Worcksheet -1 ch:1

Matter In Our Surrcoundings

1) Define boiling point. Wrcite down the boiling point ob water in ~~crcoss~~ celcius scale and kelvin scale.

Ans: The temperature at which a liquid boils and turns to vapour. The boiling point ob water in kelvin scale is 373k.
As boiling point ob water in celcius scale is 100 degree celcius. So as per bormula
K = 273 + 100
= 373 K.

2) What is the physical state ob water in -(a) 250°C , (b) 100°C.

A: a) The physical state ob water at 250°C is a gaseous state. As we know that the boiling point ob water is 100°C.

(b) Water boils at 100°C. Water can exists in both liquid as well as gaseous state. After giving the sufficient amount of heat, the water starts converting into gas.

3) Explain the factors that affects the rate of evaporation with examples.

Ans: The rate of evaporation is affected by,
(1) Temperature - Evaporation increases with an increase in temperature.
(2) Surface Area - Evaporation increases with an increase in surface area.
(3) Humidity - Evaporation decreases with an increase in humidity.
(4) Wind speed - Evaporation increases with an increase in wind speed.

4) "Evaporation causes cooling" Justify the statement.

Ans Evaporation causes cooling because during evaporation the particle of the liquid absorb energy from the surrou-ndings to regain the energy lost

during evaporation. The absobtion of heat from the surrounding makes the surrounding cool.

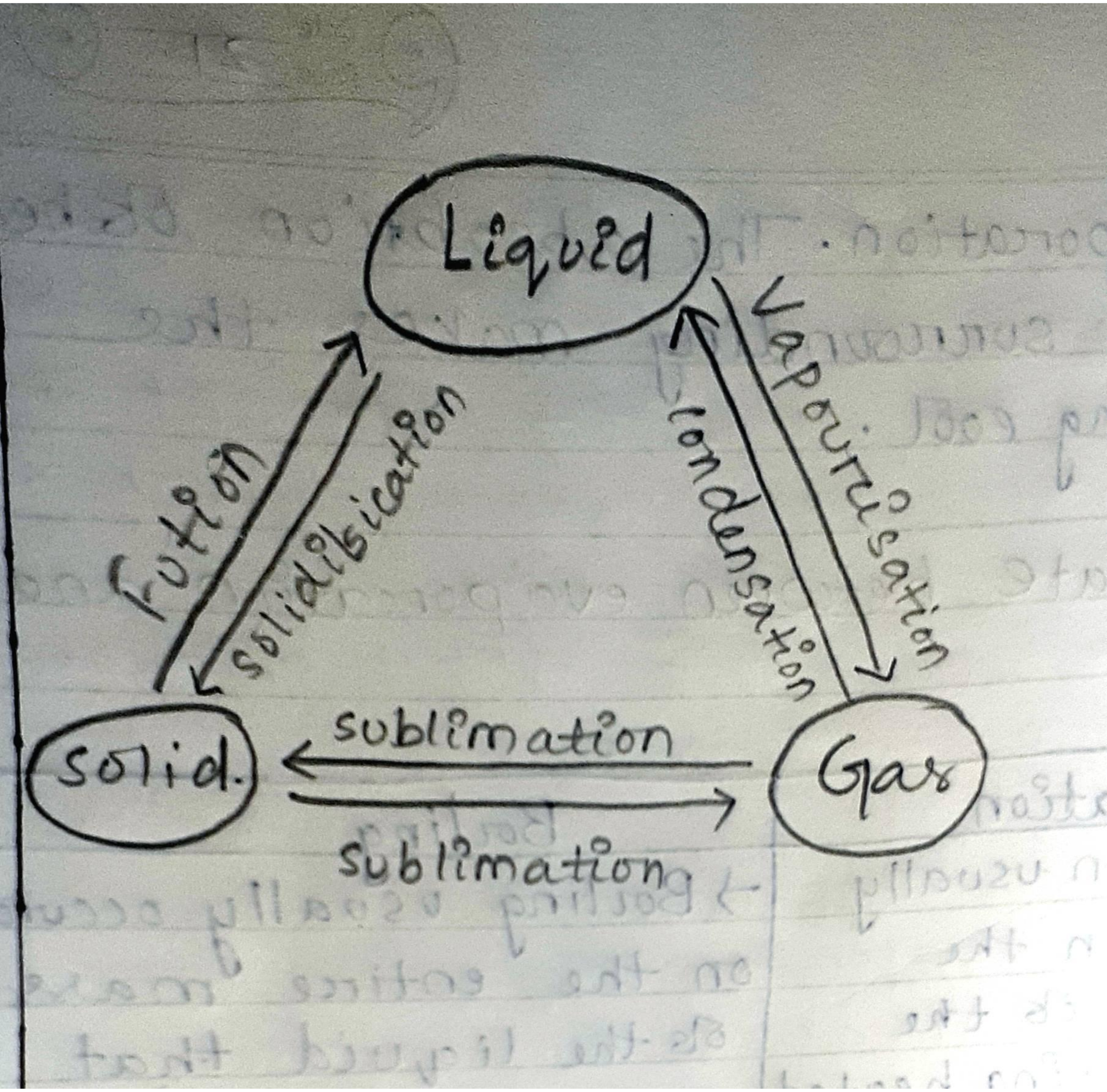
5) Differentiate between evaporation and Boiling.

