

Long Answer Questions

Q.1. Explain the following observations very briefly.

[NCERT

Exemplar]

Q. A firki does not rotate in a closed area.

Ans. Lack of air movement hinders the rotation of firki in a closed area.

Q. The arrow of weather cock points towards a particular direction at a particular moment.

Ans. Shows the latest direction of the wind.

Q. An empty glass in fact is not empty.

Ans. Even the so-called empty glass is not in fact empty. It is filled with air.

Q. Breathing through mouth may harm you.

Ans. You may inhale dust if present in air which may prove harmful.

Q.2. Paheli kept some water in a beaker for heating. She observed that tiny bubbles appeared before the water started to boil. She boiled the water for about 5 minutes and filled it in a bottle up to the brim and kept the bottle airtight till it cooled down to room temperature.

- i. Why did the tiny bubbles appear?
 - ii. Do you think tiny bubbles will appear on heating the water taken out from the bottle? Justify your answer.
- [NCERT Exemplar]

Ans.

- i. Water contains air dissolved in it. On boiling, this air separates out from water and evolve out as air bubbles.
- ii. No, tiny bubbles will not appear as there is no dissolved air in this water.

Q.3. How will you prove that oxygen supports burning?

Ans.

- Take three candles, two glass jars that can cover two candles but of different sizes and a watch.
- Light all the three candles at one time after fixing them on the table. Cover two candles with the jars. Leave one candle uncovered. Switch off the fan and close doors and windows. This will stop wind from blowing off the candles.
- After some time the candle covered with the small jar goes off first. Then the one with a bigger jar goes off. The candle in the open continues to burn. Thus, air supports burning.



Q.4. How will you show that air is dissolved in water?

Ans.

- Take some water in a glass vessel. Look carefully at the inner surface of the vessel.
- There are tiny bubbles on the inside of the vessel. These bubbles come from the air dissolved in water.
- Heat the water slowly on a tripod stand.
- We see the air dissolved in it escapes. On further heating, the water itself turns into vapour and finally begins to boil.

Thus, the animals living in water use the dissolved oxygen in water.

Q.5. How is the level of oxygen maintained in the atmosphere?

Ans. The level of oxygen is maintained in the atmosphere by planting more and more trees and by avoiding excessive burning of fuels. The plants will take up the carbon dioxide in the atmosphere to make their food and in turn will release oxygen. This oxygen is taken up by animals, including humans, for respiration and in turn release carbon dioxide.