

Advanced Environmental Science Mastery

Environmental Science · Practice Test · 11 Questions

1. Which gas is the third most abundant in Earth's atmosphere by volume?

- A) Carbon dioxide
- B) Argon
- C) Neon
- D) Helium

2. In the context of ocean acidification, the reduction of which ion's concentration most directly impacts the ability of calcifying organisms to build shells?

- A) Bicarbonate
- B) Hydroxyl
- C) Carbonate
- D) Sulfate

3. According to the 10% rule in ecological energetics, if a primary producer captures 10,000 Joules of solar energy, how much energy is typically available to the tertiary consumer?

- A) 1,000 J
- B) 100 J
- C) 10 J
- D) 1 J

4. Which molecule is recognized by the IPCC as having the highest Global Warming Potential (GWP) over a 100-year period?

- A) Methane
- B) Nitrous oxide
- C) Sulfur hexafluoride
- D) Carbon tetrachloride

5. What is the primary limiting nutrient in most freshwater lake ecosystems that triggers eutrophication?

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

6. Approximately what percentage of the Earth's total freshwater is stored in glaciers and ice caps?

- A) 30.1%
- B) 1.2%
- C) 97.5%
- D) 68.7%

7. The 'Keeling Curve' is a famous graph that represents the continuous measurement of which atmospheric component since 1958?

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

8. Which specific process in the nitrogen cycle involves the conversion of ammonia (NH₃) into nitrates (NO₃⁻)?

- A) Nitrogen fixation
- B) Nitrification
- C) Denitrification
- D) Ammonification

9. What is the standard unit of measurement used to express the concentration of atmospheric ozone in a vertical column?

- A) Pascal
- B) Parts per billion
- C) Dobson Unit
- D) Roentgen

10. To be classified as a 'Biodiversity Hotspot' by Conservation International, a region must contain at least how many endemic species of vascular plants?

- A) 500
- B) 1,000
- C) 1,500
- D) 5,000

11. Which atmospheric layer contains the 'thermal inversion' responsible for trapping pollutants near the Earth's surface during specific weather conditions?

- A) Troposphere
- B) Stratosphere
- C) Mesosphere
- D) Thermosphere