Name Period Date

SECTION 14.1

HABITAT AND NICHE

Study Guide

KEY CONCEPT

Every organism has a habitat and a niche.

VOCABULARY	
habitat	competitive exclusion
ecological niche	ecological equivalent

MAIN IDEA: A habitat differs from a niche.

1. What is the difference between an organism's habitat and its ecological niche?

2.

food	trees	zebra	grass
hunting behavior	watering hole	sand	savanna
other lions	wildebeest	temperature	

Determine which ecological factors are a part of a lion's niche and which are a part of a lion's habitat by placing the above items in the correct column.

Habitat	Niche

MAIN IDEA: Resource availability gives structure to a community.

3. What is competitive exclusion?

4. What are the three possible outcomes of competitive exclusion?

5. What are ecological equivalents?

6. Explain why ecological equivalents do not share the same niche.

Vocabulary Check

7. The term *habitat* comes from a Latin word which means "to dwell." Explain how this word origin relates to the definition of a habitat.

8. In competitive exclusion, who is competing and who gets excluded?

9. What does *equivalent* mean in math? How does that meaning relate to ecological equivalents?

Name Period Date

SECTION 14.2

COMMUNITY INTERACTIONS

Study Guide

KEY CONCEPT

Organisms interact as individuals and in populations.

VOCABULARY		
competition	symbiosis	commensalism
predation	mutualism	parasitism

MAIN IDEA: Competition and predation are two important ways in which organisms interact.

Next to each situation described below, write whether it is an example of *inter*specific competition or *intra*specific competition.

_____ **1.** Two squirrels race up a tree to reach a hidden pile of nuts.

_____ **2.** A hyena chases off a vulture to feast on an antelope carcass.

_____ **3.** Different species of shrubs and grasses on the forest floor compete for sunlight.

_____ **4.** Brown bears hunting for fish on a river's edge fight over space.

_____ **5.** Male big horn sheep butt heads violently in competition for mates.

6. Draw and label a sketch that represents an example of a predator-prey interaction.

MAIN IDEA: Symbiosis is a close relationship between species.

7. For each type of symbiotic relationship, complete the chart with details about how each organism is impacted using the terms "Benefits," "Harmed," or "No impact." For each situation, assume that Organism A initiates the relationship.

Symbiotic Relationship	Organism A	Organism B
mutualism		
commensalism		
parasitism		

8. How is parasitism similar to and different from predation?

9. What is the difference between endoparasites and ectoparasites?

Vocabulary Check

10. The term *symbiosis* comes from a Greek term which means "living together." How does this word origin help to explain the definition of symbiosis?

11. Use your knowledge of the word "mutual" to write a definition for mutualism.

12. The word *commensalism* comes from the Latin *mensa*, meaning "table," and *com-*, meaning "with." If I come to your table to eat your food, I benefit but you don't. Draw a sketch to show this meaning to help you remember it.

Name Period Date

SECTION 14.3

POPULATION DENSITY AND DISTRIBUTION

Study Guide

KEY CONCEPT

Each population has a density, a dispersion, and a reproductive strategy.

VOCABULARY	
population density	survivorship curve
population dispersion	

MAIN IDEA: Population density is the number of individuals that live in a defined area.

1. What is the formula for calculating population density?

2. What might cause the population density of a population of deer to increase?

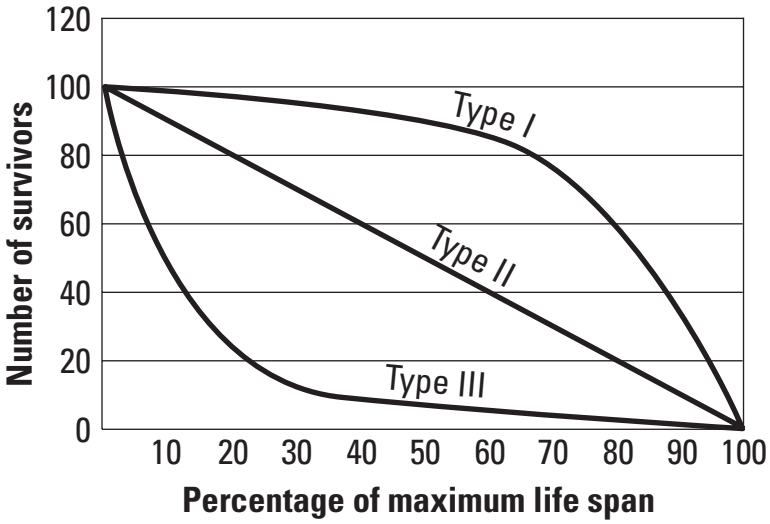
MAIN IDEA: Geographic dispersion of a population shows how individuals in a population are spaced.

3. In the boxes below, draw and label the three types of population dispersion patterns.

4. List two reasons why a population might live in a clumped dispersion and two reasons why a population might live in a uniform dispersion.

MAIN IDEA: Survivorship curves help to describe the reproductive strategy of a species.

5. What is meant by the term *reproductive strategy*? What accounts for differences in reproductive strategies?



Take a look at each of the survivorship curves shown above. Next to each type of organism listed below, write in the space provided whether it is an example of Type I, Type II, or Type III survivorship.

_____ **6.** lion

_____ **7.** bird

_____ **8.** reptile

_____ **9.** small mammal

_____ **10.** invertebrate

_____ **11.** fish

_____ **12.** giraffe

_____ **13.** human

Vocabulary Check

14. What is the difference between population density and population dispersion?

Name Period Date

SECTION 14.4

POPULATION GROWTH PATTERNS

Study Guide

KEY CONCEPT

Populations grow in predictable patterns.

