Pollution Science Mastery

Environmental Science · Answer Key · 8 Questions

1. Which process describes the increase in concentration of a persistent pollutant, such as mercury, as it moves up the food chain?

A) Eutrophication
B) Bioaccumulation
C) Biomagnification
D) Biodegradation

2. Which specific nutrient is primarily responsible for causing cultural eutrophication in freshwater bodies, leading to algal blooms?

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

3. What is the primary chemical reaction by which sulfur dioxide from industrial emissions creates acid rain?

A) Oxidation and reaction with water vapor
B) Photochemical reduction with methane
C) Thermal decomposition of ozone
D) Carbonation of calcium carbonate

4. Which type of radiation is primarily trapped by greenhouse gases in the Earth's atmosphere, contributing to the greenhouse effect?

A) Ultraviolet radiation
B) Gamma rays
C) Infrared radiation
D) X-rays

5. Persistent Organic Pollutants (POPs) are characterized by which combination of properties?

A) Water-soluble and volatile
B) Lipophilic and resistant to degradation
C) Hydrophilic and rapidly metabolized
D) Non-toxic and biodegradable

6. What is the main environmental consequence of particulate matter (PM2.5) when it enters the lower atmosphere?

A) Depletion of the ozone layer
B) Reduction in visibility and respiratory health issues
C) Increased formation of methane
D) Acceleration of ocean acidification

7. In the context of soil pollution, what does 'leaching' refer to?

A) The absorption of CO2 by soil microbes
B) The upward movement of minerals via capillary action
C) The downward movement of dissolved pollutants through soil layers
D) The physical erosion of topsoil by wind

8. Which indicator organism is commonly used to assess the health of a stream due to its sensitivity to dissolved oxygen levels?

A) Mayfly nymph
B) Common earthworm
C) Field cricket
D) House fly