SNBP SECONDARY AND SENIOR SECONDARY SCHOOL, CHIKHALI, PUNE
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ACADEMIC SESSION 2023-24
CLASS NOTES

CLASS IV **SUBJECT : SCIENCE**
Prepared By: Shreya B. **LESSON-2. Solids, liquids and gases.**

Prepared on _____ **Shared on_____**

New words

1)Matter 2) Mass 3) Volume 4) Solids 5) Liquids 6) Gases 7) Definite shape 8) Definite volume 9) Compressed 10) Freezing 11) Melting 12) Condensation 13) Evaporation 14) Dissolution 15) Solute 16) Solvent 17) Solution

Pre-activity

1. Tell the different things present around you and differentiate them into solids, liquids, and gases.

Q1) Give reasons for each of these.

1. We cannot compress a solid ball of metal.
Ans. The molecules in a solid are tightly packed. So, they cannot be compressed

2. Milk boils over but water does not.
Ans. When milk is heated, the cream being lighter comes on the surface. On further heating, the water in the milk changes into steam that rises along the other ingredients. Hence, milk boils over.

3. Ice cream melts when left out on a table for some time.
Ans. Ice cream absorbs the heat from the surroundings and melts.

Q2) Answer these questions in brief.

1. What makes it possible for liquids to flow?
Ans. The molecules in a liquid are more loosely packed than that in solids. This results in more intermolecular space and allows the liquid to flow.

2. When someone sprays a perfume in one room, how can a person in the next room smell it?
Ans. The molecules in a gas are loosely packed and far apart. Thus, they can move about freely to fill up any space. Therefore, when we spray room freshener in the corner of a room, it spreads quickly to fill the entire room.

3. Define freezing and melting.
Ans. When water changes from a liquid state to a solid state on cooling, the process is called freezing. The process of a solid changing into liquid on heating is called melting.

Q.3) Answer these questions in detail.

1. What are the characteristics of gases? Explain them.

Ans. Gases like air and smoke have no fixed shape and volume. They can fill the entire space or be compressed into smaller areas. Gases flow to take the shape of the container they are in. The molecules in a gas are loosely packed and far apart. Thus, they can move about freely to fill up any space.

2. What will you see if you hold a cold plate over a steaming bowl of water? What is the reason behind your observation? What is this process called?

Ans. When we hold a cold plate against the steam or water vapor, we see water droplets forming on the surface of the plate. The steam changes into water on coming in contact with the cold surface. The process of a gas changing into a liquid on cooling is called condensation

Q.4) Out of the box.

1. All materials when melted expand in volume. However, when ice melts, the water at the same temperature occupies less volume. Why do you think this happens?

Ans. Ice has air trapped inside its cage-like structure. When melted, the air escapes, and water, thus formed, has less volume than the ice at the same temperature.

2. Why do you think a chapati swells up when cooked over a flame?
Ans. On heating, the water in the chapati changes into steam and rises. This makes the chapati swell.

POST ACTIVITY:

1. Draw the concept map of matter.

SUBJECT TEACHER HOD COORDINATOR PRINCIPAL