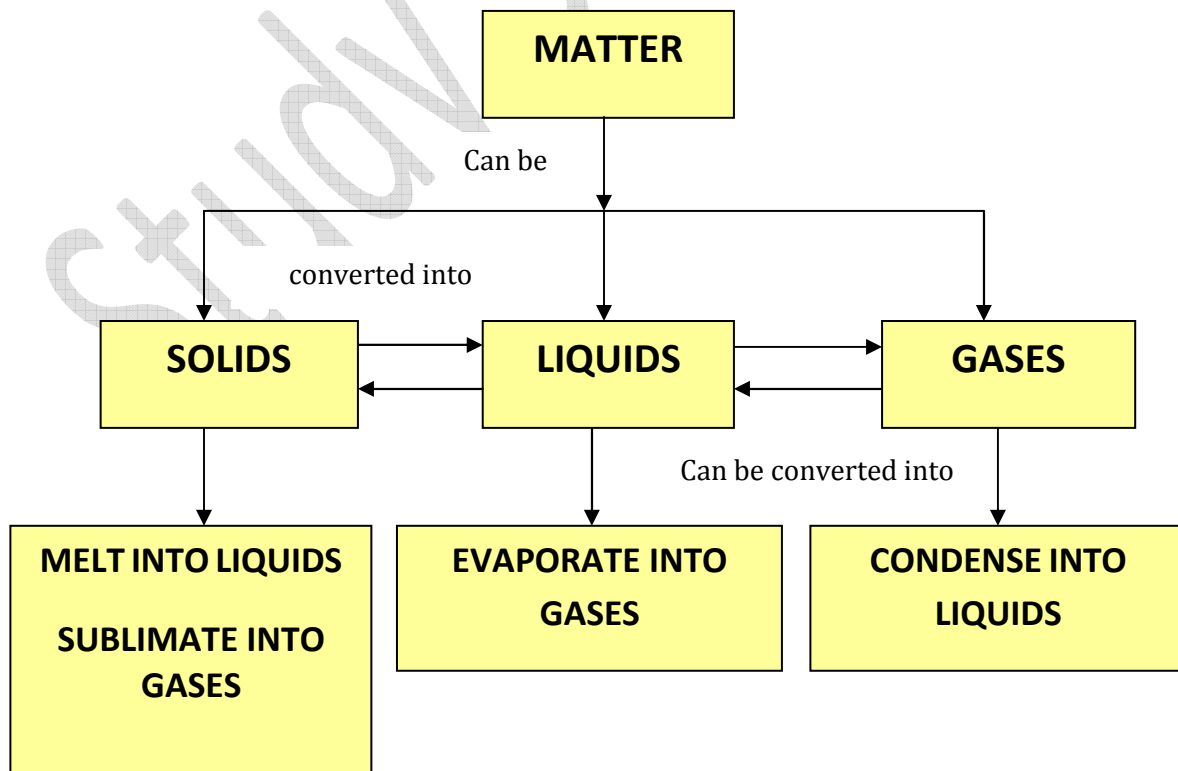
Gaseous state on cooling forms liquid drops by the process of

Condensation.

Heat energy is absorbed by an object and warms it. Different colours respond to the absorption of heat differently, that is why in summer we wear light coloured clothes as they reflect the heat and in winter dark coloured clothes as they absorb the heat.

CONCEPT MAP

World Of Matter



QUESTIONS

I. Fill in the blanks:

- 1) and..... are sublimatory substances.

II. Match the following:

	State of matter	A	B
1	Gas	Soil	Milk
2	Solid	Kerosene	Oxygen
3	Liquid	Carbon Monoxide	Peas

III. Answer the following:

- 1) **How are gases liquefied?**

- IV.** The smell of hot sizzling food reaches you several metres away. But to get the smell from cold food, we have to go close. Why?

ANSWERS

I. Fill in the blanks:

- 1) Camphor and naphthalene balls are sublimatory substances.

II. Match the following:

	State of matter	A	B
1.	Gas	Soil	Milk
2.	Solid	Kerosene	Oxygen
3.	Liquid	Carbon Monoxide	Peas

Ans.)

	State of matter	A	B
1.	Gas	Carbon Monoxide	Oxygen
2.	Solid	Soil	Peas
3.	Liquid	Kerosene	Milk.

III. Answer the following:

1) How are gases liquefied?

Ans.)

- a) The molecules of gas spread out and the atoms and molecules are full of energy. Gases possess high compressibility because their intermolecular spaces are extremely weak.
- b) Gases flow and the particles are always changing places with each other. Gases can be easily compressed and liquefied, the particles are so far apart that they can be very easily squeezed together.
- c) Hence gases spread out to fill the container and they cannot be stopped by the solid walls of the container.

IV . The smell of hot sizzling food reaches you several metres away.

But to get the smell from cold food, we have to go close. Why?

Ans.)

The smell of hot sizzling food reaches you several metres away

but to get the smell of cold food, we have to go close:

- a) Hot sizzling food gives rise to steam and vapour, which is a gaseous state. Gas released in one corner of a room can fill the entire room

in a short time, because the forces that bind the molecules of gas are extremely weak. They move freely and the particles are always changing places with each other. Hence the smell of hot sizzling food can be felt several metres away.

- b) Cold food is in solid state and their inter-molecular forces are very close and do not move from their original position, so to get the smell of cold food, we have to go close.

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