

# Deforestation and Reforestation Science

Environmental Science · Practice Test · 20 Questions

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**1. Which biome, often lost to deforestation, stores the highest concentration of carbon in its soil rather than its living biomass?**

- A) Tropical Rainforests
- B) Boreal Forests
- C) Temperate Deciduous Forests
- D) Savannas

**2. What is the primary driver of deforestation in the Amazon Basin according to the Food and Agriculture Organization (FAO)?**

- A) Commercial logging
- B) Urban expansion
- C) Cattle ranching
- D) Subsistence agriculture

**3. Which term describes the process where a forest is thinned or degraded, rather than completely cleared, leading to a loss of biodiversity?**

- A) Forest fragmentation
- B) Deforestation
- C) Afforestation
- D) Clear-cutting

**4. What is the main difference between 'reforestation' and 'afforestation'?**

- A) Reforestation restores native species; afforestation uses invasive ones
- B) Reforestation happens on historically forested land; afforestation happens on land not recently forested
- C) Reforestation is for timber; afforestation is for carbon sequestration
- D) There is no scientific difference

**5. Which of these global forest types is currently experiencing the highest rate of net forest area loss?**

- A) Boreal forests
- B) Tropical forests
- C) Temperate rainforests
- D) Subtropical coniferous forests

**6. How does large-scale deforestation impact the local hydrological cycle?**

- A) It increases ground-level humidity
- B) It reduces evapotranspiration, leading to decreased local rainfall
- C) It accelerates groundwater recharge
- D) It causes permanent soil saturation

**7. Which greenhouse gas emission is most significantly increased by the burning of forests for land clearing?**

- A) Nitrous oxide
- B) Methane
- C) Carbon dioxide
- D) Chlorofluorocarbons

**8. In forest ecology, what does 'old-growth' refer to?**

- A) Forests over 100 years old
- B) Forests that have reached an age where they contain unique ecological features absent in younger forests
- C) Forests primarily composed of non-native species
- D) Forests located exclusively in the northern hemisphere

**9. Which specific technique is used in reforestation to increase genetic diversity and resilience in a replanted area?**

- A) Monoculture planting
- B) Assisted migration
- C) Direct seeding of a single species
- D) Clonal propagation

**10. What is the primary role of 'pioneer species' in the reforestation of a degraded landscape?**

- A) To provide high-quality timber
- B) To prepare the soil and microclimate for climax community species
- C) To prevent all other vegetation from growing
- D) To act as a permanent canopy cover

**11. The 'Great Green Wall' is a major reforestation project aimed at combating desertification in which African region?**

- A) The Kalahari Desert
- B) The Sahel
- C) The Congo Basin
- D) The Horn of Africa

**12. Which soil nutrient is most rapidly depleted following the removal of tropical forest cover and subsequent exposure to intense rainfall?**

- A) Potassium
- B) Nitrogen
- C) Phosphorus
- D) Calcium

**13. What is the 'edge effect' in the context of forest fragmentation?**

- A) Increased wind speeds in the forest center
- B) Changes in microclimate and species composition at the boundary of a forest fragment
- C) The migration of apex predators to forest edges
- D) The increase in tree growth rates at the border

**14. Which international mechanism was established to provide financial incentives for developing countries to reduce emissions from deforestation?**

- A) REDD+
- B) The Kyoto Protocol
- C) The Paris Accord
- D) The Montreal Protocol

**15. Why is monoculture reforestation often criticized by ecologists?**

- A) It grows trees too slowly
- B) It lacks the biodiversity required for ecosystem stability
- C) It requires too much water
- D) It increases the rate of soil erosion

**16. What is a 'biological corridor' in reforestation planning?**

- A) A fence protecting trees from animals
- B) A path for humans to walk through the forest
- C) A strip of habitat connecting isolated forest fragments
- D) A section of forest dedicated to seed storage

**17. Which of the following is a primary cause of forest 'dieback' in boreal regions as temperatures rise?**

- A) Increased fire frequency and insect outbreaks
- B) Excessive reforestation
- C) Decreased CO<sub>2</sub> concentrations
- D) Too much rainfall

**18. How do mycorrhizal fungi networks contribute to the success of reforestation efforts?**

- A) They kill competing invasive grasses
- B) They facilitate nutrient exchange between trees and improve survival rates
- C) They prevent trees from growing too tall
- D) They turn sunlight into energy for the trees

**19. What is the 'albedo effect' regarding the removal of forest cover?**

- A) The reflection of sunlight by land surfaces, which changes when forests are replaced by lighter-colored fields
- B) The cooling effect of forest shadows
- C) The absorption of heat by dark tree leaves
- D) The process of carbon sequestration in forest soils

**20. Which satellite-based tool is most commonly used to monitor real-time deforestation globally?**

- A) Sonar imaging
- B) GLAD (Global Land Analysis and Discovery) alerts
- C) Ground-level sensors
- D) Barometric pressure maps