



FLORENCE INTERNATIONAL SCHOOL
CLASS- IX
WORKSHEET NO: 14
SCIENCE

NAME:

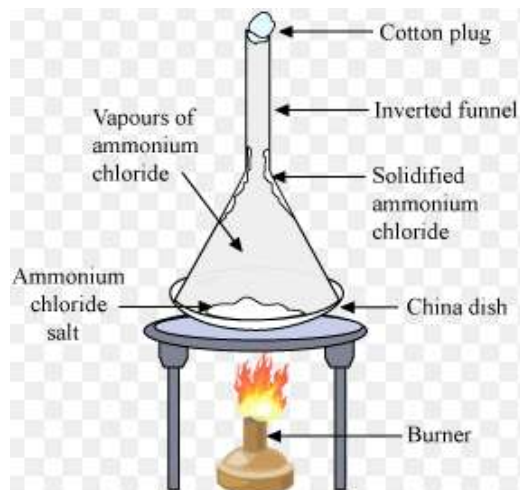
DATE: 17/04/2020

TOPIC: MATTER IN OUR SURROUNDING

Please follow the previous link and learning content before attempting the worksheet.

KEYWORDS

Sublimation



The Changing of a solid directly into vapours on heating, and of vapours into solid on cooling is called as sublimation.

The solid substance which undergoes sublimation is called **sublime**.

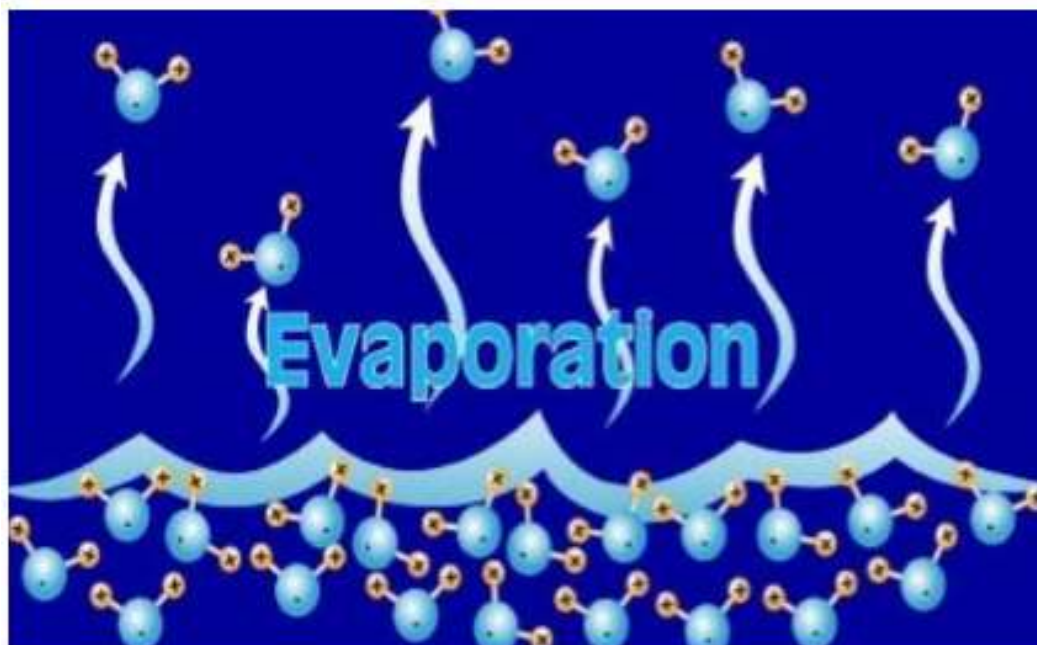
The solid obtained by cooling the vapours of the solid called a **sublimate**.

For Ex: camphor, Iodine, Ammonium Chloride, Naphthalene etc.

