

Historical Milestones in Environmental Science

Environmental Science · Answer Key · 15 Questions

1. The publication of 'Silent Spring' by Rachel Carson in 1962 is widely credited with launching the modern environmental movement. What specific environmental issue did Carson primarily address in her book?

- A) Ocean acidification due to increased CO₂ absorption
- B) The widespread use and detrimental effects of synthetic pesticides, particularly DDT**
- C) Deforestation and its impact on soil erosion and biodiversity loss
- D) The dangers of nuclear radiation from atomic testing

2. The Cuyahoga River in Cleveland, Ohio, famously caught fire multiple times. Which of these fires, occurring in 1969, significantly raised public awareness and spurred environmental legislation?

- A) The 1936 fire, caused by arson
- B) The 1952 fire, exacerbated by a drought
- C) The 1912 fire, due to a lightning strike
- D) The 1969 fire, ignited by sparks from a passing train**

3. The 'Tragedy of the Commons,' a seminal essay by Garrett Hardin published in 1968, described a societal problem where individuals exploit shared resources. What is the core concept of this tragedy?

- A) The inability of governments to regulate international environmental treaties
- B) The conflict between short-term individual self-interest and long-term collective well-being regarding shared resources**
- C) The overreliance on technological solutions to complex ecological problems
- D) The negative externalities of industrial pollution on local communities

4. The Stockholm Conference of 1972 was a landmark international meeting. What was its primary significance in the history of environmental policy?

- A) It established the first global cap-and-trade system for greenhouse gas emissions.
- B) It led to the creation of the United Nations Environment Programme (UNEP) and the Stockholm Declaration, recognizing environmental rights.**
- C) It resulted in a legally binding treaty to ban all use of plastic.
- D) It initiated the first comprehensive scientific assessment of ozone depletion.

5. The Lovins' concept of 'Soft Energy Paths,' introduced in their 1977 book, advocated for a transition to what type of energy strategy?

- A) Large-scale, centralized nuclear power generation
- B) Fossil fuel-dependent energy systems with increased efficiency
- C) Decentralized, renewable, and energy-efficient systems**
- D) Geoengineering solutions to mitigate climate change

6. The first Earth Day was celebrated on April 22, 1970. What was the primary motivation behind its establishment?

- A) To protest the use of nuclear weapons during the Cold War
- B) To raise awareness about the growing environmental pollution and degradation in the United States**
- C) To advocate for the protection of endangered species in Africa
- D) To promote international cooperation on space exploration

7. The discovery of the ozone hole over Antarctica in the 1980s was a major scientific and environmental event. Which class of chemicals was identified as the primary cause?

- A) Sulfur hexafluoride (SF6)
- B) Hydrofluorocarbons (HFCs)
- C) Chlorofluorocarbons (CFCs)**
- D) Nitrous oxides (N2O)

8. The Rio Earth Summit in 1992 produced several key agreements. Which of the following was NOT one of the major outcomes from this conference?

- A) The UN Framework Convention on Climate Change (UNFCCC)
- B) The Convention on Biological Diversity (CBD)
- C) The Kyoto Protocol**
- D) The Rio Declaration on Environment and Development

9. Aldo Leopold's 'A Sand County Almanac,' published posthumously in 1949, is considered a foundational text in ecological thought. What key concept did he champion?

- A) The development of sustainable urban planning
- B) The establishment of national parks for recreational use
- C) The idea of a 'land ethic,' extending ethical consideration to the natural world**
- D) The importance of economic incentives for conservation

10. The Chernobyl disaster in 1986 had profound environmental and health consequences. What was the primary cause of the accident?

- A) A seismic earthquake that damaged the reactor containment
- B) A deliberate act of sabotage by an extremist group
- C) A flawed reactor design and human error during a safety test**
- D) A severe lightning strike igniting volatile materials

11. The concept of 'ecosystem services' gained prominence in environmental science following a major report. Which report is most associated with popularizing this concept?

A) The Brundtland Report (Our Common Future)

B) The Millennium Ecosystem Assessment

C) The Intergovernmental Panel on Climate Change (IPCC) Assessment Reports

D) The Limits to Growth

12. The Montreal Protocol on Substances that Deplete the Ozone Layer, signed in 1987, is considered one of the most successful international environmental agreements. What was its main objective?

A) To reduce greenhouse gas emissions to combat climate change.

B) To phase out the production and consumption of ozone-depleting substances.

C) To establish quotas for fishing in international waters.

D) To protect endangered species through habitat preservation.

13. The Bhopal disaster in 1984, a major industrial accident, released a toxic gas cloud. What company was responsible, and what was the primary chemical involved?

A) DuPont; Phosgene

B) Bayer; Methyl isocyanate

C) Union Carbide; Methyl isocyanate

D) BASF; Dioxin

14. The concept of 'biomagnification' (or bioamplification) describes the increasing concentration of a substance, such as a toxic chemical, in organisms at successively higher levels in a food chain. Which historical environmental event strongly highlighted this phenomenon?

A) The Exxon Valdez oil spill

B) The Minamata disease outbreak in Japan

C) The discovery of DDT's impact on bird eggshells

D) The Love Canal environmental disaster

15. The establishment of the U.S. Environmental Protection Agency (EPA) in 1970 was a direct response to growing public concern about environmental issues. Which President signed the executive order creating the EPA?

A) Lyndon B. Johnson

B) John F. Kennedy

C) Richard Nixon

D) Gerald Ford