Home assignment

1. Define matter. What is it composed of?

Ans:- Matter is something that has mass, occupies space & can be perceived by our senses. It is composed of molecules.

2. State 3 properties of molecules.

Ans 1. They are in constant motion
2. They are very small
3. They attract each other

3. What do you mean by intermolecular space?

Ans:- The distance or space between 2 molecules is called intermolecular space.

4. How do they vary in 3 states of matter?

Ans:- In solids, intermolecular space is very less.
In liquids, there is an intermediate intermolecular space
In gases, the intermolecular space is maximum.

B.4. The force by which the molecules present in a body attract each other is called intermolecular force of attraction. It is maximum in solids, optimum in liquids and minimum in gases.

B.5. (a) & (b) are correct

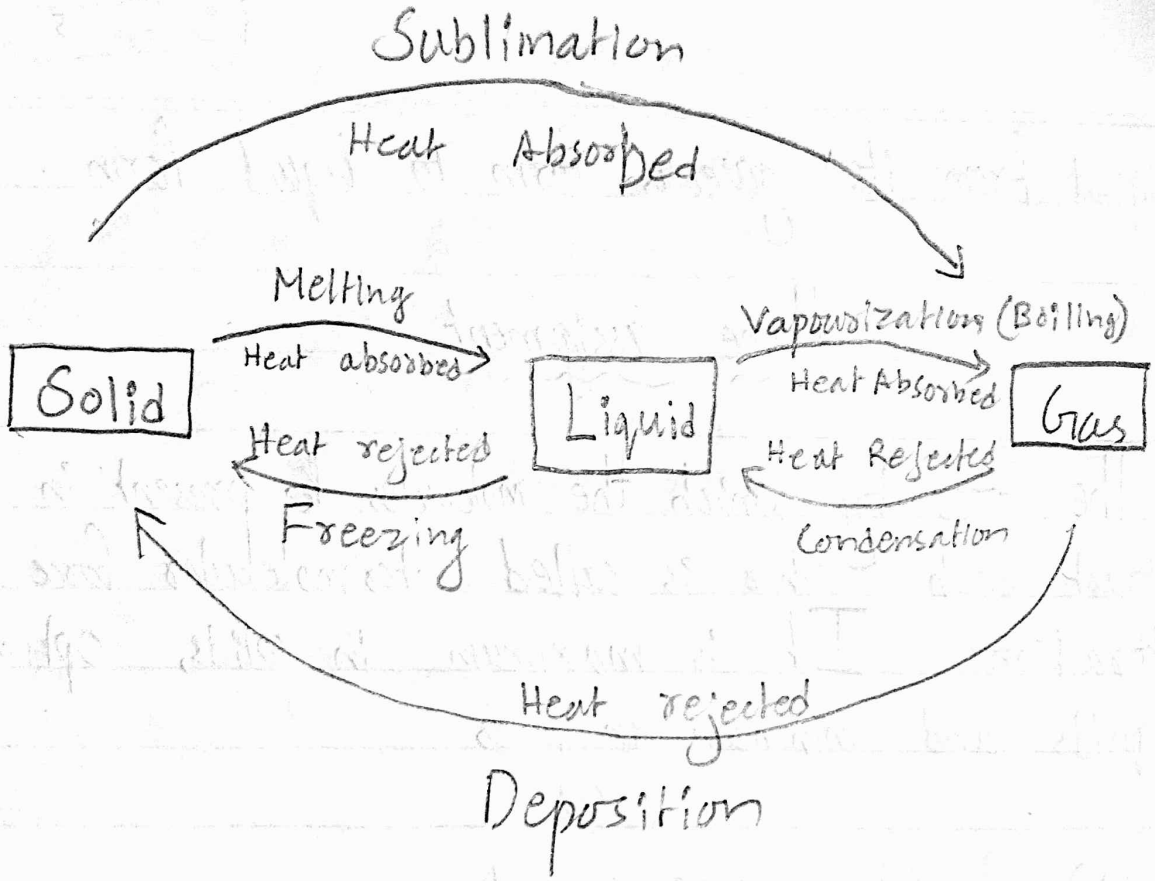
B.6. Solids, have high intermolecular force of attraction and least intermolecular distance. The molecules in a solid are very tightly packed. They oscillate in to & fro manner.

Liquids have moderate intermolecular force of attraction and intermolecular distance. Molecules in a liquid are not very tightly packed. They can move freely in to & fro manner.

Gases have least intermolecular force of attraction and highest intermolecular distance. The molecules in gases are very loosely packed. They can randomly move in all directions.

B7. The process of change from one state to another state either by absorption or by rejection of heat at a constant temperature is called change of state.

B.7.


