

Q/A (Matter)

- 1) a) The temperature of a substance remains unaffected during its change of state. True
- b) Ice melts at 100°C . F
- c) Water boiling at 100°C has more heat than steam at 100°C . False
- d) Evaporation of a liquid causes cooling. True
- e) Water evaporates only at 100°C . False
- f) Boiling takes place at all temperatures. False
- g) Evaporation takes place over the entire mass of the liquid. F
False
- h) The process of a gas converting directly into solid is called vaporisation. False
- i) At high altitudes, water boils

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above 100°C False

j) The melting point of ice is 0°C - True.

2) a) Evaporation takes place at all temperatures.

b) freezing process is just the reverse of melting.

c) ~~_____ is the process is just a reverse~~

c) sublimation is a process that involves direct conversion of solid into its vapour on heating.

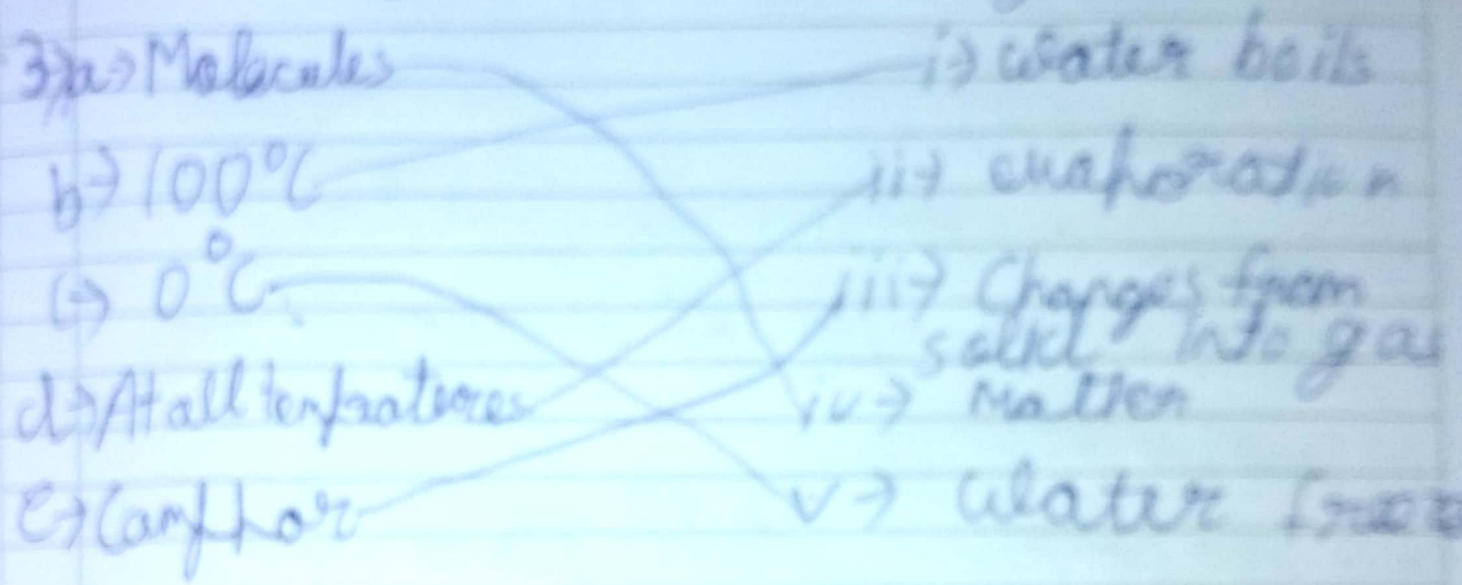
d) The temperature at which a solid converts into a liquid is called as melting point.

e) The smallest unit of matter that exists freely in nature is called molecule.

f) Molecules of a substance are always in a state of motion and so they possess kinetic energy.

g) Inter-molecular force of attraction
 in liquid are so high & least in gases
 i) maximum in gas, l.s.

h) Intermolecular force of attraction
 is maximum in solid medium
 in liquid least in gases



iii) The inter molecular force is maximum in:

i) Solids

ii) The Inter molecular space is maximum in

iii) gases

c) The molecules move freely anywhere in
i) liquids & gases

d) The molecules can move only within the
boundary.

i) liquids

e) The temperature at which a liquid
gets converted into its vapour state
is called its

ii) boiling point.

f) Rapid conversion of water into steam
is an example of ~~evaporation~~

i) Evaporation

g) Evaporation takes place from the:

i) surface of liquid.

ii) Boiling takes place from

ii) through out the liquid.