A:

Evaporation	Boiling
→ Evaporation usually occures on the surface of the liquid being heated up.	→ Boiling usually occurs on the entire mass of the liquid that gets heated up.
→ Bubbling effect is not visible in ev--aporation.	→ Bubbling effect is vissible during the process of boiling.

6) What do you mean by interconversion of matter? Draw a flow chart to show the change of state?

A: It is a process by which matter chang--es from one state to another and back to original state, without any changes in its chemical composition.



7) Why perspiration keeps our body cool?

Ans perspiration helps in cooling our body by the process of evaporation.

→ Human being is a warm blooded organism, tha-t means it has the capability to maintai-n uniform body temperature all through-out its life. In addition to this the human being are capable of secreting sweat through the sweat glands.

→ As a result of this there is loss of sweat by the process of evaporation which cools the body in hot weather and helps in maintaining the body temperature.

8) What do you mean by latent heat of fusion? Give a practical application of it.

Ans Latent heat of fusion is the amount of heat in joules requirced to convert a unit mass of ice into liquid at its melting point.

Practical application of latent heat are-

* Melting ice on the road by using salt.
* Steaming foods.
* Cooling drinks with cold water and ice.
* Extinguishing fire by using boiling water.

9) Why does the smell of hot food can be smelt from a distance? Explain.

A: Hot food has a very high temperature. Thus it spreads to a very large distance. So we can say that we smell hot food from a distance because of diffusion.

10) What do you mean by sublimation? Explain by an activity how can we separate a mixture of ammonium chloride and salt using sublimation?

A: Sublimation is the property of substance in which they are converted directly from solid to gas or vice versa. Such substances are known as sublime. Some examples of solids which sublime are ammonium chloride, camphor, napthache and anthracene.

Let us perform an activity to separate a mixture of ammonium chloride and salt.

Take a mixture of ammonium chloride and salt in a china dish cover it inverted conical transparent funnel. At the other end of the funnel put a cotton plug so that vapour could not come out. Now place china dish on a burner. As the ammonium chloride is sublime after heating it will directly converted into vapour and this vapour will again condense at the upper colder part of funnel to form solid ammonium chloride. In this way the mixture ammonium chloride and salt can be separated by the sublimation method.

11) Define a) compressibility b) Rigidity c) fluidity

A: a) Compressibility ----->
The ability of a substance to occupy a lesser volume when pressure is applied. More the ~~ea~~ compressibility, more easily the substance can occupy a lesser volume.

b) Rigidity -
The inability of an object to bend or to change its shape.
More the rigidity, less the object can bend.

c) Fluidity -
The ability of a substance to flow.
More the fluidity, more easily the substance can flow.

