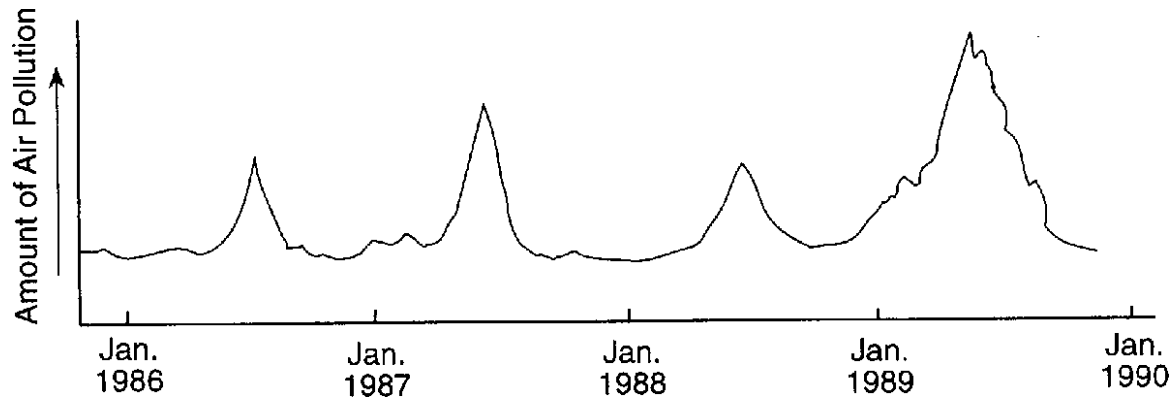


1. Tropical rain forests remove carbon dioxide gas from Earth's atmosphere. The destruction of the rain forests could affect Earth's overall average temperature because
  - A. more of Earth's reradiation would be absorbed by the atmosphere
  - B. more sunlight would be reflected back to space by Earth's atmosphere
  - C. more visible light would be absorbed by Earth's atmosphere
  - D. more ultraviolet light would be transmitted through Earth's atmosphere

2. The graph below shows the relative amount of air pollution over a city for a period of several years.



Which statement about air pollution over this city is best supported by the graph?

- A. It is decreasing at a constant rate
- B. It is increasing at a constant rate
- C. It is a cyclic event
- D. It has no pattern

3. Under normal climate conditions, what are the characteristics of the surface ocean current that flows along most of the west coast of South America?
- A. cool water moving toward the equator
  - B. cool water moving away from the equator
  - C. warm water moving toward the equator
  - D. warm water moving away from the equator

4. For weeks after a series of major volcanic eruptions, Earth's surface air temperatures are often
- A. warmer because ash and dust decrease atmospheric transparency
  - B. warmer because ash and dust increase atmospheric transparency
  - C. cooler because ash and dust decrease atmospheric transparency
  - D. cooler because ash and dust increase atmospheric transparency

5. Which event is inferred by most scientists to be responsible for a climate change that has recently led to a *decrease* in the size of most glaciers?
- A. a decrease in the rate of divergence of lithospheric plates along a mid-ocean ridge
  - B. a decrease in the amount of insolation reaching Earth's surface
  - C. an increase in the amount of greenhouse gases in Earth's atmosphere
  - D. an increase in the amount of vegetative cover in the tropics

6. Humans throughout the world compete with other organisms for water resources. Which technique is *best* used to manage water resources and allow all components of the environment to share them?

A. draining wetlands

B. restricting irrigation

C. building a hydroelectric dam

D. diverting rivers through canals

7. If the temperature of Earth rose over time, which of the following would occur?
- A. Sea level would fall, and the polar ice caps would decrease in size.
  - B. Sea level would fall, and the polar ice caps would increase in size.
  - C. Sea level would rise, and the polar ice caps would decrease in size.
  - D. Sea level would rise, and the polar ice caps would increase in size.

8. Pollution has many causes and can affect air and water quality in a variety of ways.

Which of the following is directly responsible for acid rain?

- A. steam vented from a nuclear power plant
- B. sulfur dioxide released from a coal-fired power plant.
- C. mining of coal for a coal-fired power plant
- D. processing of uranium for a nuclear power plant



9. Many scientists accept the theory that excess emission of carbon dioxide from cars and industry causes a layer of gas in the upper atmosphere that traps heat.

