Chapter 6 Review

READING TOOLBOX

1. **Word Parts** Copy each of the following words: *biodiversity* and *extinction.* Write down other words that have the same word parts. Then, look in the dictionary for the definitions of the words.
2. **Concept Map** Make a concept map on how human activity affects climate. Try to use the following terms in your map: *greenhouse effect, carbon dioxide, greenhouse gases, global warming, CFCs, ozone layer, acid rain,* and *sulfur dioxide.*

Using Key Terms

Use each of the following terms in a separate sentence.

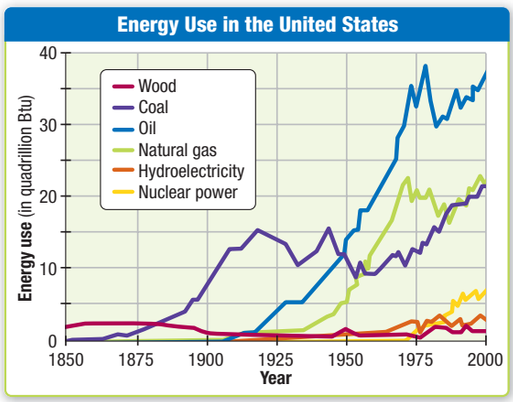
3. *fossil fuel*
4. *recycle*

For each pair of terms, explain how the meaning of the terms differ.

5. *global warming* and *greenhouse effect*
6. *erosion* and *deforestation*

Understanding Key Ideas

Use the the figure to answer the following question(s).



7. Which form of energy use has increased the most in the U.S. since 1850?
8. Which of the following damages the ozone layer?
   a. CO_2 c. NO_3
   b. SO_2 d. CFCs
9. Which of the following is not a source of water pollution?
   a. CFCs c. pesticides
   b. oil runoff d. industrial waste
10. Which of the following is a result of ecosystem disruption?
    a. acid rain c. greenhouse effect
    b. global warming d. loss of biodiversity
11. Which of the following is a technology used to harness a renewable resource?
    a. benzene
    b. hybrid cars
    c. solar panels
    d. smokestack scrubbers
12. Rachel Carson's book *Silent Spring* educated readers about what environmental threat?
    a. pesticide use
    b. invasive species
    c. CFC production
    d. burning fossil fuels
13. Which of the following is an example of conservation?
    a. creating a nature preserve
    b. cleaning up a polluted stream
    c. planting trees on an eroding slope
    d. reintroducing endangered species
14. Which of the following is an example of planning for the future to avoid environmental damage?
    a. creating a landfill
    b. cleaning up an oil spill
    c. mining aluminum from Earth's crust
    d. evaluating potential effects of development

Explaining Key Ideas

15. **Describe** one way in which the environment affects human health.
16. **Explain** how increasing CO_2 in Earth's atmosphere might lead to climate change.
17. **Explain** the difference between conservation and restoration.

Assignment Guide	
Section	**Questions**
1	3, 7, 15, 22, 26
2	1, 2, 5, 6, 8, 9, 10, 16, 18, 19, 20, 24, 25, 28, 30, 31
3	4, 11, 12, 13, 14, 17

Review

Reading Toolbox

1. Other words might include *biology, biofeedback, extinguish.* Check students' definitions for accuracy.
2. See previous page for answer to concept map.

Using Key Terms

3. *Fossil fuels* are nonrenewable resources that are used to generate energy.
4. In my community, we *recycle* aluminum and paper.
5. *Global warming* is an average increase in global temperatures. The *greenhouse effect* is the process that affects global temperatures.
6. *Deforestation* is the cutting down of trees. Deforestation can lead to soil *erosion,* which is the transporting and loss of soil.

Understanding Key Ideas

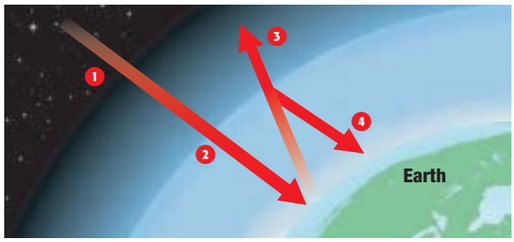
7. oil
8. d 9. a 10. d 11. c
12. a 13. a 14. d

Explaining Key Ideas

15. Air pollution can cause respiratory problems, headaches, sore throats, and nausea.
16. CO_2 helps trap heat in the atmosphere, keeping Earth at comfortable temperatures. An increase in CO_2 may cause global temperatures to increase, warming global climates.
17. Conservation involves the protection of an existing habitat. Restoration involves the cleaning up or restoring of an already damaged habitat.

