

Pollution Science: Core Concepts

Environmental Science · Answer Key · 10 Questions

1. What primary pollutants are responsible for the formation of acid rain?

- A) Carbon monoxide and lead
- B) Methane and nitrous oxide
- C) Sulfur dioxide and nitrogen oxides**
- D) Volatile organic compounds and ozone

2. Eutrophication in aquatic ecosystems is primarily caused by an excess of which nutrients?

- A) Oxygen and carbon dioxide
- B) Nitrogen and phosphorus**
- C) Sodium and chloride
- D) Potassium and calcium

3. Which class of chemicals was primarily responsible for the depletion of the stratospheric ozone layer?

- A) Polycyclic aromatic hydrocarbons (PAHs)
- B) Chlorofluorocarbons (CFCs)**
- C) Per- and polyfluoroalkyl substances (PFAS)
- D) Dioxins and furans

4. What is the most significant anthropogenic greenhouse gas contributing to global warming?

- A) Methane
- B) Nitrous oxide
- C) Carbon dioxide**
- D) Water vapor

5. The increasing concentration of a persistent pollutant in organisms at successively higher trophic levels in a food chain is known as what?

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

6. Exposure to fine particulate matter (PM2.5) is primarily associated with which type of adverse health effects?

- A) Gastrointestinal issues
- B) Skin rashes and allergies
- C) Respiratory and cardiovascular diseases**
- D) Hearing loss and tinnitus

7. What is a common source of thermal pollution in aquatic environments?

- A) Runoff from agricultural fields
- B) Discharge of industrial cooling water**
- C) Ocean acidification
- D) Microplastic breakdown

8. Which characteristic defines Persistent Organic Pollutants (POPs)?

- A) They rapidly degrade in the environment
- B) They are water-soluble and easily excreted
- C) They resist environmental degradation and bioaccumulate**
- D) They are only found in developed countries

9. Microplastics are typically defined as plastic particles smaller than what dimension?

- A) 1 meter
- B) 1 centimeter
- C) 5 millimeters**
- D) 5 nanometers

10. In aquatic environments, inorganic mercury can be transformed into a more toxic, bioaccumulative form by microorganisms. What is this form called?

- A) Mercury vapor
- B) Mercuric chloride
- C) Methylmercury**
- D) Elemental mercury