

Environmental Science Fundamentals

Environmental Science · Answer Key · 15 Questions

1. Which of the following processes is responsible for converting atmospheric nitrogen into a form usable by plants?

- A) Photosynthesis
- B) Nitrification**
- C) Respiration
- D) Transpiration

2. The 'Tragedy of the Commons' is a concept that describes the depletion of a shared resource due to individual self-interest. Which of these is a classic example of a common-pool resource?

- A) A privately owned farm
- B) A public library
- C) The Earth's atmosphere**
- D) A company's intellectual property

3. Bioaccumulation refers to the accumulation of a substance in an organism at a rate faster than it can be eliminated. Biomagnification, however, describes the increasing concentration of a substance at successively higher levels of a food chain. Which pollutant is famously known for biomagnification?

- A) Carbon dioxide (CO₂)
- B) Sulfur dioxide (SO₂)
- C) DDT (dichlorodiphenyltrichloroethane)**
- D) Ozone (O₃)

4. The Montreal Protocol is an international treaty designed to protect the ozone layer by phasing out the production and consumption of ozone-depleting substances. Which category of chemicals was primarily targeted by this protocol?

- A) Greenhouse gases
- B) Persistent organic pollutants (POPs)
- C) Chlorofluorocarbons (CFCs)**
- D) Heavy metals

5. Which type of renewable energy harnesses the kinetic energy of moving air to generate electricity?

- A) Geothermal energy
- B) Solar photovoltaic
- C) Hydropower
- D) Wind power**

6. Eutrophication is a process that enriches water bodies with nutrients, often leading to algal blooms and oxygen depletion. What is a primary human-caused source of excess nitrogen and phosphorus leading to eutrophication?

- A) Deforestation
- B) Industrial air pollution
- C) Agricultural runoff**
- D) Urban noise pollution

7. Acid rain, a form of precipitation with high levels of nitric and sulfuric acids, is primarily caused by the emission of which two pollutants from burning fossil fuels?

- A) Carbon monoxide and methane
- B) Sulfur dioxide and nitrogen oxides**
- C) Volatile organic compounds and particulate matter
- D) Lead and mercury

8. The 'Green Revolution' in the mid-20th century led to a significant increase in agricultural production worldwide. While it addressed food security, what is one of its major environmental criticisms?

- A) Increased reliance on wind power
- B) Reduced use of pesticides
- C) Increased use of synthetic fertilizers and pesticides**
- D) Decreased deforestation rates

9. What is the term for a place where organisms live and that provides them with the resources they need to survive and reproduce?

- A) Biome
- B) Ecosystem
- C) Niche
- D) Habitat**

10. Which of the following is considered a non-renewable energy source?

- A) Biomass
- B) Natural gas**
- C) Solar
- D) Wind

11. The process by which plants absorb carbon dioxide from the atmosphere and convert it into organic compounds using sunlight is called:

- A) Cellular respiration
- B) Decomposition
- C) Photosynthesis**
- D) Fermentation

12. What is the primary greenhouse gas responsible for the majority of the observed warming of the Earth's atmosphere?

- A) Methane (CH₄)
- B) Nitrous oxide (N₂O)
- C) Carbon dioxide (CO₂)**
- D) Water vapor (H₂O)

13. Which biome is characterized by low temperatures, little precipitation, and permafrost?

- A) Tropical rainforest
- B) Savanna
- C) Desert
- D) Tundra**

14. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Which of the following is NOT typically considered a pillar of sustainable development?

- A) Economic growth
- B) Social equity
- C) Environmental protection
- D) Military expansion**

15. Biodiversity refers to the variety of life on Earth at all its levels, from genes to ecosystems. What is considered the greatest threat to global biodiversity today?

- A) Volcanic eruptions
- B) Asteroid impacts
- C) Habitat destruction and fragmentation**
- D) Natural wildfires