

Deforestation and Reforestation Science

Environmental Science · Practice Test · 20 Questions

1. Which process describes the rapid release of stored carbon into the atmosphere when forests are cleared and burned?

- A) Carbon sequestration
- B) Carbon mineralization
- C) Carbon oxidation
- D) Carbon fixation

2. Which term refers to the clearing of forests to create land for agricultural use, such as cattle ranching or crop production?

- A) Afforestation
- B) Conversion
- C) Succession
- D) Silviculture

3. What is the primary scientific concern regarding the loss of forest canopy cover in tropical regions?

- A) Increased albedo effect
- B) Loss of evapotranspiration cycles
- C) Soil salinization
- D) Ocean acidification

4. What is the ecological term for the establishment of a forest on land that has not recently been forested?

- A) Reforestation
- B) Afforestation
- C) Deforestation
- D) Regeneration

5. Which soil nutrient is most significantly depleted following the clearing and burning of tropical rainforests?

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

6. What role do forests play in the hydrological cycle that is lost when trees are removed?

- A) Groundwater desalination
- B) Atmospheric vapor transpiration
- C) Magmatic cooling
- D) Oceanic current regulation

7. What is the effect of forest fragmentation on biodiversity?

- A) Increased genetic drift
- B) Reduction of interior habitat species
- C) Enhancement of migratory routes
- D) Lowering of mutation rates

8. Which gas is absorbed by trees during photosynthesis, making forests a critical carbon sink?

- A) Nitrogen
- B) Methane
- C) Carbon dioxide
- D) Argon

9. What is a long-term consequence of deforestation on river systems?

- A) Increased sedimentation
- B) Decreased water temperature
- C) Higher flow stability
- D) Enhanced water purification

10. Which type of forest is most commonly restored in reforestation projects to maximize immediate carbon sequestration?

- A) Old-growth climax forest
- B) Fast-growing monoculture plantations
- C) Lichen-dominated tundra
- D) Sparse desert shrubland

11. What does the 'edge effect' in fragmented forests typically result in?

- A) Increased humidity
- B) Higher vulnerability to wind and invasive species
- C) Lower temperature fluctuations
- D) Expansion of canopy cover

12. Which of the following is a major driver of forest degradation rather than total deforestation?

- A) Clear-cutting for industrial palm oil
- B) Selective logging
- C) Conversion to urban infrastructure
- D) Conversion to paved highways

13. Why are peatland forests particularly critical in the context of carbon storage?

- A) They absorb nitrogen gas
- B) They store massive amounts of carbon in organic soil matter
- C) They reflect sunlight efficiently
- D) They promote volcanic activity

14. What is the definition of secondary succession in a deforested area?

- A) The establishment of the first lichen species
- B) The gradual return of vegetation on previously disturbed soil
- C) The permanent loss of all biological activity
- D) The conversion of forest to aquatic habitat

15. How does large-scale deforestation impact local climates in the Amazon?

- A) It leads to cooling of the surface
- B) It decreases rainfall by reducing moisture recycling
- C) It increases air pressure
- D) It removes salt from the air

16. What is the primary goal of sustainable forest management (SFM)?

- A) To eliminate all human use of forest resources
- B) To balance ecological, economic, and social functions of forests
- C) To prioritize timber production over all other services
- D) To convert forests into protected national parks only

17. Which forest ecosystem serves as one of the largest terrestrial carbon sinks globally?

- A) Boreal forests (Taiga)
- B) Mediterranean woodlands
- C) Tropical dry forests
- D) Temperate savanna

18. What is the relationship between deforestation and soil erosion?

- A) Deforestation decreases erosion
- B) Deforestation exposes soil to wind and water, increasing erosion rates
- C) Deforestation has no impact on erosion
- D) Deforestation improves soil structure

19. What occurs during the process of reforestation when non-native species are used?

- A) Biodiversity is always maximized
- B) The local food web may be disrupted due to lack of co-evolved species
- C) Soil fertility is permanently destroyed
- D) Carbon sequestration becomes impossible

20. Which biome is currently facing the highest rate of conversion for industrial soybean production?

- A) Tundra
- B) Boreal forest
- C) Cerrado savanna
- D) Alpine meadow