

Chapter 17 Forests Our Lifeline -Textbook Exercise - (Solved)

1. Explain how animals dwelling in the forest help it grow and regenerate.

Answer-Animals dwelling in forests play a crucial role in their growth and regeneration. Here are key ways in which they contribute-

- **Seed Dispersal-** Many forest animals, including birds, mammals, and insects, are instrumental in seed dispersal. As they move around the forest, they carry seeds with them, either by eating fruits and excreting the seeds elsewhere or by seeds sticking to their fur or feathers. This dispersal helps in the spread of plant species and the regeneration of the forest.
- **Pollination-** Many animals, especially insects like bees and butterflies, are important pollinators. They transfer pollen from one flower to another, aiding in plant reproduction. This process is essential for the growth of new plants, which contributes to the forest's regeneration.
- **Nutrient Cycling-** Animals also contribute to nutrient cycling in the forest. When they excrete waste, it adds nutrients to the soil, which are then taken up by plants. This process helps maintain soil fertility, essential for plant growth and forest regeneration.

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2. Explain how forests prevent floods.

Answer-Forests play a significant role in flood prevention through the following mechanisms-

- **Water Absorption-** The roots of trees and plants in forests absorb a large amount of water. This absorption capacity helps to reduce the volume of surface runoff during heavy rains, decreasing the likelihood of floods.
- **Soil Stability-** The roots of trees and understory plants help to bind the soil, reducing soil erosion. Stable soil can absorb more water, which further diminishes the runoff that contributes to flooding.
- **Slowing Down Rainfall Impact-** The canopy layer of forests breaks the fall of rainwater, slowing its impact on the ground. This allows more water to seep into the soil rather than flowing quickly over the surface, which can lead to floods.

[Rapid Revision – Class 7 Science -Chapter 17- Forest our Lifeline - Complete Notes](#)

3. What are decomposers? Name any two of them. What do they do in the forest?

Answer-Decomposers are organisms that break down dead organic material, turning it into simpler substances. They play a vital role in the nutrient cycle of forests.

Two examples of decomposers are-

- **Fungi**

- **Bacteria**

Role in the Forest-

- **Breaking Down Dead Material-** Decomposers break down dead plants and animals, as well as fallen leaves and branches. This process turns complex organic matter into simpler substances.
- **Nutrient Recycling-** By breaking down dead material, decomposers release nutrients back into the soil. These nutrients are then available for uptake by plants, aiding their growth and maintaining soil fertility.
- **Maintaining Soil Health-** The activity of decomposers helps maintain the health and structure of the soil, which is crucial for supporting plant life in the forest.

4. Explain the role of forest in maintaining the balance between oxygen and carbon dioxide in the atmosphere.

Answer-Forests play a crucial role in maintaining the balance between oxygen and carbon dioxide, two essential gases in our atmosphere, through the following processes-

- **Photosynthesis-** Trees and plants in forests absorb carbon dioxide from the atmosphere and use sunlight and water to convert it into glucose and oxygen through photosynthesis. This process releases oxygen back into the atmosphere, which is essential for the survival of most living organisms.
- **Carbon Storage-** Forests act as carbon sinks, meaning they store large amounts of carbon in their biomass (like trunks, branches, leaves, and roots). By storing carbon, forests reduce the amount of carbon dioxide, a greenhouse gas, in the atmosphere, helping to mitigate the effects of climate change.

Thus, forests contribute significantly to maintaining the balance of oxygen and carbon dioxide, which is vital for life on Earth and for controlling global temperatures.

5. Explain why there is no waste in a forest.

Answer- In a forest ecosystem, there is a natural system of recycling that ensures there is no waste. This is primarily due to the following reasons-

- **Decomposition-** Decomposers like fungi and bacteria play a key role in breaking down dead organic matter, such as fallen leaves, branches, and deceased animals. They convert this waste into simpler substances, which then enrich the soil with nutrients.
- **Nutrient Cycling-** The nutrients released by decomposers are absorbed by plants for their growth, thus completing the nutrient cycle. This continuous cycle ensures that all organic material in the forest is used and recycled, leaving no waste.

This efficient use and recycling of organic material help maintain the health and sustainability of the forest ecosystem.

