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FORESTS: OUR LIFELINE

Chapter: 17

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SCIENCE
CLASS: - 7TH
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Chapter: 17
Forests: Our Lifeline

Q1: Explain how animals dwelling in the forest help it grow and regenerate.

Ans: There are some points that tell us how animals dwelling in the forest help it grow and regenerate.

(a) Animal dwellings disturb soil, enhancing nutrient cycling.
(b) Animals aid in seed dispersal, promoting forest regeneration.
(c) Beavers create wetlands, supporting diverse habitats.
(d) Animals facilitate pollination, enabling plant reproduction.
(e) Predators regulate herbivore populations, maintaining ecosystem balance.

Q2: Explain how forests prevent floods.

Ans: Forests play a significant role in preventing floods through the following mechanisms: -

(a) Forests absorb rainfall and slow down its movement, reducing surface runoff.
(b) Tree roots stabilize soil, preventing erosion and maintaining riverbank integrity.
(c) Vegetation in riparian zones filters water, reducing flood risks and improving water quality.
(d) Overall, forests act as natural buffers, mitigating floods by regulating water flow and preventing erosion.

Q3: What are decomposers? Name any two of them. What do they do in the forest?

Ans: Decomposers are organisms that break down dead organic matter and facilitate the process of decomposition. They play a crucial role in recycling nutrients and returning them to the ecosystem. Two examples of decomposers are fungi and bacteria.

(a) Decomposition: They break down dead plant and animal material, including leaves, fallen trees, and carcasses, into simpler substances. By secreting enzymes, decomposers break down complex organic compounds into smaller molecules, releasing nutrients in the process.

(b) Soil Enrichment: Decomposers contribute to the formation of humus, a dark, nutrient-rich organic matter in the soil. The breakdown of organic material by

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decomposers adds organic content to the soil, improving its fertility, structure, and water-holding capacity. This benefits the growth of plants and supports the overall health of the forest ecosystem.

(c) Nutrient Cycling: Decomposers facilitate the recycling of nutrients in the forest ecosystem. As they break down organic matter, they release essential elements like nitrogen, phosphorus, and carbon back into the soil.

Q4: Explain the role of forest in maintaining the balance between oxygen and carbon dioxide in the atmosphere.

Ans: Forests maintain the balance between oxygen and carbon dioxide in the atmosphere through photosynthesis and carbon storage. During photosynthesis, trees absorb carbon dioxide and release oxygen, replenishing the atmospheric oxygen supply. Forests act as carbon sinks, storing carbon in their biomass, thereby reducing the amount of carbon dioxide in the atmosphere. This process helps regulate atmospheric composition. By preserving and maintaining healthy forests, we ensure the continuous removal of carbon dioxide and the sustained production of oxygen, essential for maintaining the delicate balance of our atmosphere.

Q5: Explain why there is no waste in a forest.

Ans: In a forest ecosystem, waste is minimized through efficient resource recycling and utilization by decomposers, while symbiotic relationships and natural processes ensure waste materials become valuable resources.

Q6: List five products we get from forests?

Ans: Five products are: -

(a) Timber and Wood Products.
(b) Fuelwood and Biomass
(c) Medicinal Plants
(d) Fruits and Nuts
(e) Fibbers (e.g., for textiles and ropes)

Q7: Fill in the blanks:

(a) The insects, butterflies, honeybees and birds help flowering plants in pollination.
(b) A forest is a purifier of _water and air.
(c) Herbs form the Lowest layer **in the forest.**
(d) The decaying leaves and animal droppings in a forest enrich the _soil.

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Q8: Why should we worry about the conditions and issues related to forests far from us?

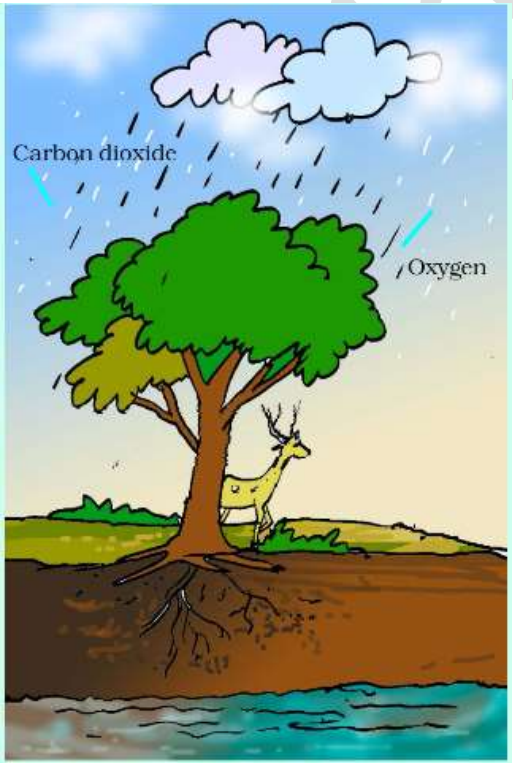
Ans: We should worry about conditions and issues related to forests far from us because they have a global impact on climate, ecosystems, and biodiversity. They help regulate the climate and support a variety of plants and animals. Changes in faraway forests can harm ecosystems and water resources. By protecting distant forests, we also support local communities and ensure a better future for everyone.