This in turn causes the average temperature on Earth to rise. Which of the following observations supports that theory?

- A. The summer of 1998 was one of the hottest summer seasons on record.
- B. Carbon dioxide gas from cars and industry is a product of burning that produces heat.
- C. Carbon dioxide in the upper atmosphere absorbs and re-emits heat radiated from Earth's surface.
- D. Radiation on Earth's surface is increasing because of a hole in the ozone layers.

10. Use the information below to answer the following question(s).

Students are learning about the natural resources in Maryland. One group of students researches information about renewable natural resources in the state. The other group researches information about nonrenewable natural resources in the state. The resources the students investigate include plants, animals, soil, minerals, water, coal, and oil.

Which of the following human activities *negatively* affects a natural resource?

- A. fishing in a lake
- B. using water to produce electricity
- C. planting native plants along a lakeshore
- D. directing runoff from cropland into a lake

11. Some coal mining occurs underground and does not disturb the overlying land.

How might coal mining that occurs underground be *less* harmful to the environment than surface mining?

- A. Underground coal mining increases pollution.
- B. Underground coal mining reduces habitat loss.
- C. Underground coal mining increases forest growth.
- D. Underground coal mining reduces animal populations.

12. How does an inadequately designed landfill impact the hydrosphere?

A. Toxic waste seeps into groundwater.

B. Toxic waste causes mutations in living organisms.

C. Toxic waste releases gases into the atmosphere.

D. Toxic waste seeps into the asthenosphere.

13. Most of the water used in the United States is for farming and agriculture. Much of that water is wasted by evaporation, leaking pipes, and runoff. One plan for limiting this waste is to capture the runoff from the fields and reuse it as drinking water.

Which statement explains whether this plan is appropriate for conserving water?

- A. This is appropriate because it decreases the total amount of water used.
- B. This is not appropriate because the runoff is needed by other organisms.
- C. This is not appropriate because the runoff could contain harmful chemicals.
- D. This is appropriate because it provides water and has no effect on the fields.

14. Which would *least likely* have an impact on global climate changes?
- A. producing energy using hydroelectric plants
  - B. producing energy using coal
  - C. producing energy using oil
  - D. producing energy using natural gas

15. Which results from the unequal heating of the ocean water of Earth?
- A. a constant sea level
  - B. changes in tidal patterns
  - C. unchanging climate for all regions on Earth
  - D. changes in ocean current patterns

16. Which statement explains why an increase in the atmospheric carbon dioxide (CO<sub>2</sub>) concentration on Earth concerns climatologists?
- A. CO<sub>2</sub> is hotter than other atmospheric gases.
  - B. CO<sub>2</sub> blocks sunlight more than other atmospheric gases.
  - C. CO<sub>2</sub> is a highly reactive substance that destroys Earth's surface.
  - D. CO<sub>2</sub> traps thermal energy that is radiated towards space from Earth's surface.



17. How can a city help prevent water pollution in nearby lakes and rivers?
- A. Remove weeds growing near the lakes and rivers.
  - B. Prevent runoff of waste materials into lakes and rivers.
  - C. Use solar cells as a source of energy.
  - D. Recycle paper and cardboard.

18. Why is coal considered to be a nonrenewable energy source?
- A. Sunlight is the original source of energy for coal.
  - B. The burning of coal could cause environmental pollution.
  - C. Once coal is mined, it can take millions of years to be replaced.
  - D. Coal is abundant, but it is very expensive to mine from underground.

19. Methane ( $\text{CH}_4$ ) from Ohio's Rose Valley coal mine has successfully been used to power fuel cells.

Since the fuel used in these cells is not burned, using methane from the mine will help to

- A. increase the concentration of atmospheric ozone.
- B. reduce public demand for alternative fuel sources.
- C. increase public awareness of global warming issues.
- D. reduce pollutants commonly associated with fossil fuel combustion.

1.  
Answer: A
2.  
Answer: C
3.  
Answer: A
4.  
Answer: C
5.  
Answer: C
6.  
Answer: B
7.  
Answer: C
8.  
Answer: B
9.  
Answer: C
10.  
Answer: D
11.  
Answer: B
12.  
Answer: A
13.  
Answer: C
14.  
Answer: A
15.  
Answer: D
16.  
Answer: D
17.  
Answer: B
18.  
Answer: C
19.  
Answer: D