

## Homework

1. Explain how gases can be liquified.

A- Gases can be liquified by increasing the pressure and decreasing the temperature. Increasing the temperature will bring the particles closer and cooling will cause the particles to lose energy. Thus, they will gather be attracted towards each other by intermolecular attraction and they form liquid.

2. What is sublimation? Give example.

A- The change of solid on heating to vapours directly and viceverse without passing through the liquid state is called sublimation. For example ~~Napheten~~ Naphthalene are sublimable substances.

3. Give reasons

(a) Liquids and gas flow but solids don't?

A- The molecules of liquid and gases are far apart i.e. have more gaps, intermolecular attraction force is very less as compared to solids, Hence liquids and gases can flow but solids don't as gaps in solid molecules is less and molecular force of attraction very strong.

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

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

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

A- Scent fumes (molecules) being gases filled the spaces between air molecules and the molecules of air fill the spaces between scent molecules due to diffusion, fumes spread

into a room or due to diffusion fumes spread into a room or due to intermixing of scent molecules and air molecules, scent fumes spread into the room.

(D) We can walk through air.

A- The molecules of air are far apart i.e. large gaps and we can walk through air easily.

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

A- The molecules of liquid are loosely packed and intermolecular force of attraction is small but number of molecules in it remain the same. Hence liquids have definite volume but no definite shape.

(F) When a teaspoon of sugar is added to half a glass of water ~~level~~ and stirred, the water level in the glass

remains unchanged.

A- When a teaspoon of sugar added to half a glass of water stirred, the water level in the glass remains unchanged because the sugar particles are adjusted between the water molecules as intermolecular gaps are more in liquids.

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

A- This is because gases can diffuse or flow in all direction.

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

A- When we put a drop of red ink in a glass of water, its particles diffuse with particles of water slowly but

continuously and the water turns red.