B) i) Matter is anything that has mass
and occupy space. It is composed of
atoms and molecules.

2) The three properties of molecules are

- Size
- Space
- Kinetic energy

3) It means that the space between one atom to other. In solid it has low, In liquid it has moderate and gas has maximum.

4) It means the attraction force made by one atom to attract another like a magnet.

5) a) Solid have definite shape and volume.

b) Liquid have definite volume but no definite shape.

6) Liquid \rightarrow Moderate space Moderate force.

• Moderate Particles can move

Solid • Least space and highest force

• Particles cannot move

9) Condensation → The process of converting gas into liquid is called condensation.

Sublimation → The process of directly converting of solid to gas.

10) melting → The process change in state from solid to liquid.

Melting point → The point @ fixed temperature at which solid is gets converted to liquid at less time than that of melting.

11) To show → A substance absorbs heat during melting without change in its temperature.

Procedure → Break the Ice or put a hot object over the Ice and melts completely we can see that Ice can be melted by using

Observation → It absorbs heat without any change

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12) → The process of change of liquid to vapours on heating is called vaporisation.

The constant temperature at which pure liquid gets converted to vapour is called boiling point.

13) a) Boiling

b) Evaporation

14) → From the above observations we concluded that ice melts at 0°C during which heat is supplied. This heat is used to change the state of ice into water and when the ice is completely melted the temperature starts to rise.

15) Aim: Water absorbs heat during boiling at a constant temperature.

Experiment Items required:- Water, Beaker, Burner, Tripod Stand, Vertical Stand, Thermometer are items required for Experiment.

Explanation → First take a beaker and put temperature in it. So that the liquid starts heating.

Maintain the record of temperature after every minute. At 100°C the water converts to vapour.

Conclusion → Heat is absorbed by water is 100°C and at a boiling heat supplied is also absorbed by water at constant temperature.

b) a) 0°C

b) 100°C

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17) The change of state from liquid to vapour at temperature is called evaporation.

18) The factors that affect the rate of evaporation of a liquid

i) Area of exposed surface

ii) Temperature of fluid.

iii) Nature of the liquid.

19) Because of the rate of evaporation it is higher in hot days compared to the cold days.

20) The rate of evaporation is more in exposed area, because it is flat and the heat directly goes to that place.

21) Volatile liquids like alcohol evaporates easily. So they are kept in closed bottle to avoid their evaporation.

22) The above observation tells us that liquid is converted into gas at a particular temperature 100°C .

23) The cooling is taken by evaporation. Thus this makes the environment cool.

24) When we put spirit in a bowl it evaporates and we put the thermometer level in it. So, the temperature is lower and this proves that evaporation makes the surrounding cool.

25) Two applications of evaporation are:-

- i) Extraction of salt from seawater
- ii) Drying of wet clothes.

26) Evaporation takes place in it to cool the hot in summer days.

27) The temperature falls due to latent evaporation taken from the forehead. The temperature falls.

28) Sublimation is the process by which a substance changes from solid state directly to vapour state. e.g. → dry ice, Naphthalene balls.

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29) size of Naphthaline balls decrease when left open because of sublimation.

30) Aim: Process of sublimation
Things required → Camphor, Cloth.

Procedure → First take a cloth and put it a cupboard and now put camphor in it. Now we can see that after 30 days you check the cupboard. We will find no camphor. Because the camphor has become gas from solid state. It is known as sublimation.