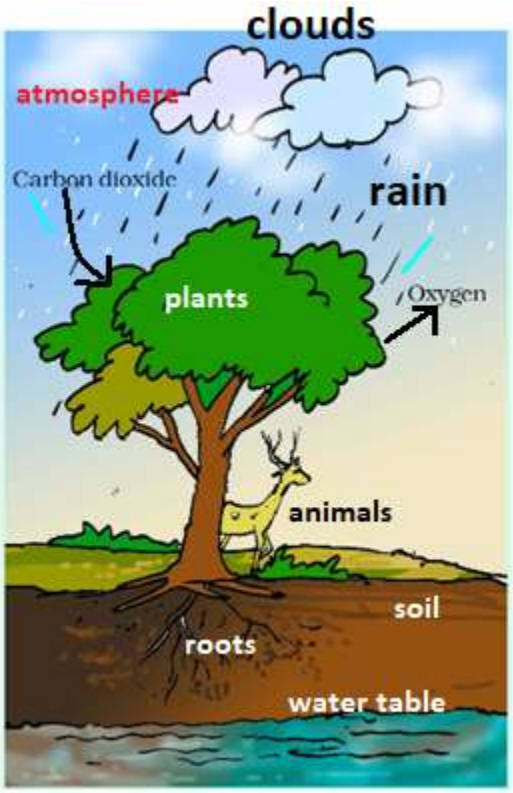
Q9: Explain why there is a need of variety of animals and plants in a forest.

Ans: In a forest, it's important to have many different types of animals and plants. This is because they all have their own special roles. Having a variety of species helps keep the forest healthy and balanced. It allows for important interactions, like pollination and seed dispersal. Different species also help with things like recycling nutrients and controlling pests.

Q10: 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, water table.

Ans: -





Q11: Which of the following is not a forest product?

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

Ans: (iv) Kerosene

Q12: 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.

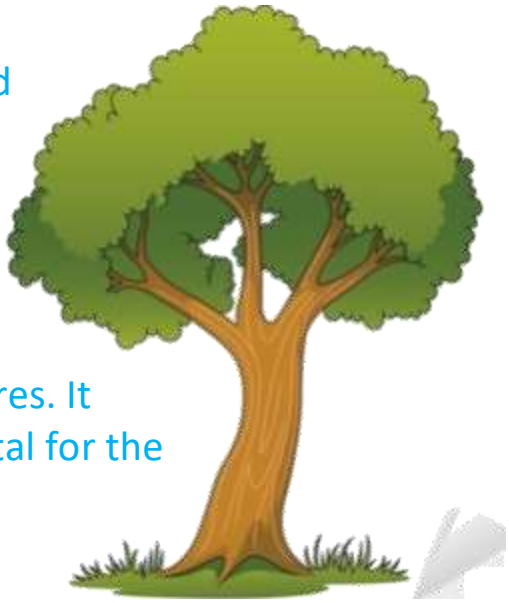
Ans: (ii) Plants and animals in a forest are not dependent on one another.

Q13: Micro-organisms act upon the dead plants to produce

(i) Sand
(ii) Mushrooms
(iii) Humus
(iv) Wood

Ans: (iii) Humus

Key Words



(a) Canopy: The uppermost layer of branches and leaves formed by the crowns of tall trees in a forest. It provides shade and shelter for plants and animals below.

(b) Crown: The top part of a tree that consists of branches, leaves, and reproductive structures. It captures sunlight for photosynthesis and is vital for the growth and survival of the tree.

(c) Decomposers: Organisms such as fungi and bacteria that break down dead organic matter into simpler substances.

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They play a crucial role in nutrient recycling by decomposing dead plants and animals, releasing nutrients back into the soil.

(d) Seed dispersal: The process by which seeds are dispersed or spread away from the parent plant. This can happen through various means, including wind, water, animals, or self-dispersal mechanisms.

(e) Soil erosion: The process by which soil is moved or washed away from its original location due to factors like wind, water, or human activities. Forests help prevent soil erosion by holding the soil in place with their root systems, preventing it from being washed away by rainfall or blown away by wind.

(f) Understorey: The layer of vegetation that grows beneath the canopy in a forest. It consists of smaller trees, shrubs, and plants that receive less sunlight due to the dense canopy above them.

(g) Deforestation: The clearing, removal, or destruction of forests, typically due to human activities such as logging, agriculture, or urbanization. Deforestation has negative impacts on biodiversity, climate, and ecosystem services.

(h) Humus: The dark, organic material that forms in the soil as a result of the decomposition of plant and animal matter. Humus improves soil fertility, retains moisture, and provides a favourable environment for plant growth.

(i) Regeneration: The process by which a forest naturally renews itself after disturbance or clearing. It involves the growth and establishment of new trees and vegetation, allowing the forest to recover and restore its ecological functions.

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