6. List five products we get from forests.

Answer-Forests provide a wide range of products that are vital for human use. Here are five key products we obtain from forests-

- **Wood and Timber-** Used for construction, furniture making, and paper production.

- **Medicinal Plants-** Many plants found in forests are used in traditional and modern medicines.
- **Rubber-** Obtained from the sap of rubber trees, used in various industries.
- **Edible Products-** Including fruits, nuts, mushrooms, and honey.
- **Resins and Gums-** Used in various products like adhesives, varnishes, and chewing gum.

7. Fill in the blanks-

(a) Question- The insects, butterflies, honeybees and birds help flowering plants in _____.

- **Answer- Pollination**
- **Explanation-** Pollination is the process whereby pollen is transferred from the male part of a flower to the female part, resulting in fertilisation and the production of seeds. Insects, butterflies, honey bees, and birds are key pollinators, carrying pollen from one flower to another, which is essential for the reproductive cycle of many plants.

(b) Question- A forest is a purifier of _____ and _____.

- **Answer- Water, Air**
- **Explanation-** Forests play a vital role in purifying both water and air. Trees and plants in forests filter pollutants from water through their roots and from air through their leaves, significantly improving the quality of these essential resources.

(c) Question- Herbs form the _____ layer in the forest.

- **Answer- Understorey**
- **Explanation-** In the stratification of a forest, the understorey layer is where herbs are predominantly found. This layer is close to the forest floor and consists of non-woody, shorter plants, including various types of herbs.

(d) Question- The decaying leaves and animal droppings in a forest enrich the _____.

- **Answer- Soil**
- **Explanation-** Decomposition of organic matter such as decaying leaves and animal droppings contributes to the enrichment of the soil in forests. This process, carried out by decomposers like bacteria and fungi, releases nutrients back into the soil, enhancing its fertility and sustaining the growth of plants.

8. Why should we worry about the conditions and issues related to forests far from us?

Answer- We should be concerned about distant forests because their health directly impacts global environmental balance. Issues like deforestation in distant areas contribute to climate change, disrupt the global oxygen and carbon dioxide balance, and lead to the loss of biodiversity, affecting ecosystems and climates worldwide.

9. Explain why there is a need for a variety of animals and plants in a forest.

Answer- A diverse range of animals and plants is essential in a forest to maintain ecological balance and health. Different species perform various roles, such as pollination, seed dispersal, and nutrient

cycling. This diversity ensures the forest's resilience, aids in its regeneration, and supports a balanced ecosystem.

10. In Fig. 17.15, the artist has forgotten to put the labels and directions on the arrows. Mark the directions on the arrows and label the diagram using the following labels- clouds, rain, atmosphere, carbon dioxide, oxygen, plants, animals, soil, roots, and water table.

