Name _____ Date _____ Class _____

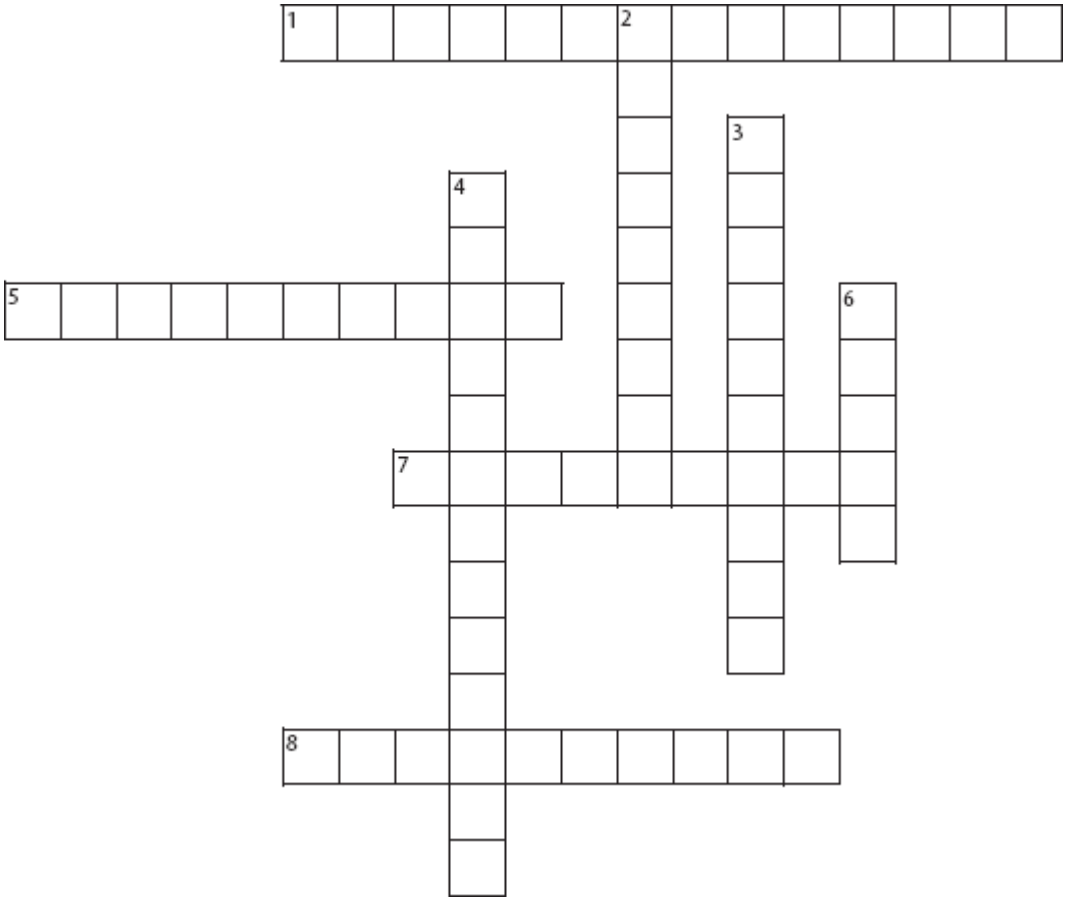
LESSON 1

Content Vocabulary

Ecosystems and Biomes

Directions: *Use the clues and the terms listed below to complete the puzzle. NOTE: There is no empty square in the puzzle between the words of two-word terms. You may need to change a term to its plural form.*

abiotic factor	**atmosphere**	**biome**	**biotic factor**
community	**ecosystem**	**population**	**succession**



CLUES

Across

1. water, light, and temperature, for example

5. the gradual change from one community to another community in an area

7. all the living and nonliving things in one place

8. includes water vapor, oxygen, carbon dioxide, nitrogen and other gases—on Earth

Down

2. all the populations living in an ecosystem at the same time

3. all the members of a species in one place

4. a parrot and a fallen tree, for example

6. forest, desert, or tundra, for example

Content Practice B

Ecosystems and Biomes

Directions: *On each line, write the term from the word bank that correctly completes each sentence. Some terms may be used more than once or not at all.*

abiotic factors	**biome**	**biotic factors**	**community**
ecology	**ecosystem**	**human actions**	**natural processes**
negative effects	**population**	**positive effects**	**succession**

