

Populations and Communities • *Guided Reading and Study*

Living Things and the Environment (pp. 704–709)

This section describes what organisms need and how their environments provide for their needs. The section also describes how organisms live together in populations and communities.

Use Target Reading Skills

As you read the Habitats section, write the main idea—the biggest or most important idea—in the graphic organizer below. Then write three supporting details that give examples of the main idea.

Main Idea		
An organism obtains food, . . .		
Detail	Detail	Detail

Habitats (p. 705)

1. A(n) _____ obtains food, water, shelter, and other things it needs to live, grow, and reproduce from its environment.
 2. The place where an organism lives and that provides the things the organism needs is called its _____.
 3. What needs of an organism are provided by its habitat?
-
4. Is the following sentence true or false? An area contains only one habitat.
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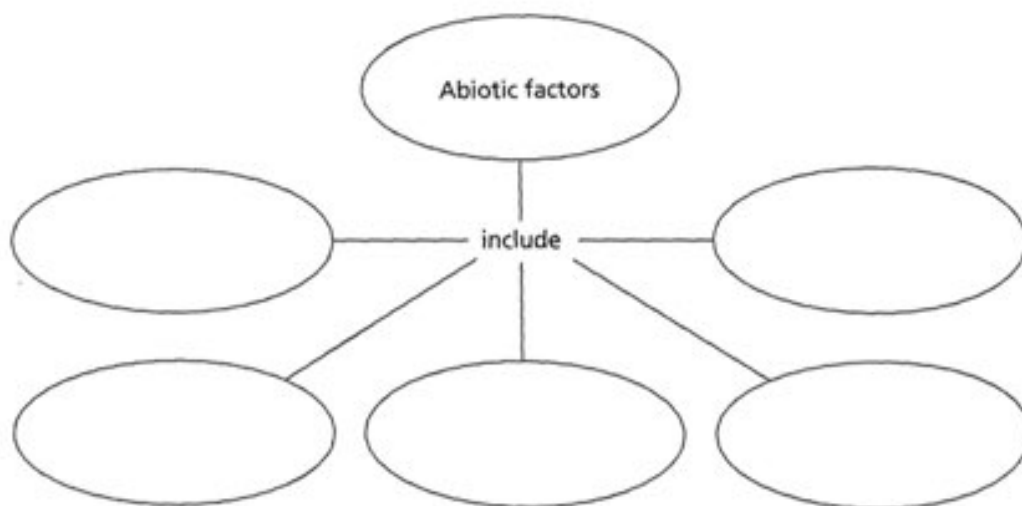
Living Things and the Environment (continued)

Biotic Factors (p. 705)

5. Circle the letter of each choice that is a biotic factor in a prairie dog ecosystem.
 - a. Grass and other plants that the prairie dog eats
 - b. Hawks, ferrets, and other animals that hunt the prairie dog
 - c. The soil that provides the prairie dog with a home
 - d. Worms, fungi, and bacteria that also live in the soil
6. The living parts of a habitat are called _____.

Abiotic Factors (p. 706)

7. The nonliving parts of a habitat are called _____.
8. Complete the concept map.



9. Circle the letter of each sentence that is true about water.
 - a. It is needed by all living things.
 - b. It makes up 95 percent of the human body.
 - c. It is needed by algae and plants to make food.
 - d. It is an abiotic factor only for organisms that actually live in the water.
10. The process in which plants and algae make food using water, sunlight, and carbon dioxide is called _____.

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11. Circle the letter of each sentence that is true about oxygen.
- a. Humans can live only a few hours without it.
 - b. Organisms that live on land get it from the air.
 - c. It makes up about 40 percent of air.
 - d. Fish get it from the water around them.

Levels of Organization (pp. 707–709)

12. What is a species?

13. Circle the letter of each choice that is an example of a population.
- a. All the prairie dogs in a prairie dog town
 - b. All the bees in a hive
 - c. All the pigeons in New York City
 - d. All the trees in a forest
14. Is the following sentence true or false? All populations live in the same-sized area. _____
15. All the different populations that live together in an area make up a(n) _____.
16. Circle the letter of the choice that lists the levels of organization in an ecosystem from the smallest unit of organization to the largest.
- a. Population, organism, community, ecosystem
 - b. Organism, population, ecosystem, community
 - c. Organism, community, population, ecosystem
 - d. Organism, population, community, ecosystem

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Living Things and the Environment *(continued)*

17. Is the following sentence true or false? To be considered a community, populations must live close enough together to interact.

18. In addition to a community of different species, what else does an ecosystem include?

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Studying Populations (pp. 711–718)

This section describes how scientists study population density, size, and growth. The section also explains how factors such as food, space, and weather limit how large populations can become.

Use Target Reading Skills

Before you read, preview the red headings. In the graphic organizer below, ask a question for each heading. As you read, write the answers to your questions.

Studying Populations

Question	Answer
How do you determine population size?	Some methods of determining population size are . . .

Determining Population Size (pp. 712–713)

Match the type of study with its example.

Type of Study

- ___ 1. direct observation
- ___ 2. indirect observation
- ___ 3. sampling
- ___ 4. mark-and-recapture study

Example

- a. Counting the number of nesting sites in an area
- b. Counting all the crabs that live in a tide pool
- c. Counting hawks with and without bands on their legs
- d. Counting the number of red maples in a small area to estimate the number in the entire forest

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Studying Populations *(continued)*

Changes in Population Size (pp. 714–716)

5. How can populations change in size?

6. What is the main way in which new individuals are added to a population?

7. The number of births in a population in a certain amount of time is the _____.
8. What is the main way that individuals leave a population?