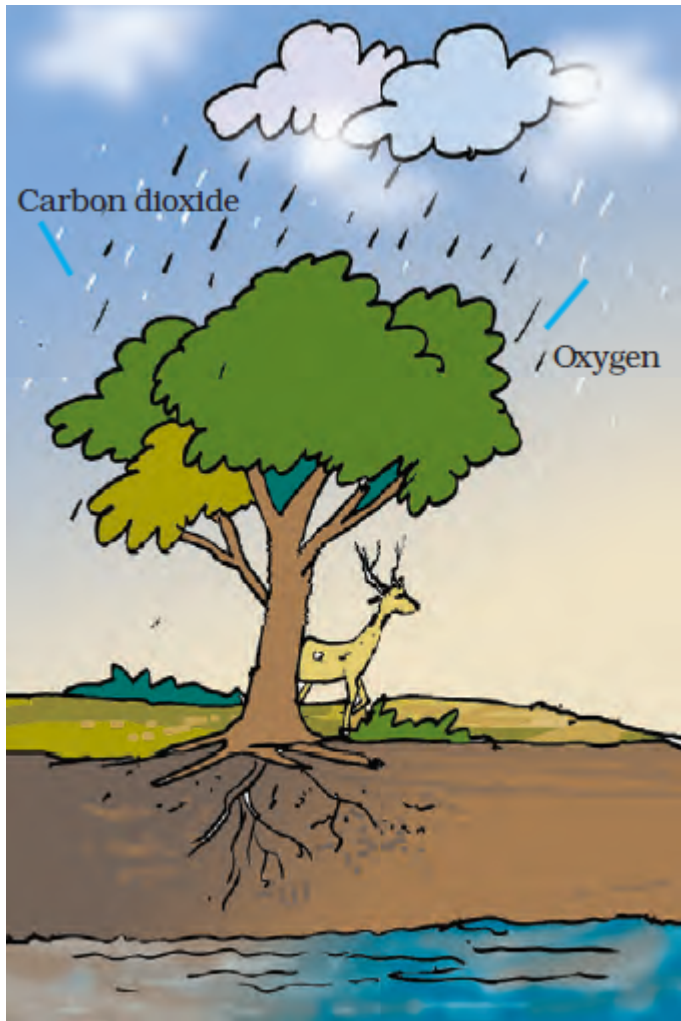
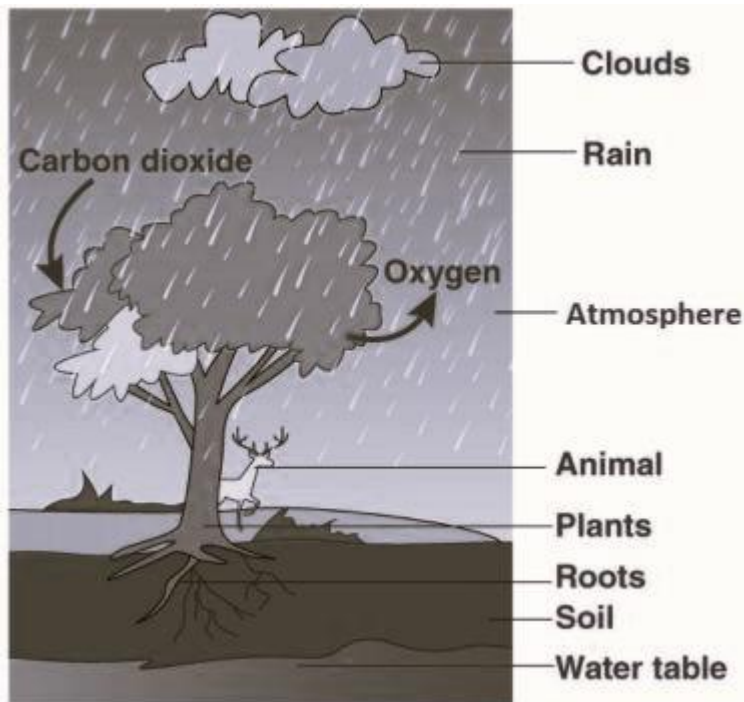


Fig. 17.15

Solution-



11. Which of the following is not a forest product?

(i) Gum (ii) Plywood (iii) Sealing wax (iv) Kerosene

- **Answer- (iv) Kerosene**
- **Explanation-** Kerosene is a petroleum product and not derived from forests. In contrast, gum, plywood, and sealing wax are all forest products. Gum is obtained from tree sap, plywood is made from wood, and sealing wax historically used resins derived from trees.

12. Which of the following statements is not correct?

(i) Forests protect the soil from erosion. (ii) Plants and animals in a forest are not dependent on one another. (iii) Forests influence the climate and water cycle. (iv) Soil helps forests to grow and regenerate.

- **Answer- (ii) Plants and animals in a forest are not dependent on one another.**
- **Explanation-** This statement is incorrect as plants and animals in a forest are interdependent. They rely on each other for various essential functions like pollination, seed dispersal, and maintaining the balance of the ecosystem. The other statements are correct regarding the roles and interactions within forest ecosystems.

13. Microorganisms act upon the dead plants to produce

(i) sand (ii) mushrooms (iii) humus (iv) wood

- **Answer- (iii) Humus**
- **Explanation-** Micro-organisms, such as bacteria and fungi, decompose dead plants and animals in the forest, producing humus. Humus is a nutrient-rich organic material that enriches the soil and is crucial for the growth of plants. It is not involved in producing sand, mushrooms, or wood.

[Afforestation vs. Deforestation -The Key Differences Explained](#)

[Class 7 Science -Chapter 17 – Forests: Our Lifeline -Detailed Notes](#)

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