Using Science Graphics

Use the diagram to answer the following question(s).



18. Which arrow represents a flow of heat that will increase as atmospheric CO_2 rises?

a. 1 **c.** 3
b. 2 **d.** 4

19. Which arrow represents a flow of heat that will decrease as atmospheric CO_2 rises?

a. 1 **c.** 3
b. 2 **d.** 4

Critical Thinking

20. Constructing Explanations Fossil fuel burning and the clearing of forests each contribute large amounts of CO_2 to the atmosphere. How might deforestation lead to this release of CO_2?

21. Proposing Solutions Your state is experiencing a shortage of electrical power on hot summer days when many air conditioners are on. You are asked to propose measures that might solve this shortage problem without increasing electricity supplies. Propose one such measure, and explain how it would address the problem.

22. Analyzing Information What do environmental scientists mean by *interdependence?* Give an example of interdependence from this chapter.

23. Analyzing Processes Propose two steps that scientists might take to speed restoration of a river damaged by a major toxic spill.

24. Predicting Outcomes How would stopping all pesticide use likely affect rates of food production and incidence of diseases, such as malaria, that are spread by insects?

25. Inferring Relationships Describe how some species would be affected by global warming.

Connecting Key Ideas

26. Analyzing Processes Humans need clean, fresh water. Environmental scientists think that fresh water may become a limiting factor for human population growth. Explain how you could estimate Earth's carrying capacity for humans based on the availability of fresh water. What information would you need to make this estimate?

Alternative Assessment

27. Field Trip Plan Develop a lesson plan for a 30-minute class or field trip about one environmental issue that students in your class could do something about. Include the issue to be covered, an outline of points to discuss, and description of activities, location, or materials you would need.

28. Waste Investigation Find out where household waste goes in your community. How far is the waste taken from your home? Is the waste close to other homes or to important water sources for your area? Write a short summary of your findings.

Writing for Science

29. Speech Imagine that your town is holding a public hearing on whether to build a diesel bus depot next to your school. Use the library or the Internet to write a two-minute speech on why you support or oppose the project.

30. Research Obtain a list of the plants and animals that are endangered in your state. Find out where these species live, and mark the locations on a map of your state. Research the effects of habitat loss on species in your county or in surrounding areas.

31. Proposal Imagine you are a scientist who has been studying the subject of global warming. You have been asked by the President of the United States to write a recommendation for the president's environmental policy on the subject. The President has asked you to provide important facts that can be used to promote the proposed policies. Summarize your recommendations in a brief letter.

Using Science Graphics

18. d

19. c

Critical Thinking

20. When forests are cleared, CO_2 is released from the soil, from decaying plants and tree stumps, and possibly from the forest wood if it is burned or turned into products that break down quickly.

21. The state or utility company could offer a rebate to anyone who purchases a high-efficiency air conditioner. This would increase the number of efficient air conditioners so that the total electricity demand will be lower.

22. Interdependence means that different things rely on each other. For example, people rely on the environment to supply them with resources they need to survive.

23. Remove contaminated soil, replant vegetation killed by the spill, and engineer a controlled flood from an upstream dam.

24. Stopping all pesticide use would result in decreased food production unless alternate forms of pest control are used. The rate of insect-borne disease would increase.

25. Some species of birds will change their migration patterns. If drought increases in an area, some species may die out.

Connecting Key Ideas

26. Estimate how much fresh water is needed per person for all possible direct and indirect uses. Then, compare this number to the available fresh water on Earth. New technology could increase carrying capacity by reducing the amount of water needed for certain uses.

Alternative Assessment

27. Advise students to use newspapers or the Internet to identify local problems. Plans should include steps students can take to improve the problem.

28. Summaries should include information about location and processing of waste in the community.

Writing for Science

29. Speeches should include the benefits and hazards to the community and to the depot.

30. Information about endangered species can be found on Internet sites, including those of the State, the EPA, the Fish and Wildlife Service, universities, zoos, and environmental organizations.

31. Advise students to locate reliable sources to defend their position. Recommendations should be well-researched and supported.