4. STATES OF MATTER

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

Ans The tight arrangement of molecules gives solids a definite shape and volume.

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

Ans The intermolecular force of attraction in liquids is stronger than in gases.

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

Ans 1.Liquids flow because of the movement of their molecules.

2.The molecules in liquids are loosely packed and the space between the molecules is more than that in solids.

3.This allows the molecules of a liquid move around freely within the liquid.

4. Differentiate between melting and freezing.

Ans The process of solids changing into liquids on heating is called melting.

 The process of liquids changing into solids on cooling is called freezing.

5. Why do things expand on heating?

Ans 1.The molecules of a substance vibrate more on heating and need a little extra space for vibrating more.

 2.This increases the volume of the substance.

6. Why do solids change into liquids on heating?

Ans 1.When solids are heated, the molecules start vibrating faster.

 2.They are able to overcome the strong force of attraction between themselves.

 3.They start moving around.

 4.This is how solids change into liquids on heating.

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

Ans 1.The molecules of the liquid start moving faster on heating.

 2.They overcome the intermolecular force of attraction and become free to move out.

 3.This is how a liquid changes into vapour on heating.

 4.The process by which a liquid changes into vapour on heating is called evaporation.

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

Ans A physical change can be easily reversed. No new substances are formed in a physical change. Eg: Blowing a balloon, tearing of paper.

 A chemical change cannot be easily reversed. One or more new substances are formed in a chemical change. Eg: Burning a piece of paper, curd from milk.