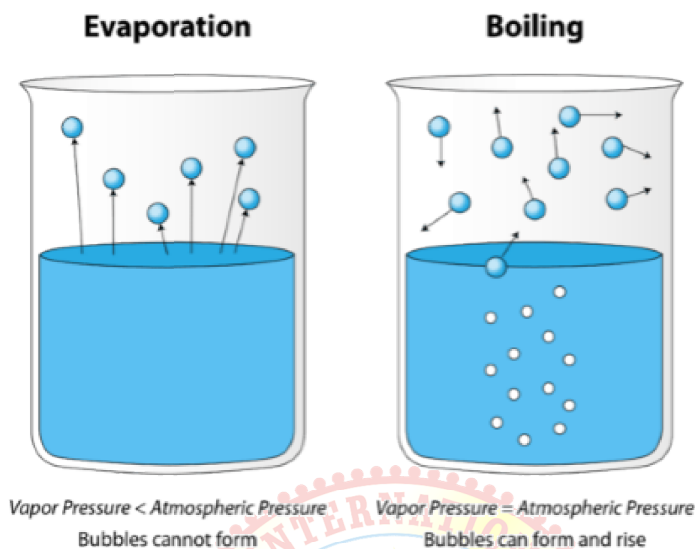
Effect of change of Pressure

- By applying pressure, we can bring the particles of matter close to each other thereby, increasing the force of attraction among the particles.
- When we compress and decrease the temperature of a gas, the gas changes into a liquid.
- **Dry Ice** – Carbon dioxide in solid form is known as **Dry Ice**. It can directly turn into gas by decreasing the pressure to 1 atmosphere.

Evaporation



- We already know that –
 - Particles of matter are never at rest
 - Particles of matter possess different amounts of kinetic energy
- The particles of liquids have more kinetic energy. Therefore, they are able to overcome the forces of attraction and convert into vapor without any external forces.
- **Evaporation** – The phenomenon of change of a liquid into vapors at any given temperature below its boiling point is called **Evaporation**. Evaporation is different than boiling, as shown in the figure below.



Factors Affecting Evaporation

Condition	Rate of Evaporation	Reason
Increase in Surface Area	Increases	Particles have more space and thus can evaporate easily
Increase in temperature	Increases	Kinetic energy among the particles increases
Increase in humidity	Decreases	Water content in air increases and so evaporation decreases
Increase in wind speed	Increases	Water vapours are blown away by winds allowing more evaporation

1) Temperature

The rate of evaporation increases on increasing temperature of the liquid. When the temperature of a liquid is increased by heating it, more particles of the liquid get enough kinetic energy to go into vapour state. This increases the rate of evaporation.

2) Surface Area

The rate of evaporation increases on increasing the surface area of the liquid.

For Ex: If the same liquid is kept in a test tube and in a china dish, then the liquid kept in the china dish evaporates more rapidly.

We spread out the washed clothes while drying to increase their surface area for rapid evaporation of water present in them.

3) Humidity of air

The amount of water vapours present in air is called humidity.

When the amount of water vapours present in the air is small it is called dry air.

When the amount of water vapours present in air is large it appears to be damp.

When the humidity of air is low, then the rate of evaporation is high, and water evaporates more readily.

When the humidity of air is high, then the rate of evaporation is low and water evaporates very slowly.

4)Wind Speed

The rate of evaporation of a liquid increases with the increasing wind speed.

When the speed of wind increases, the particles of water vapours move away with the wind, decreasing the amount of water vapours in the surrounding. This increases the rate of evaporation of water. The washed wet clothes dry more quickly on a windy day.



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Q1. Define sublimation, sublime and sublimate.

Q2. Why naphthalene balls kept in stored clothes in our homes disappear over a period of time?

Q3. How does applying pressure help in the liquefaction of a gas ?

Q4. What is the effect of pressure on change in state of matter?

Q5. Define Evaporation?

Q6. What is the effect of temperature on rate of evaporation?

Q7. Explain few factors that effect the rate of evaporation.