VOCABULARY		
immigration	logistic growth	density-dependent limiting factor
emigration	carrying capacity	density-independent limiting factor
exponential growth	population crash	

MAIN IDEA: Changes in a population's size are determined by immigration, births, emigration, and deaths.

Choose a word from the box below that best completes each sentence.

births	emigration	deaths	immigration

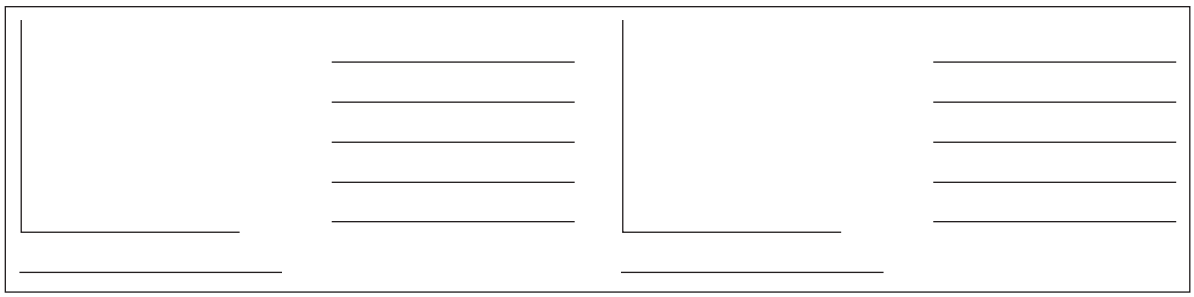
1. When resources are abundant in a particular area, individuals may move into the population of this area. This movement of individuals into a population from a different population is called _____.
2. A very cold winter has left many deer in a population hungry and sick. By the end of the winter, this population will likely decrease because of _____.
3. A deer population experiences growth when the rate of reproduction increases. This change in population size is due to _____.
4. As humans move into their territory, many members of a deer population move away and join other herds. This movement of individuals out of a population into a new population is called _____.
5. How does the availability of resources affect population growth?

_____

_____

MAIN IDEA: Population growth is based on available resources.

6. In the space below, draw and label the two different types of population growth curves. Write a brief description next to each graph.



7. What type of population growth curve shows a carrying capacity?

_____

8. What type of population growth is at risk for a population crash? Explain why.

_____

MAIN IDEA: Ecological factors limit population growth.

8. List three examples of density-dependent limiting factors.

_____

9. List three examples of density-independent limiting factors.

_____

Vocabulary Check

Explain why each pair of words below are opposites.

10. emigrate/immigrate

_____

11. density-dependent limiting factor/density-independent limiting factor

_____

12. exponential growth/logistic growth

_____

Name Period Date

SECTION 14.5

ECOLOGICAL SUCCESSION

Study Guide

KEY CONCEPT

Ecological succession is a process of change in the species that make up a community.

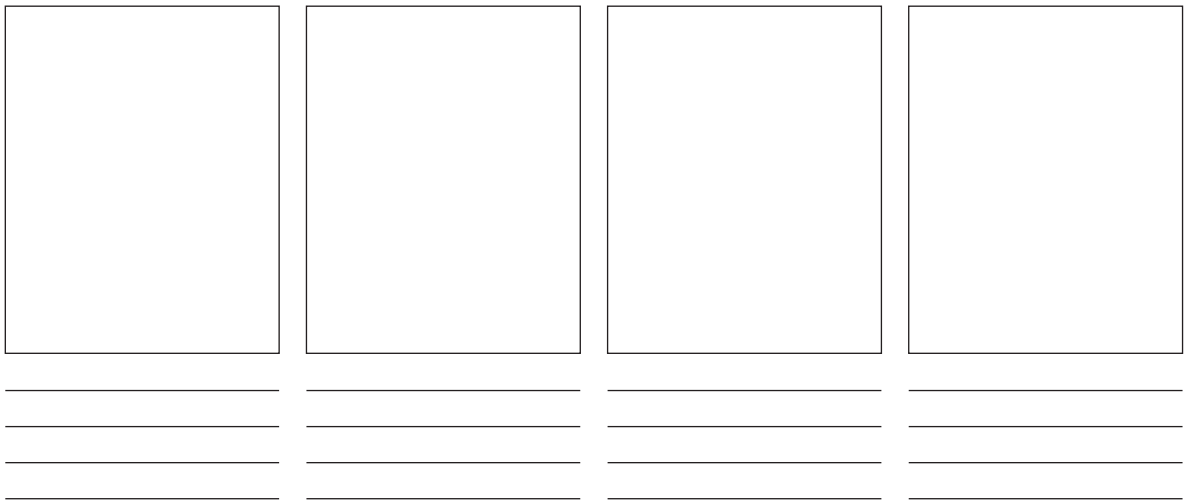
VOCABULARY	
succession	pioneer species
primary succession	secondary succession

MAIN IDEA: Succession occurs following a disturbance in an ecosystem.

1. What is ecological succession?

2. Fill in the chart below with a description and simple sketch of the four main steps of primary succession. Include the amount of time it takes for each stage of this process.

3. Fill in the chart below with a description and simple sketch of the four main steps of secondary succession. Include the amount of time it takes for each stage of this process.



Vocabulary Check

4. What is the difference between primary and secondary succession?

5. Use your knowledge of the word *pioneer* to write a definition for the term *pioneer species*.