

Chapter Test

Finals Review

Science and the Environment

MATCHING

Match the descriptions on the left with the correct terms on the right. Write your answer on the line provided.

- | | | |
|----------|--|-------------------------------|
| <u>E</u> | 1. a science focused on environmental effects of human activities | a. pollution |
| <u>J</u> | 2. a science focused on interactions between organisms and the environment | b. nonbiodegradable pollutant |
| <u>I</u> | 3. sunlight and forests | c. biodiversity |
| <u>A</u> | 4. introduction of harmful levels of chemicals or wastes into the environment | d. extinction |
| <u>D</u> | 5. when the last member of a species dies | e. environmental science |
| <u>H</u> | 6. sun's energy enters and heat leaves | f. nonrenewable resources |
| <u>B</u> | 7. harmful material that cannot be broken down by natural processes | g. sustainability |
| <u>C</u> | 8. the number and variety of species in an area | h. closed system |
| <u>F</u> | 9. fossil fuels, metals, salt | i. renewable resources |
| <u>G</u> | 10. using resources in such a way that there will be enough for future generations | j. ecology |

MULTIPLE CHOICE

In the space provided, write the letter of the word or phrase that best answers the question or completes the sentence.

- B 11. Which of the following situations best describes the use of a renewable resource?
- | | |
|--------------------------------|----------------------------------|
| a. filling a car with gasoline | c. mining copper |
| b. building wooden furniture | d. burning coal in a power plant |
- D 12. Which of the following lists contains the names of developed countries?
- | | |
|------------------------------|--------------------------------|
| a. Algeria, Guatemala, India | c. Brazil, Sudan, Namibia |
| b. Ecuador, Zaire, Colombia | d. France, Canada, New Zealand |
- A 13. All of these fields of study contribute to environmental science *except*:
- | | |
|-------------------------------|---------------------------|
| a. linguistics. | c. social sciences. |
| b. biology and earth science. | d. physics and chemistry. |

Chapter Test *continued*

- D 14. Which was *not* a result of the Industrial Revolution?
a. increased pollution c. increase in quality of living
b. loss of natural environment d. overhunting of large mammals
- B 15. In which country is the average citizen likely to be using the greatest amount of natural resources?
a. Peru c. China
b. United States d. Egypt
- A 16. In which country is the population likely to be increasing most rapidly?
a. Kenya c. Australia
b. Germany d. Norway
- D 17. Hardin's "Tragedy of the Commons" essay addresses the conflicts associated with what environmental challenge?
a. preventing pollution c. curbing overpopulation
b. preserving biodiversity d. protecting shared resources
- C 18. According to the law of supply and demand, reduced oil production leads to
a. lower demand for oil.
b. lower oil prices.
c. higher prices for oil.
d. exploration of new fuel sources.

SHORT ANSWER

Write the answers to the following questions in the spaces provided.

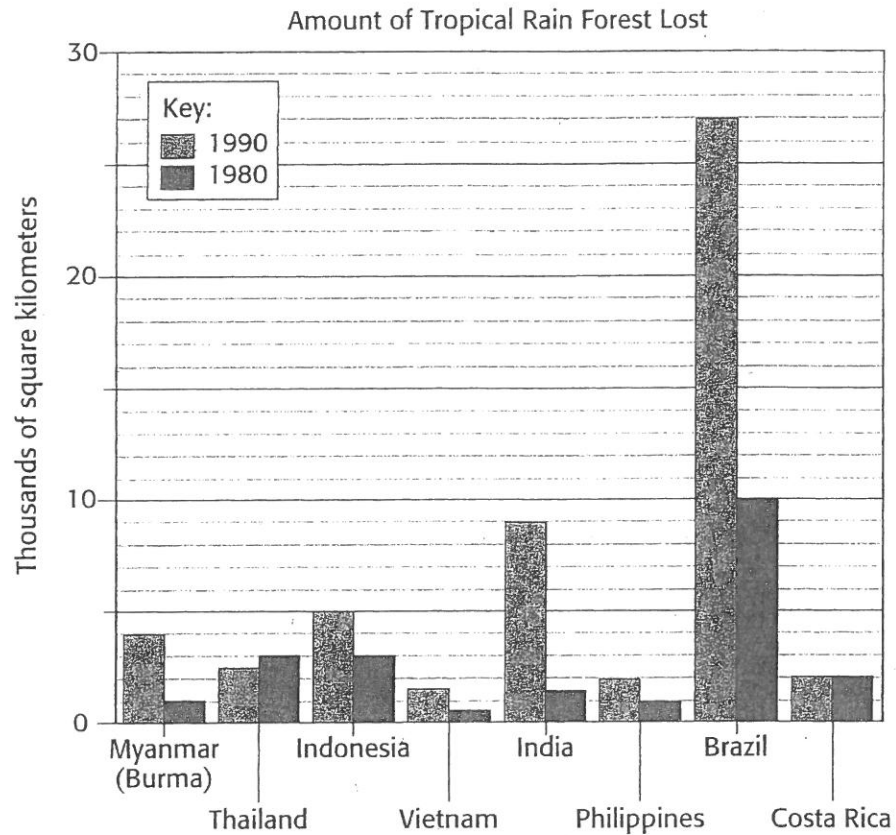
19. How are species lost to extinction through human activities?

