

# Pollution Science Mastery

Environmental Science · Answer Key · 15 Questions

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**1. Which process describes the accumulation of toxins in higher trophic levels of a food web?**

- A) Bioremediation
- B) Bioaccumulation
- C) Biomagnification**
- D) Biodegradation

**2. What is the primary chemical component responsible for the depletion of the stratospheric ozone layer?**

- A) Chlorofluorocarbons**
- B) Carbon dioxide
- C) Sulfur dioxide
- D) Methane

**3. Which form of pollution is specifically categorized as 'non-point source' pollution?**

- A) Factory wastewater discharge
- B) Leaking underground storage tank
- C) Agricultural runoff from rain**
- D) Exhaust from a single vehicle

**4. What is the chemical formula of the primary greenhouse gas produced by the incomplete combustion of fossil fuels?**

- A) CO<sub>2</sub>
- B) CO**
- C) CH<sub>4</sub>
- D) NO<sub>2</sub>

**5. Which heavy metal, historically used in paints and pipes, is a potent neurotoxin that accumulates in the nervous system?**

- A) Cadmium
- B) Mercury
- C) Lead**
- D) Arsenic

**6. The process of 'cultural eutrophication' is primarily driven by an excess of which two nutrients?**

**A) Nitrogen and Phosphorus**

B) Carbon and Oxygen

C) Potassium and Sulfur

D) Calcium and Magnesium

**7. Which type of radiation is trapped by greenhouse gases, leading to the atmospheric warming effect?**

A) Ultraviolet

B) X-ray

**C) Infrared**

D) Gamma

**8. Acid rain is primarily caused by the atmospheric reaction of water with which two gases?**

**A) Sulfur dioxide and Nitrogen oxides**

B) Methane and Carbon monoxide

C) Oxygen and Argon

D) Hydrogen and Helium

**9. What is the term for the degradation of soil quality due to excessive irrigation, leading to the accumulation of minerals?**

**A) Salinization**

B) Desertification

C) Erosion

D) Leaching

**10. Which plastic polymer is the most common constituent of 'microplastics' found in marine ecosystems?**

A) Polyvinyl chloride

**B) Polyethylene**

C) Polystyrene

D) Polyurethane

**11. Which specific environmental hazard is associated with the release of volatile organic compounds (VOCs) in indoor settings?**

**A) Sick Building Syndrome**

B) Ozone hole formation

C) Acidification

D) Thermal inversion

**12. What is the function of a 'scrubber' in an industrial smokestack?**

- A) To measure gas concentration
- B) To remove particulate matter and sulfur**
- C) To convert carbon dioxide to oxygen
- D) To compress waste for storage

**13. Which layer of the atmosphere contains the 'ozone layer' that filters harmful ultraviolet radiation?**

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

**14. The term 'Persistent Organic Pollutants' (POPs) refers to substances that possess which characteristic?**

- A) They degrade rapidly in sunlight
- B) They are highly water-soluble
- C) They resist environmental degradation**
- D) They are non-toxic to wildlife

**15. Which pH range characterizes 'acid rain' compared to normal unpolluted rain?**

- A) pH 7.0 to 7.5
- B) pH 5.6 or lower**
- C) pH 8.0 to 9.0
- D) pH 10.0 to 11.0