Sublimation
Heat Absorbed
Melting
Heat absorbed
Solid
Heat rejected
Freezing
Liquid
Vaporization (Boiling)
Heat Absorbed
Heat Rejected
Condensation
Gas
Heat rejected
Deposition

17. What is evaporation?

Ans:- Evaporation is a process by which a liquid converts into its gaseous form from the surface of that liquid at all temperature.

18. State 3 factors that affect the rate of evaporation of a liquid.

Ans:- 3 factors which affect the rate of evaporation of a liquid are:- i) Temperature of liquid, ii) Wind Speed iii) Humidity

19. Wet clothes dry faster on a warm dry day than on a cold humid day? Explain.

Ans:- On a warm dry day, the temperature is high and humidity is less. Hence the rate of evaporation is faster and clothes dry quickly. But on a ~~wet~~ cold humid day, temperature is less and humidity is high. So, rate of evaporation is slow, hence clothes take time to dry.

20. Water in a dish evaporates faster than water in a glass. Explain-

Ans:- In a dish, the surface area of water exposed to air is high and thus rate of evaporation is fast. In a glass, the surface area of water exposed to air is less and hence rate of evaporation is less. So, water in a dish evaporates faster than water in a glass.

8. Differentiate between melting and boiling point, giving one example.

Sol. The temperature at which a substance changes from solid to liquid state is called its melting point. Eg:- Ice melts at 0°C.
The temperature at which a substance changes from liquid to gaseous state is called its boiling point. Eg:- Boiling point of water is 100°C.

9. Describe condensation and sublimation with examples.

Sol. The conversion of a substance from its gaseous state to liquid state at a fixed temperature is called condensation. Eg:- Water drops appearing on out side of a glass containing cold water.

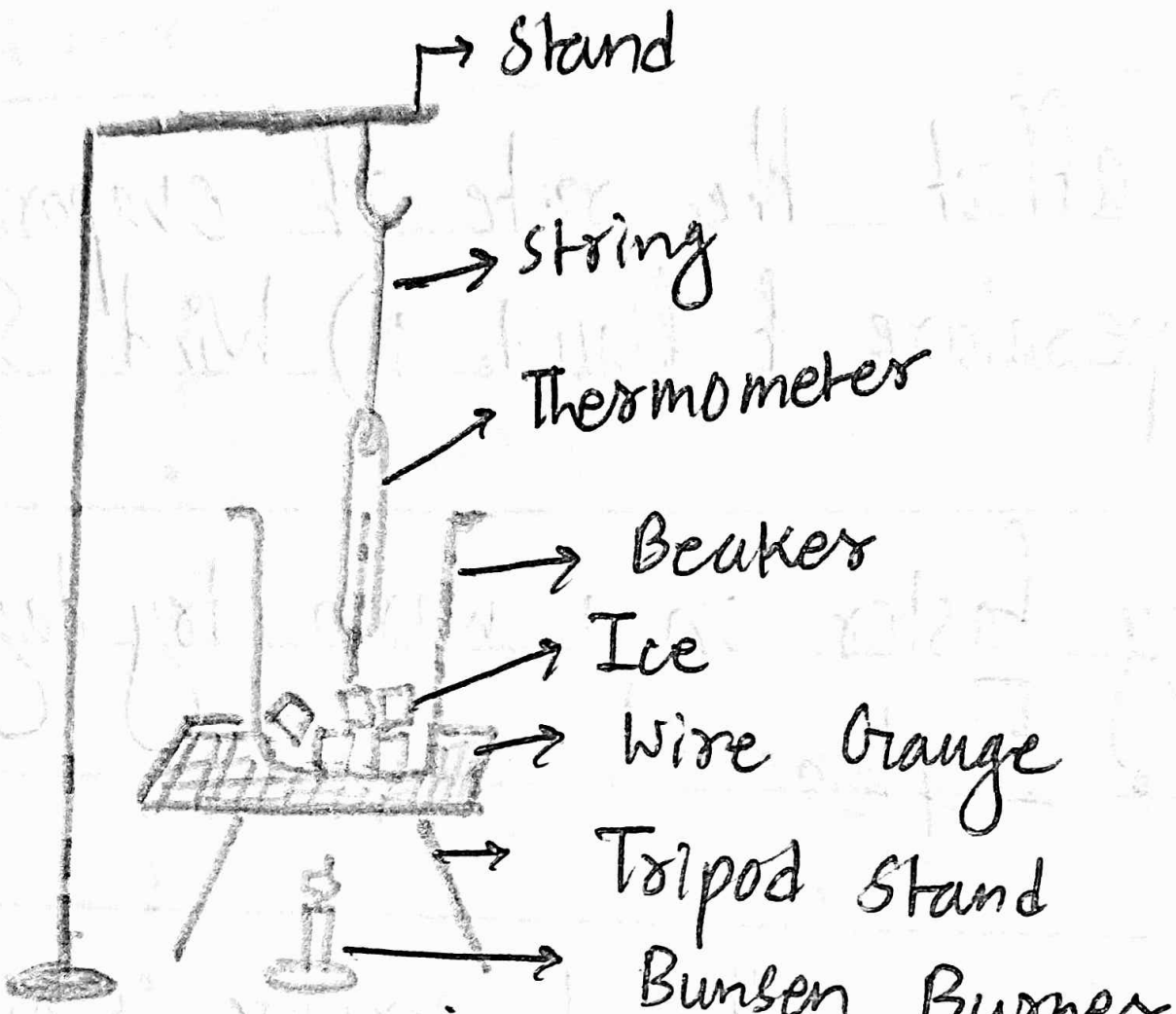
The conversion of a substance from solid state to gaseous state without going through its liquid state is called sublimation. Eg:- Sublimation of camphor.