9. The number of deaths in a population in a certain amount of time is the _____.
10. Is the following sentence true or false? If the birth rate is greater than the death rate, population size decreases. _____

Match the term with its definition.

- | Term | Definition |
|----------------------|-----------------------------|
| ____ 11. immigration | a. Leaving a population |
| ____ 12. emigration | b. Moving into a population |
13. Is the following sentence true or false? Population density is the number of individuals in a specific area. _____

Limiting Factors (pp. 716–718)

14. An environmental factor that causes a population to decrease is called a(n) _____.
15. What are some limiting factors for populations?

16. The largest population that an area can support is called its _____.
17. Is the following sentence true or false? Space is often a limiting factor for plants. _____
18. What are some ways weather conditions can limit population growth?

Interactions Among Living Things (pp. 722–729)

This section explains how organisms become adapted to their environments. The section also describes three major types of interactions among organisms.

Use Target Reading Skills

Before you read, look at the section headings and visuals to see what this section is about. Then write what you know about how living things interact in the graphic organizer below. As you read, continue to write in what you learn.

What You Know	What You Learned
1. Organisms interact in different ways.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.

Interactions Among Living Things (continued)**Adapting to the Environment** (p. 723)

Match the term with its definition.

Term	Definition
___ 1. natural selection	a. Characteristic that allows a species to live successfully in its environment
___ 2. adaptation	b. The way a species makes its living
___ 3. niche	c. Process in which a species becomes better suited to its environment

4. Is the following sentence true or false? Every organism has a variety of adaptations that enable it to live in any kind of environment.

Competition (p. 724)

5. The three major types of interactions among organisms are competition, _____, and symbiosis.
6. Is the following sentence true or false? The struggle between organisms to survive in a habitat with limited resources is called natural selection.

7. Is the following sentence true or false? In a particular environment, two species can usually occupy the same niche. _____
8. Is the following sentence true or false? Specializing can reduce competition. _____

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Predation (pp. 725–727)

9. An interaction in which one organism kills and eats another is called _____ . The organism that does the killing is the _____ . The organism that is killed is the _____ .
10. Is the following sentence true or false? If a prey population decreases, the population of its predator probably will decrease as well.

11. Predators have _____ that help them catch and kill their prey.
12. Camouflage, mimicry, and false coloring are some adaptations that may help organisms avoid becoming _____ .

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Interactions Among Living Things (continued)**Symbiosis** (pp. 728–729)

13. Symbiosis is a close relationship between two _____ that benefits at least one of the _____.
14. Complete the compare/contrast table.

Types of Symbiotic Relationships	
Type of Relationship	How Species Are Affected
Mutualism	
	One species benefits; the other species is unharmed.
	One species benefits; the other species is harmed.

15. In some cases of _____, two species have such a close symbiotic relationship, neither one could live without the other.
16. In a parasitic relationship, the organism that benefits is called a(n) _____, and the organism it lives on or in is called a(n) _____.

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Changes in Communities (pp. 730–733)

This section describes a series of predictable changes that occur in a community over time.

Use Target Reading Skills

As you read, compare and contrast primary and secondary succession by completing the table below.

Factors in Succession	Primary Succession	Secondary Succession
Possible cause	Volcanic eruption	
Type of area		
Existing ecosystem?		

Introduction (p. 730)

1. What is succession?

Primary Succession (p. 731)

2. What is primary succession?

3. Circle the letter of each choice that describes an area where primary succession might occur.

- a. A new island formed by the eruption of an undersea volcano
- b. An area of bare rock uncovered by a melting ice sheet
- c. A clearing in a forest left by cutting down the trees
- d. An area without any trees or other plants following a forest fire

4. The first species to populate the area in primary succession are called

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Changes in Communities *(continued)*

5. Primary species are often _____ and _____.

6. How do pioneer species help develop soil?

Secondary Succession (pp. 732–733)

7. The series of changes that occur where the ecosystem has been disturbed but soil and organisms still exist _____.

8. What natural disturbances can result in secondary succession?

9. What human activities can result in secondary succession?

10. Is the following sentence true or false? Secondary succession occurs more slowly than primary succession. _____

11. The particular species that come and go in the process of succession depend on the _____.

Populations and Communities • Key Terms

Key Terms

Use the clues to make a list of Key Terms from the chapter. Then find and circle each of the key terms in the hidden-word puzzle. The terms may be written across or down.

Clues

- Organism that is harmed in parasitism
- Struggle between organisms for limited resources in a habitat
- Organism that does the killing in predation
- Organism that is killed in predation
- All the living and nonliving things that interact in an area
- Place where an organism lives and that provides for its needs
- Organism that benefits in parasitism
- Interaction in which one organism kills and eats another
- Study of how living things interact with each other and their environment
- An approximation of a number
- Relationship in which one species benefits and one is unharmed
- A group of similar organisms that can produce fertile offspring
- An organism's particular role in an ecosystem
- Relationship in which at least one species benefits

Key Terms

c a p t d a a t o n i s
o e f g n p h o s t s p
m e s t i m a t e s i r
m c p p c o b l c y p p
e o e a h y i o o m r r
n s c r e x t g l b e e
s y i a w c a y o i d d
a s e s d m t c g o a a
l t s i p r e y y s t t
i e n t r e y e p i o i
s m t e e y p r o s r o
m c o m p e t i t i o n