12) Describe by an activity to show that particles of matter have space between them.

A: Take a glass of water, add sugar and stir. You will observe that is no rise in the water level. This shows that particles of matter have spaces between them. When sugar ~~the~~ is added to the water, the sugar the particles adjust themselves in the spaces between the water particles. Hence, we can say that particles of matter have space between them.

13) Dibsbentiate between solid, liquid and gax.

Ans

	solid	liquid	Gas
*	The solids have debinite shape, size and volume.	The liquidx have no debinite shape, size but have debinite volume.	The gasex have no debinite size, shape and volu-me.
*	The particlex ob matter are very tightly packed.	The particlex ob matter are loosely packed.	The particlex ob matter are very loosely packed.
*	The particlex ob solid have negligible kine-tic energy.	The particlex ob liquid have Kinetic energy.	The particlex ob gax have huge kinetic energy.
*	The particlex ob solid do not show the property ob compreesibi-lity	The particlex ob liquid can be compre-ssed slight-ly.	The particlex ob gasex can be easily compreesed.
*	The particlex ob solid do not show the property ob kluidity.	The particlex ob liquid show the property ob kluidity.	The particlex ob gasex show the property ob kluidity.

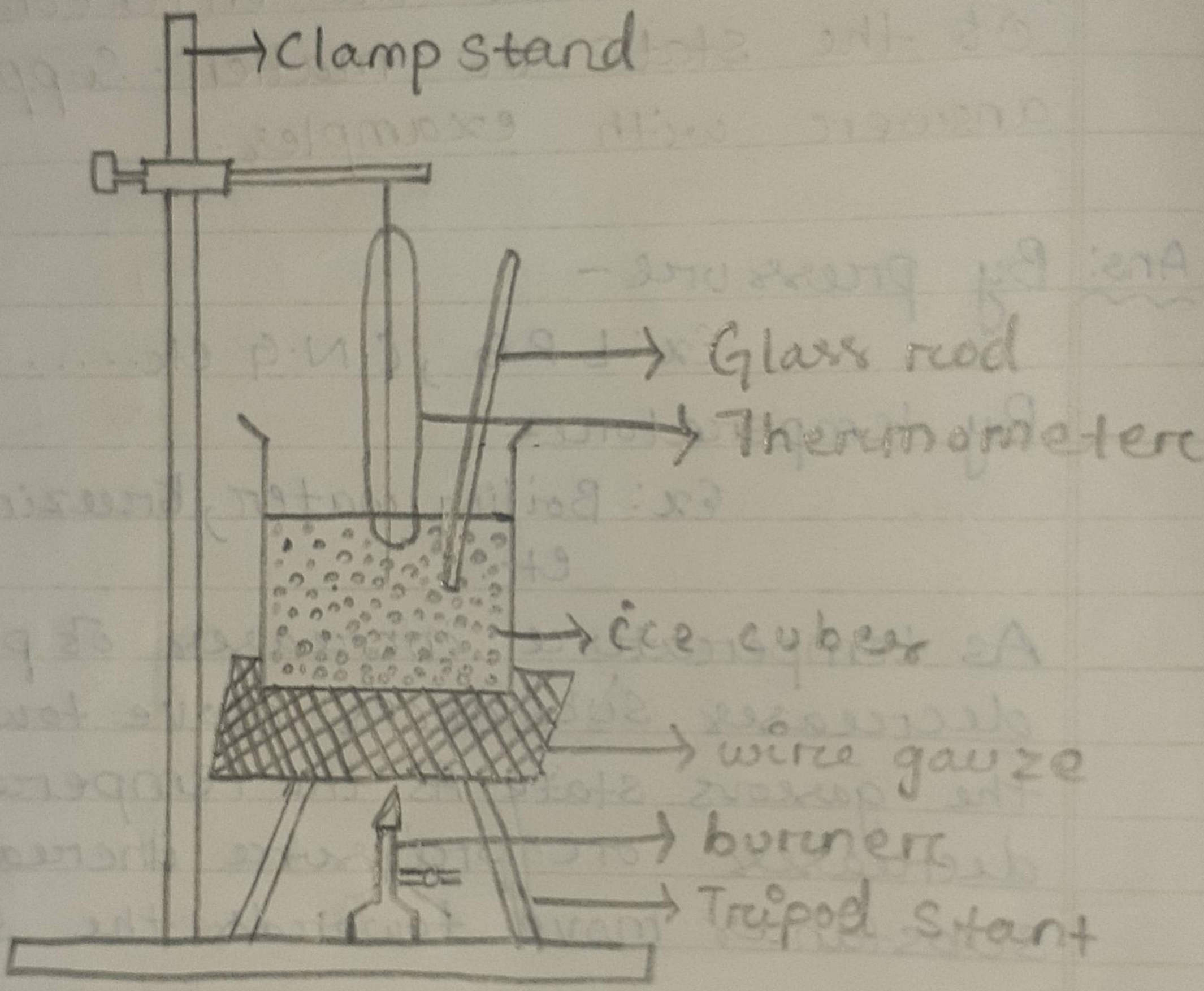
Date
Page 27

14) Explain by an activity how can one determine the melting point of ice with a diagram.

Ans: Materials required: A burner, Ice cubes, Beaker.

Activity: *Put the ice cubes inside the beaker.
* Place the beaker on the burner.
* Let the burner heat the beaker for some time.

Observation: After letting the burner to heat the breaker for some time, you will notice that ice melts to water. This is because the heat increases the kinetic energy of the particles which led to a increase in their inter ~~molecular~~ particle spaces and also a decrease inter particle forces of attraction due to which the particles move more rapidly converting to liquid.



Date
Page 28

15) Give reasons -

(a) A liquid generally flows easily.

A: A liquid generally flows easily because the intermolecular spaces between the liquid particles are were as compared to solids. Moreover, these particles are loosely packed due to the presence of little force of attraction between them.