20. List and describe three human activities that affect the environment.

Chapter Test *continued*

INTERPRETING GRAPHICS

Study the graph below. Then write the answers to the questions in the spaces provided.



21. Which country lost the most tropical forest in 1990?

22. Which country lost about the same amount of forest in 1990 as it did in 1980?

23. List a country that lost less forest in 1990 than it did in 1980.

Assessment

Chapter Test

Tools of Environmental Science

MATCHING

In the space provided, write the letter of the description that best matches the term or phrase.

- | | | |
|----------|--------------------------|--|
| <u>C</u> | 1. risk | a. what scientists use to test a prediction when they cannot use an experiment |
| <u>B</u> | 2. hypothesis | b. more than a guess, a logical explanation |
| <u>J</u> | 3. prediction | c. probability of an outcome that is unwanted |
| <u>D</u> | 4. experiment | d. procedure to test a hypothesis |
| <u>A</u> | 5. correlation | e. logical statement about what will happen |
| <u>I</u> | 6. probability | f. steps used by scientists to answer questions |
| <u>H</u> | 7. statistics | g. systematic process for making decisions |
| <u>G</u> | 8. decision-making model | h. numerical collection and classification of data |
| <u>F</u> | 9. experimental method | i. the chance that an event will happen |

MULTIPLE CHOICE

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- D 10. What essential characteristic does a good experiment have?
- A control group is given the experimental treatment.
 - A single variable is tested.
 - A control is used.
 - both (b) and (c)
- C 11. Your county is considering buying land to form a nature preserve. On this land, an endangered species of bird is known to breed. Which of the following is a possible negative short-term consequence of the county making this decision?
- The population of the endangered species increases.
 - Habitat destruction is immediately decreased.
 - Environmental controls are made less strict outside the preserve area.
 - Habitats outside the preserve area become damaged by overdevelopment.

Chapter Test *continued*

- B 12. The three final steps of the experimental method in their correct order are
- a. drawing conclusions, analyzing data, and repeating experiments.
 - b. drawing conclusions, repeating experiments, and communicating results.
 - c. observing, hypothesizing, and drawing conclusions.
 - d. repeating experiments, communicating results, and drawing conclusions.
- 3 13. When making a decision about whether or not to build a dam, you are considering an economic value when you ask which of the following questions?
- a. Will the dam provide new leisure activities?
 - b. How many jobs will building the dam generate?
 - c. Will building the dam destroy natural resources?
 - d. Is it right to build a dam here?
- A 14. What step in a simple environmental decision-making model are you taking when you consider whether or not people will benefit financially from setting aside land as a national park?
- a. exploring consequences
 - b. making a decision
 - c. gathering information
 - d. none of the above
- C 15. When you ask the question, "If a marsh is included as part of a nature preserve, will it help protect our water resources?" you are considering which of the following types of values?
- a. aesthetic
 - b. educational
 - c. environmental
 - d. social/cultural
- A 16. Which of the following models would you use to represent the shape of Earth's surface beneath the oceans?
- a. graphical
 - b. mathematical
 - c. conceptual
 - d. physical

SHORT ANSWER

Read each question or statement and answer it in the space provided.

17. Explain why mathematical models are important to scientists. Give two examples of a mathematical model.

Chapter Test *continued*

- 18.** Explain why conceptual models are important to scientists. Give two examples of a conceptual model.

- 19.** Name and describe two additional types of models commonly used by scientists and give an example of each.

Read the following paragraph and answer the questions that follow in the space provided.

A die is a game piece that has six sides numbered one through six. A student calculates that when the die is tossed, the probability of rolling a "5" is equal to one out of six or 0.17. To test this theory, the student tosses the die 20 times, and rolls a "5" two out of 20 times.

- 20.** What was the sample size used by the student?

- 21.** How does the result of the probability test compare to the calculated probability?

- 22.** Based on your answer to question 21, what can you infer about the sample size used by the student? Explain your answer.

Assessment

Chapter Test

The Dynamic Earth

MATCHING

In the space provided, write the letter of the term or phrase that best matches the description.