10. Explain melting and melting point.

Ans: The conversion of a substance from its solid to liquid state at a fixed temperature is called melting. The fixed temperature at which melting occurs is called melting point of that substance.

11. Describe an experiment to demonstrate that a substance absorbs heat during melting without change its temperature.

11.


Stand
string
Thermometer
Beakers
Ice
Wire Gauge
Tripod Stand
Bunsen Burners

Ans:- Take a beaker and put some ice cubes in it. Keep the beaker and keep it on a wire gauge over a tripod stand. Tie a laboratory thermometer to a stand and tie it with string. Heat the beaker using a bunsen burner. Record the observation of temperature every minute.

From the above experiment, we obtain the following table

Time (In Minutes)	Temperature
0	0
1	0
2	0
3	0
4	0
5	0
6	3.8
7	7.6
8	11.4

From this table, we get to know that the temperature during the first 5 minutes is constant. We can also observe that the ice melts to form water during this time. Thus, we infer that during melting, heat is absorbed during melting without change in temperature.

Date
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12. Explain vaporization and boiling point.

Ans:- The process by which a substance changes from liquid to gaseous state at a constant temperature is called vaporization. The constant temperature at which boiling occurs is called boiling point.

13. a) Boiling b) Vaporization

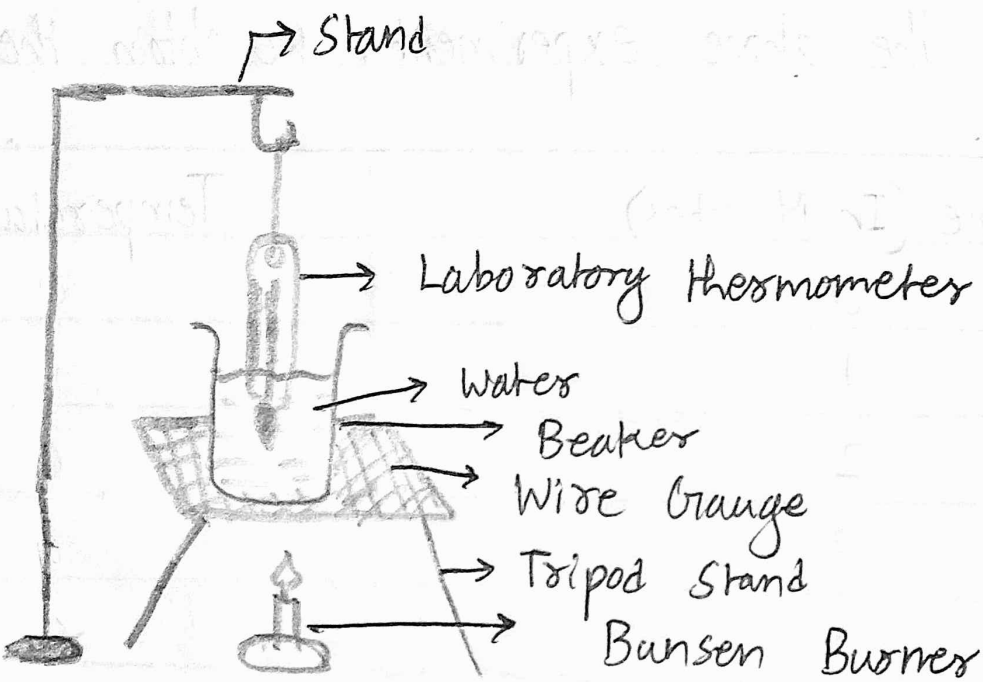
14. The melting point of ice = 0°C

15. Describe an experiment to demonstrate that water absorbs heat during boiling at a constant temperature.

Ans: Take a beaker and pour some water in it. Put the beaker over a wire gauge over a tripod stand. Tie a thermometer to an iron stand and put it normally over the water. Heat the beaker using a bunsen burner. Wait till the temperature is 80°C. Then, note the temperature after every minute. From this, we get the following table

Time (in minute)	Temperature (°C)
0	80
1	90

15.


