

Q1- Explain how gases can be liquefied?

Ans: When pressure on a gas is increased, its molecules closer together, and its temperature is reduced, which removes enough energy to make it change from the gaseous to the liquid state.

Thus, by adding pressure and reducing the temperature, gases can be liquefied.

Q2- What is sublimation? Give examples.

Ans: The conversion of a substance from solid to gaseous state without entering the liquid state is called sublimation. For examples, Camphore, iodine, dry ice and naphthalene.

Q3- Give reasons

(a) Liquids and gases flow but solids do not.

Ans: Due to the large intermolecular forces, the intermolecular attractions are very less and thus liquids and gases can flow. On the other hand, solids have very less intermolecular spaces. The intermolecular forces are high giving them a definite shape and making it rigid. Thus, solids do not flow.



(b) Why is an egg kicked out of a bottle when air is blown inside the bottle?

Ans: When we invert the bottle and blow air into the bottle through the side opening. It creates high pressure inside the bottle and the egg is kicked out of the bottle.

(c) The odour of scent spreads in a room.

Ans: Molecules of the scent fill the spaces between air molecules and the molecules of air fill the spaces between scent molecules due to diffusion. So, the odour of the scent spreads in the room.

(d) We can walk through air.

Ans: The molecules of air are far apart i.e. large gaps and we can walk through the air easily.

(e) Liquids have definite volume but no definite shape.

Ans: The molecules of the liquid are loosely packed and the intermolecular force of attraction is small but a number of molecules in it remains the same. Hence, liquids have a



definite volume but no definite shape

(f) When a teaspoon of sugar is added to half a glass of water and stirred, the water level in the glass remains unchanged.

Ans: When a teaspoon of sugar is added to half a glass of water and stirred, the volume of the water has not increased. Because the sugar particles are adjusted between the water molecules. This shows that there are intermolecular gaps in water.

(g) When an empty gas jar is inverted over a gas jar containing a coloured gas, the gas also spreads into the empty jar.

Ans: This is because gases can <sup>diffuse in</sup> flow in all direction.

(h) A red ink drop added to small amount of water in a glass turns the water red in some time.

Ans: When we put a drop of red ink in a glass of water, its particles diffuses with particles of water slowly but continuously and the water turns red.