- | | | |
|----------|--|------------------|
| <u>I</u> | 1. rain, snow, sleet, or hail that falls from clouds | a. earthquake |
| <u>E</u> | 2. a single, large, interconnected body of water that covers 70% of Earth's surface | b. tributaries |
| <u>J</u> | 3. tiny, liquid droplets found in the atmosphere | c. ionosphere |
| <u>H</u> | 4. the flow of heat from a warmer object to a colder object when the objects are placed in direct physical contact | d. evaporation |
| <u>A</u> | 5. vibration caused by slippage along a fault | e. world ocean |
| <u>C</u> | 6. the lower thermosphere | f. core |
| <u>D</u> | 7. the process in which liquid water is heated by the sun and then rises into the atmosphere as water vapor | g. deep zone |
| <u>G</u> | 8. bottom layer of ocean from base of thermocline to the bottom of the ocean | h. conduction |
| <u>F</u> | 9. Earth's innermost compositional layer | i. precipitation |
| <u>B</u> | 10. smaller streams or rivers that flow into larger ones | j. aerosols |

MULTIPLE CHOICE

Choose the one best response. Write the letter of that choice in the space provided.

- B 11. Which of the following includes all of the water on or near Earth's surface?
- geosphere
 - hydrosphere
 - atmosphere
 - lithosphere
- D 12. The deepest point on the ocean floor is in the
- Arctic Ocean.
 - Indian Ocean.
 - Atlantic Ocean.
 - Pacific Ocean.

Assessment

Chapter Test

Water

MATCHING

In the space provided, write the letter of the term or phrase that best matches the description.

- | | |
|--|---|
| <p><u>E</u> 1. a process that includes filtration and chlorination</p> <p><u>J</u> 2. area of land that is drained by a river</p> <p><u>G</u> 3. artificial lake created by building a dam</p> <p><u>A</u> 4. underground rock formation that holds water</p> <p><u>H</u> 5. area of land through which water percolates and is stored as groundwater</p> <p><u>F</u> 6. removing salt from salt water to make fresh water</p> <p><u>B</u> 7. water pollution that washes into storm sewers from many places, such as parking lots and lawns</p> <p><u>D</u> 8. a bacterium, virus, or parasitic worm that causes disease</p> <p><u>I</u> 9. process by which increasing amounts of toxins are stored in the bodies of organisms as toxins move up the food chain</p> <p><u>C</u> 10. process by which nutrients increases in a lake, while oxygen levels decrease</p> | <p>a. aquifer</p> <p>b. nonpoint-source pollution</p> <p>c. artificial eutrophication</p> <p>d. pathogen</p> <p>e. water purification</p> <p>f. desalination</p> <p>g. reservoir</p> <p>h. recharge zone</p> <p>i. biomagnification</p> <p>j. watershed</p> |
|--|---|

MULTIPLE CHOICE

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- A 11. When neighborhood residents noticed a large number of dead fish in a local creek, they traced the problem to a nearby gas station. It turned out that a gasoline tank had developed a leak. This is an example of
- a. point-source pollution.
 - b. nonpoint-source pollution.
 - c. thermal pollution.
 - d. groundwater pollution.

Chapter Test *continued*

- A 12. Which of the following causes the greatest amount of ocean pollution?
- a. pollutants carried into the oceans by rivers
 - b. sewage sludge dumped directly into the ocean
 - c. oil spills from tankers and offshore oil rigs
 - d. ships dumping garbage into the ocean
- B 13. Most large cities get water for households and industries from
- a. deep wells.
 - b. rivers or lakes.
 - c. pumps connected to springs.
 - d. removing salt from seawater.
- C 14. An inexpensive solution to providing more fresh water is
- a. desalination.
 - b. drilling more wells into aquifers.
 - c. water conservation.
 - d. building more dams.
- B 15. Sewage sludge
- a. is the solid matter that clogs storm drains.
 - b. is the small amount of residue left after water is treated and released into rivers.
 - c. is not hazardous.
 - d. is inexpensive to dispose of for cities and towns.
- C 16. Some communities have banned detergents containing high levels of phosphates because
- a. phosphates cause chemical reactions that raise the temperature of river and lake water, disrupting ecosystems.
 - b. phosphates are not efficient cleansers.
 - c. excessive phosphates in lakes may begin a process that causes fish to suffocate and die.
 - d. phosphates kill algae and disrupt normal food webs in lakes.
- D 17. Which of the following might occur as a result of plastic trash accumulating in the ocean?
- a. Turtles mistake clear plastic bags for jellyfish and die of intestinal blockage.
 - b. Sea birds are strangled by plastic six-pack rings.
 - c. Sea mammals such as seals become entangled in clear plastic fishing lines and drown.
 - d. all of the above
- B 18. Which of the following is most likely to cause conflict between two countries that share a river?
- a. The "upstream" country drills a large number of new water wells.
 - b. The "upstream" country builds a series of new dams.
 - c. The "downstream" country uses an increasing amount of water for irrigation.
 - d. New industries dump pollutants into the river near the delta where the river empties into the ocean.

Chapter Test *continued*

SHORT ANSWER

Write the answers to the following questions in the spaces provided.

19. Considering how much of our fresh water resources are used every day, why don't we run out of water?

20. Identify five ways in which water can be conserved in your home.

21. Give an example of how water is used in each of the following: homes, industry, and agriculture.

22. Explain why polluted groundwater is difficult to clean.

23. Describe a law that has been designed to improve water quality.
