

Section: Ecosystems: Everything Is Connected

Read the passage below and answer the questions that follow.

An ecosystem is made up of both living and nonliving things. Biotic factors are the living and once-living parts of an ecosystem, including all of the plants and animals. **Biotic factors** include dead organisms, dead parts of organisms, such as leaves, and the organisms' waste products. The biotic parts of an ecosystem interact with each other in various ways. They also interact with the **abiotic** (ay bie AHT ik) **factors**, the nonliving parts of the ecosystem. Abiotic factors include air, water, rocks, sand, light, and temperature.

IDENTIFYING MAIN IDEAS

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently, a main idea is accompanied by supporting information that offers detailed facts about main ideas.

Read each question and write the answer in the space provided.

1. What is an ecosystem made up of?

2. Biotic parts of an ecosystem interact with _____

_____ and with _____

VOCABULARY DEVELOPMENT

Read each question and write the answer in the space provided.

3. Biotic factors are the _____ and

_____ parts of an ecosystem.

4. Abiotic factors are the _____ parts of an ecosystem.

5. The root word *bio* means "life." If you know that *biotic* means "having life," what can you guess is one of the meanings of the prefix *a-*?

Active Reading *continued***RECOGNIZING SIMILARITIES AND DIFFERENCES**

One reading skill is the ability to recognize similarities and differences between two phrases, ideas, or things. This is sometimes known as comparing and contrasting.

In the space provided, write "B" next to biotic factors and "A" next to abiotic factors.

- _____ 6. animals
- _____ 7. temperature
- _____ 8. air
- _____ 9. dead parts of organisms
- _____ 10. organisms' waste products
- _____ 11. water
- _____ 12. rocks
- _____ 13. plants
- _____ 14. sand
- _____ 15. dead organisms
- _____ 16. light

SEQUENCING INFORMATION

One reading skill is the ability to sequence information, or to logically place items or events in the order in which they occur.

Sequence the statements below to show the order in which the information was presented in the passage. Write "1" on the line in front of the first information presented, "2" in front of the next information presented, and so on.

- _____ 17. The definition of biotic factors is given.
- _____ 18. Examples of abiotic factors are given.
- _____ 19. Examples of biotic factors are given.
- _____ 20. Interactions of biotic and abiotic factors are discussed.
- _____ 21. The definition of abiotic factors is given.

Active Reading

Ch. 4

Section: Evolution

Read the passage below and answer the questions that follow.

Resistance is the ability of one or more organisms to tolerate a particular chemical designed to kill it. An organism may be resistant to a chemical when it contains a gene that allows it to break the chemical down into harmless substances. By trying to control pests and bacteria with chemicals, humans promote the evolution of resistant populations.

Consider the evolution of pesticide resistance among corn pests. A pesticide is sprayed on corn to kill grasshoppers. Most of the grasshoppers die, but a few survive. The survivors happen to have a version of a gene that protects them from the pesticide. The surviving insects pass on the gene to their offspring. Each time the corn is sprayed, insects that are resistant to the pesticide will have a greater chance of survival and reproduction. As a result, the insect population will evolve to include more and more resistant members.

IDENTIFYING MAIN IDEAS

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently, a main idea is accompanied by supporting information that offers detailed facts about main ideas.

Read each question and write the answer in the space provided.

1. When might an organism be resistant to a chemical?

2. What main idea do the details in the second paragraph support?

VOCABULARY DEVELOPMENT

Read each question and write the answer in the space provided.

3. Define *resistance*.

4. Write a sentence using the word *resistance*.

Active Reading *continued*

SEQUENCING INFORMATION

One reading skill is the ability to sequence information, or to logically place items or events in the order in which they occur.

Sequence the statements below to show the steps in insects' development of resistance to pesticides. Write "1" on the line in front of the first step, "2" on the line in front of the second step, and so on.

- _____ 5. Remaining grasshoppers reproduce, passing on the resistant gene.
- _____ 6. Corn is sprayed with a pesticide.
- _____ 7. Some grasshoppers survive.
- _____ 8. The pesticide is rendered useless after many sprayings.
- _____ 9. The survivors' offspring are sprayed again.
- _____ 10. A cycle continues of the most pesticide-resistant members of the population surviving each spraying and reproducing.

RECOGNIZING CAUSE AND EFFECT

One reading skill is the ability to recognize cause and effect.

Read each question and write the answer in the space provided.

11. What makes an organism resistant to a chemical?

12. What human activity promotes the evolution of organisms that are resistant to certain chemicals?

13. When a pesticide is sprayed and there are still survivors, what can you assume about them?

14. If an organism reproduces quickly, its population can

_____ faster.

Active Reading *continued*

- _____ 5. Most of a fungus's body is its
a. mushroom. c. exoskeleton.
b. miniature skeleton. d. underground network of fibers.
- _____ 6. A fungus's cells have
a. nuclei and cell walls. c. nuclei and chlorophyll.
b. cell walls and chlorophyll. d. None of the above

RECOGNIZING SIMILARITIES AND DIFFERENCES

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Read the question and write the answer in the space provided.

7. To what does the author compare the cell walls of a fungus?

8. Name two ways in which fungi are similar to bacteria.

RECOGNIZING CAUSE AND EFFECT

One reading skill is the ability to recognize cause and effect.

Read each question and write the answer in the space provided.

9. What important role do fungi play in the environment?

10. Name one undesirable disease that fungi are responsible for?

11. What beneficial effect do fungi have on blue cheese?

12. What effect do yeasts have on bread?
