sns academy
a fingerprint school
Sincerity, Nobility and Service

Subject: Science **Ln.no: 4 States of Matter** **Date:**

Checkpoint

Fill in the blanks

1.Matter is made up of very tiny particles called **molecules**.

2.The molecules in **gases** are far apart from each other.

3.The process of change of a gas into its liquid form on cooling is called **condensation**.

4.The increase in the volume of an object on heating is called **melting**

A) Tick the correct answer

1.The space between the molecules of matter or called _____.

A) **intermolecular space** B) matter space

C)blank space D) gases space

2. The molecule in solids are_____.

A) The molecule in solids are loosely packed B) **Tightly packed**

C) Not fixed in their place D) fast movie

3. The molecules of liquid's move freely than those of_____.

A) **Solids** B) gases

C)neither gas is not solids D) both solids and gases

4. The process of change of liquid into its solid state on cooling is called _____.

A) Melting B) evaporation C) condensation D) **freezing**

5. An example of a chemical changes is _____.

A) **Making curd from milk** B) dating a paper

C) evaporation of water D) breaking of glass

B. Match the following

S.no	Column A	Column B
1.	Solid	large intermolecular space (3)
2.	Liquid	very strong intermolecular force of attraction (1)
3.	Gas	liquid to solid (5)
4.	Melting	takes the shape of the container (2)
5.	Freezing	solid to liquid (4)

C. Write true are false

1. The intermolecular forces of attraction in gases are very strong. **False**

2. Solids are rigid and do not flow. **True**

3. Heating a substance increases the movement of its molecules. **True**

4. Liquids expand more than solids on heating. **True**

5. Change of water to ice is a chemical change. **False**

D. Write short answers

1. Why do solids have a fixed shape and volume?

Ans: The molecules in solids attract each other very strongly. So, they are tightly packed and remain almost fixed in their place. There is very little movement of the molecules. They only vibrate about its position. This tight arrangement of molecules gives solids a fixed shape and volume.

2. How is the intermolecular force of attraction in liquids differ from that in gases?

Ans: The intermolecular force of attraction between the molecules and liquids is greater than that in gases. The intermolecular force of attraction in gases is negligible.

3. Differentiate between melting and freezing.

Melting	Freezing
The process by which a solid changes into a liquid on heating is called melting.	The process by which a liquid changes into its solid state on cooling is called freezing.
Ice changes to water on melting.	Water changes to ice on freezing.

4. Why do things expand on heating?

Ans: The molecules of a substance vibrate more on heating. They need a little extra space for vibrating more. This increases the volume of the substance. Therefore, things expand on heating.

E. <u>Answer these questions</u>

1. Why do solids change into liquids on heating?

Ans: When solids are heated, their molecules start vibrating faster. They are able to overcome the strong intermolecular force of attraction. They start moving around and the solids change into liquids.

2. Explain why liquids are able to flow while solids are not.

Ans: The molecules in liquids do not attract each other has strongly as the molecules in solids. This allows some movement of the molecules. Because of the weak intermolecular force of attraction, liquid molecules can slide over each other. This causes liquid to flow. Solids do not flow because their molecules cannot overcome the strong intermolecular force of attraction.

3. Why does a liquid change into vapour on heating? What is the name given to this process?

Ans: The molecules of the liquid start moving faster on heating. They overcome the intermolecular force of attraction and become free to move out in the form of vapours. This process is called evaporation.

4. What is expansion? How is the principle of expansion used in a thermometer for measuring temperature?

Ans: The molecules of a substance vibrate more on heating. They need a little extra space for vibrating more. This increases in the volume of the substance is called expansion. The mercury in the thermometer expands due to the heat of a body and is rises in the thin tube. The length of the increased mercury column measures our body temperature.

5. Describe physical and chemical changes with two examples for each.

physical change	**chemical changes**
In the physical change no new substances formed. We can easily get back the original substance.	In a chemical change, one or more new substances are formed. We cannot easily get back the original substance.
Breaking off a glass and mixing of sand and water	Burning a piece of paper and cooking food

F. <u>Think and answer</u>

Complete the two questions in your own words.