

Matter

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

Ans:- Take a beaker. Pour some water in the beaker. Place the beaker on a wire gauze placed over the tripod stand. Clamp a thermometer in a vertical stand and insert it in the beaker. Heat the beaker over the flame of a burner and record the temperature of water after every minute.

You will notice that the temperature of water rises continuously till the water starts boiling at 100°C . Once the water starts boiling its temperature does not rise any further, although the heat is still supplied.

16 State (a) the melting point of ice.
(b) the boiling point of water

Ans:- (a) The temperature at which ice changes into water without further increase in temperature is called melting point of ice. Melting point of ice is 0°C .

(b) The temperature at which water changes into steam without further increase in temperature is called boiling point of water. Boiling point of water is 100°C .

19. Wet clothes dry more quickly on a warm dry day than on a cold humid day. Explain.

Ans:- The rate of evaporation is faster in dry air than in humid air. So wet clothes dry more quickly on a warm dry day than on a cold humid day.

20 Water in a dish evaporates faster than in a bottle. Give reason.

Ans- The rate of evaporation increases if the area of surface exposed increases. So water in a dish with larger exposed surface than a bottle evaporates faster.

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

Ans- Volatile liquids with low boiling point evaporates faster. So they are kept in tightly closed bottles.

22 Why is cooling produced on evaporation of a liquid?

Ans- When a liquid changes into vapour it requires heat. This heat is supplied by the surroundings of the liquid. This results in fall in temperature on evaporation.

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

Ans- Evaporation of sweat from our body helps to maintain the body temperature. When sweat evaporates it requires heat which it takes away from our body. As a result temperature falls to keep the body at 37°C .

25 Give two applications of evaporation.

- Ans: - (1) In summer water gets cooled in an earthen pot.
- (2) Doctors advice to put the strips of wet cloth on the forehead of a patient having high fever.

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

Ans: Water seeps out on surface through the pores in the pot and evaporates. The heat required for evaporation is taken from water inside the pot which therefore gets cooled.

27 A patient suffering from high fever is advised to put wet cloth strips on his forehead. Why?

Ans: Water of the wet cloth strip evaporates by taking heat from the body of the patient. Thus the temperature of his body decreases.

28 What do you mean by sublimation? Explain with an example.

Ans: It is a process by which a solid when heated directly changes into its vapour without first changing into liquid.
Eg- Ammonium chloride on heating changes directly from solid to vapour.