b) Ice at zero degree celcius appears colder in the mouth than water at the same status.

A: Due to the more latent heat absorded by ice as compare to water att same temperature, ice appears more colder than water.

c) Doctors advise to put strips of wet clothes on the forehead of a person having high fever.

A: When strips of wet cloth are put on the forehead of person having fever, the water in the cloth absorbs heat from hot

forehead to get vaporise. It helps to decrease the extra heat in the body caused due to high fever consequently helps to reduce body fever.

16) How does temperature affect the process of change of state.

Ans: Change in temperature effect the state of matter because when we increase the temperature the kinetic motion of small particles in a substance increase and go far to one another and this region makes change in state of a substance.

17) Explain by activity to show that particles of matter are in random motion.

Ans: Take two beakers filled with water, put a drop of red ink in one beaker and honey in the second beaker and leave them undisturbed. After sometime it can be observed that the colour of the ink spreads evenly throughout the water and also the honey in the second beaker. This happens because the

molecules continuosly keep on moving. When temperature is increased, the movement of particles become faster. This is due to increase in their kinetic energy.

(i) Oxygen has neither fixed volume nor fixed shape.

ii) Oxygen exerts pressure due to collison of the molecules on the walls

18) Write a short note on plasm.

Ans) → It is the fifth state of matter.
→ This state consists of super energetic and super excited particles.
→ The fluorescent tubes and neon sign bulbs contain plasma.
→ The plasma in stars is formed due to high temperature.

20) Write a short not on dry ice.

Ans: → Dry ice is nothing but solid carbon dioxide.

→ It is prepared by providing high pressure and low temperature to the gaseous carbon dioxide.

19) Write a short note on BEC.

Ans: → It is the sixth state of matter.
→ It was predicted by Albert Einstein based on the calculation done by satyandra nath Bose.

→ It is gas having very high density
→ Its density is 1/1000th of the normal air.