Stand
Laboratory Thermometer
Water
Beaker
Wire Gauge
Tripod Stand
Bunsen Burner

2	100	
3	100	
4	100	
5	100	
6	100	

From 2 to 6 minutes, the water starts to boil. From the table, we also get to know that during this time, the temperature of water is 100°C & is constant. So, during boiling, water absorbs heat without change in temperature.

16. a) 0°C b) 100°C.

21. Why are volatile liquids such as alcohol and spirit stored in tightly closed bottles?

Sol. Volatile liquids like alcohol and spirits are stored in tightly closed bottles because they evaporate easily when left exposed to air.

22. Boiling point of water is 100°C.

23. Why is cooling produced during evaporation of a liquid?

Ans: During evaporation of a liquid, the liquid absorbs heat from its surroundings and changes into gaseous

state. Since the surroundings loose heat, temperature falls and a cooling effect is produced.

24. Explain with an example that when a liquid evaporates, it takes heat from its surroundings.

Ans:- If a few drops of alcohol or spirit is poured in our palms, we feel a cooling and soothing effect. When a liquid evaporates, it absorbs heat from its surroundings and the surroundings cool down. So, we feel a cooling effect on our palms. So, when a liquid evaporates, it takes heat from its surroundings.

25. Give 2 applications of evaporation.

Ans:- 2 applications of evaporation are:-

- Cooling water in earthened pots during summer
- Putting wet clothes on the forehead of patients having fevers

26. Explain why in hot summer days water remains cool in Earthened pots?

Ans:- Water in earthened pots remains cool during summers as

the water's evaporation causes cooling effect.

27. The patient suffering from fever gets relief from it as the water from wet cloth evaporates and cools the forehead of the person.

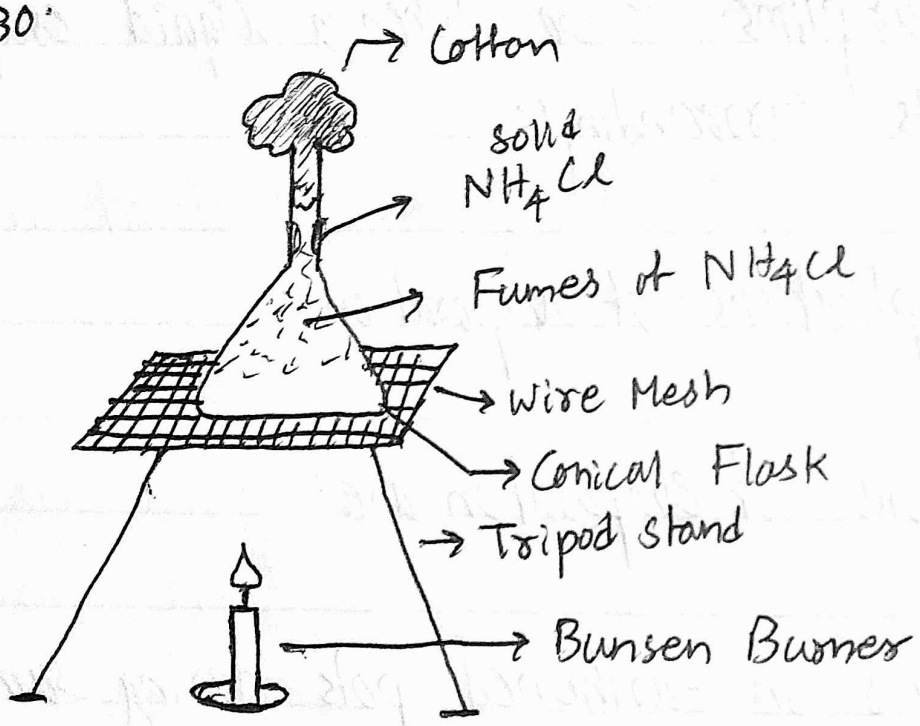
28. The process by which a substance changes from solid to gaseous state without going through liquid state is called sublimation.
Eg:- When Camphor is left exposed to air, it sublimes.

29. Napthalene Balls sublime when exposed to air. So, their size decreases.

30. Take a conical flask and plug its open end with a cotton piece. Before that put solid ammonium chloride in it. Put this setup on a wire mesh on a tripod stand and heat it using a bunsen burner.

We will observe that fumes of NH_4Cl are formed. They cool on contact with the walls of the flask. So, solid NH_4Cl deposits on the inner walls of the flask. Thus on heating, NH_4Cl converts directly to gas from solids. So, When it cools it deposits on the inner walls of Flask.

30.


Cotton
solid NH_4Cl
Fumes of NH_4Cl
Wire Mesh
Conical Flask
Tripod stand
Bunsen Burner