

## EXERCISE

1) Define the term matter. What is it composed of?

A- Anything which occupies space and has mass is called matter. Matter is composed of tiny particles called molecules.

2) State 3 properties of molecules of matter.

A- Properties of matter are:

\* Molecules are very small in size.

\* They have space between them.

\* They possess kinetic energy and are in constant motion.

3) What do you mean by inter-molecular spaces? How do they vary in different states of matter?

A- The space between the molecules of matter is called inter-molecular spaces. Intermolecular spaces are less in solids, more in liquids and most in gases.

4) What is meant by intermolecular forces of attraction? How do they vary in solids, liquids, gases?

A- The force of attraction between the molecules of matter is called intermolecular forces of attraction. It is maximum in solids, less in liquids, least in gases.

5) a) Solids have definite shape and volume. TRUE

b) Liquids have definite volume but no definite shape. TRUE

## EXERCISE

- c) Gases have definite volume but no definite shape. FALSE
- d) Liquids have both definite shape and volume. FALSE

6) Discuss the 3 states of matter: solid, liquid, gas on the basis of molecular model.

A- Solid - The molecules in a solid are in fixed positions and due to the intermolecular forces, they do not leave their positions, so a solid has a definite shape and size/volume.

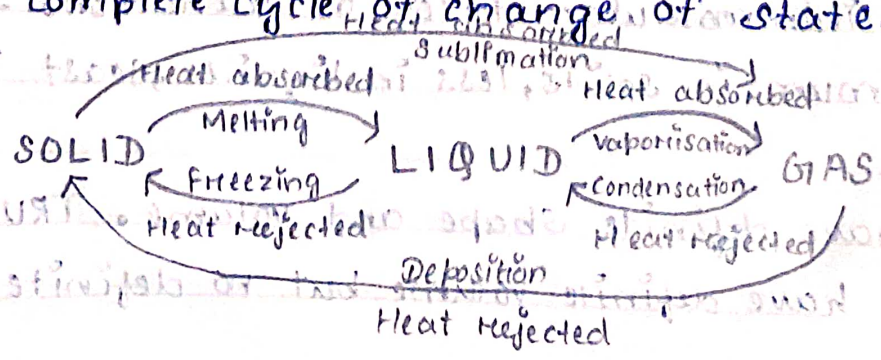
Liquid - The liquid molecules can slide over one another due to which a liquid can flow. The intermolecular forces, although weak, are sufficient

to keep the molecules within the boundary of the vessel.

Gas - The gas molecules are quite free to move here and there in the space available to them because of their weak intermolecular forces.

7) What is 'change of state'? Write the flow chart showing the complete cycle of change of state.

A-



The process of change from one state to another state either by absorption/rejection of heat at a constant temp. is called change of state.

8) Differentiate between melting point and boiling point, giving atleast one example of each.

A- The temp. at which a solid changes into liquid without further increase in temp. is called melting point of the solid. Ex- ice at  $0^{\circ}\text{C}$  melts to form water, at  $0^{\circ}\text{C}$  by the absorption of heat.

The temp. at which a liquid changes into vapor without further increase in temp. is called the boiling point of the liquid. Ex- water at  $100^{\circ}\text{C}$  changes to steam at  $100^{\circ}\text{C}$  by absorption of heat.

9) Describe the process of condensation and sublimation with examples.

A- The change from vapour to liquid state at a constant temp. on cooling is called condensation. Ex- steam condenses to water at  $100^{\circ}\text{C}$  on cooling.

\*Sublimation is the process by which a solid when heated, directly changes into vapour without first changing into liquid. Ex- Naphthalene/moth balls become small in size with time.

10) Explain the terms melting and melting point.

A- Melting - Change from solid to liquid state on heating at a fixed temp.

Melting point - Temp. at which a solid changes into liquid without further increase in temp.

11) Describe an experiment to demonstrate that a substance absorbs heat during melting without change in its temp.

11) State 3 factors which affect the rate of evaporation of a liquid.

A- \* The flow of air above the liquid.

\* The nature of liquid.

\* The temp. of liquid.

12) Water in a dish evaporates faster than in a bottle. Give reason.

A- It is so, as the rate of evaporation is higher, if the area of surface exposed increases.

13) Give 2 applications of evaporation.

A- They are :-

\* We often pour tea in a saucer to cool it faster. In the saucer, the surface area of tea increases and evaporation becomes faster.

\* Doctors advice to put the strips of wet cloth on the forehead of a patient having high fever. The reason is that water of the strips evaporate. During evaporation, water takes heat from the body of the patient and thus the temp. of the body decreases.

14) What do you mean by sublimation? Explain with an example.

A- Sublimation is the process by which a solid when heated, directly changes into its vapour without first changing into liquid.

Ex- Moth balls which we use to protect woollen clothes from the insects, directly changes into vapour and with time they become small in size.