

Question:1

Fill in the blanks:

- (a) The process of changing water into its vapour state is called _____.
- (b) The process of changing water vapour into water is called _____.
- (c) No rainfall for a year or more may lead to _____ in the region.
- (d) Excessive rains may cause _____.

Solution:

- (a) The process of changing water into its vapour state is called evaporation.
- (b) The process of changing water vapour into water is called condensation.
- (c) No rainfall for a year or more may lead to drought in the region.
- (d) Excessive rains may cause floods.

Question:2

State for each of the following whether it is due to evaporation or condensation:

- (a) Water drops appear on the outer surface of a glass containing cold water.
- (b) Steam rising from wet clothes while they are ironed.
- (c) Fog appearing on a cold winter morning.
- (d) Blackboard dries up after wiping it.
- (e) Steam rising from a hot girdle when water is sprinkled on it.

Solution:

- (a) Water drops appear on the outer surface of a glass containing cold water. (Condensation)
- (b) Steam rising from wet clothes while they are ironed. (Evaporation)
- (c) Fog appearing on a cold winter morning. (Condensation)
- (d) Blackboard dries up after wiping it. (Evaporation)
- (e) Steam rising from a hot girdle when water is sprinkled on it. (Evaporation)

Question:3

Which of the following statements are 'True'?

- (a) Water vapour is present in air only during the monsoon. ()
- (b) Water evaporates into air from the oceans, rivers, and lakes, but not from soil. ()
- (c) The process of water changing into its vapour is called evaporation. ()
- (d) The evaporation of water takes place only in sunlight. ()
- (e) Water vapour condenses to form tiny droplets of water in the upper layer of air, where it is cooler. ()

Solution:

- (a) Water vapour is present in air only during the monsoon. (False)
- (b) Water evaporates into air from the oceans, rivers, and lakes, but not from soil. (False)
- (c) The process of water changing into its vapour is called evaporation. (True)
- (d) The evaporation of water takes place only in sunlight. (False)
- (e) Water vapour condenses to form tiny droplets of water in the upper layer of air, where it is cooler. (True)

Question:4

Suppose you want to dry your school uniform quickly. Would spreading it near an *angithi* or heater help? If yes, how?

Solution:

Yes, spreading of clothes near an *angithi* or a heater would help dry the clothes quicker. This is because heat generated from an *angithi* or a heater causes the water to evaporate at a faster rate.

Question:5

Take out a cold bottle of water from the refrigerator and keep it on the table. After some time, you will notice a puddle of water around it. Why?

Solution:

This is because water vapour near the cold bottle collides with it, becomes cool, and condenses into water droplets. These water droplets collect and form a puddle of water around the bottle.

Question:6

To clean their spectacles, people often breathe out on glasses to make them wet. Explain why the glasses become wet.

Solution:

During exhalation (or breathing out), carbon dioxide is released along with water vapours. If one breathes out onto glass, the released water vapours collide with the surface of the glass, thereby making it cooler. As a result, the water vapours present in the air surrounding the glass condense and get attached to the glass surface. Consequently, the glass becomes wet.

Question:7

How are clouds formed?

Solution:

Clouds are formed by the process of evaporation and condensation. Water from the oceans, rivers, lakes, ponds, plants, fields, and other land surfaces evaporates, gets into air, and rises up in the atmosphere. At a certain height when the air becomes cooler, water vapour contained in air condenses. On condensation, these form water droplets. These water droplets collect and float in air as clouds.

Question:8

When does a drought occur?

Solution:

A drought occurs if there is no rainfall for a long time. Usually, water lost by soil due to evaporation is returned to it by rains. But no rainfall occurs for a long time, it leads to a decrease in the water level of various ponds and wells. This leads to the condition of drought.