1. Water and soil are _____, because they are not living.

2. Populations are _____, because they are living.

3. A(n) _____is made up of only one species.

4. An ecosystem is made up of all the _____and _____in one place.

5. A(n) _____is the populations living in an ecosystem at the same time.

6. A geographic area on Earth that contains ecosystems with similar biotic and abiotic features is a(n) _____.

7. Changes in the environment are caused by_____ and _____.

8. One community gradually changes to another community in an area through _____.

9. All organisms need the _____ and the _____in an ecosystem to survive.

10. Changes in the environment can have _____and _____on an ecosystem.

11. The study of how organisms interact is _____.

Name _____ Date _____ Class _____

LESSON 1

Key Concept Builder

Ecosystems and Biomes

Key Concept What are ecosystems?

Directions: *Answer each question or respond to each statement on the lines provided.*

1. What makes up an ecosystem?

_____

_____

_____

2. Give an example of an organism interacting with a nonliving part of an ecosystem.

_____

_____

_____

Directions: *Write* B *on the line before each example that is a biotic factor. Write* A *on the line before each example that is an abiotic factor. Then answer each question below.*

_____ **3.** water

_____ **4.** temperature

_____ **5.** a fallen tree

_____ **6.** an ant

_____ **7.** atmosphere

_____ **8.** light

_____ **9.** a dead rabbit

_____ **10.** a deer

_____ **11.** soil

_____ **12.** a plant

13. Based on your answers above:

a. how would you define *biotic factor?*

_____

_____

_____

b. how would you define *abiotic factor?*

_____

_____

_____

Name _____ Date _____ Class _____

Key Concept Builder **LESSON 1**

Ecosystems and Biomes

Key Concept What are biomes?

Directions: *Put a check mark under the column that applies to each description. Some descriptions may have a check mark under both columns.*

Description	Ecosystems	Biomes
1. Contain populations and communities		
2. Are part of the biosphere		
3. Have specific biotic and abiotic factors		
4. Can be very different from each other		
5. Are terrestrial or aquatic		
6. Can affect each other		
7. All the living and nonliving things in one place		
8. Large regions on Earth with specific climates, physical features, plants, and other organisms		

Directions: *Answer each question or respond to each statement in the space provided.*

9. Based on your check marks above, how is a biome different from an ecosystem?

_____

10. **List** four major terrestrial biomes.

_____

11. How is a marine biome different from a freshwater biome?

_____

_____

Name _____ Date _____ Class _____

Content Vocabulary

LESSON 2

Populations and Communities

Directions: *On each line, write the term from the word bank that correctly replaces the underlined words from each sentence. NOTE: You may need to change a term to its plural form.*

biotic potential	**carrying capacity**	**habitat**
limiting factor	**niche**	**symbiotic relationship**

_____ **1.** Factors that can limit the growth of a population include water, space, and food.

_____ **2.** A population never reaches its potential growth in perfect conditions with no limiting factors.

_____ **3.** Instead, limiting factors cause a population to reach the largest number of individuals of one species that an ecosystem can support over time.

_____ **4.** Mutualism, parasitism, and commensalism are examples of different species living together in a close relationship over a long period of time.

_____ **5.** Different species live in different physical places.

_____ **6.** They also have differences in their particular ways of surviving and obtaining resources.

Name _____ Date _____ Class _____

Content Practice A

LESSON 2

Populations and Communities

Directions: *On each line, write the term from the word bank that correctly completes each sentence. Each term is used only once.*

biotic potential	**carrying capacity**	**commensalism**	**habitat**
limiting factors	**mutualism**	**niche**	**parasitism**
population density	**population size**	**resources**	**symbiotic**

1. If a large number of eggs hatch, the _____ of fish increases.
2. The number of organisms in a population relative to the amount of space available describes _____.
3. Factors that keep the growth of a population in check are called _____ factors.
4. The potential growth of a population, if it could grow in perfect conditions with no limiting factors, is the population's _____.
5. The largest number of individuals in one species that an ecosystem can support over time is the _____.
6. Populations interact and compete for _____, such as food, water, and living space.
7. All populations in a community share a _____, the physical place where a population or organism lives.
8. Each species in a community has a _____, which is its unique ways of surviving, obtaining food and shelter, and avoiding danger.
9. A _____ relationship is a close relationship in which two different species live together in a close relationship over a long period of time.
10. A symbiotic relationship in which two species in a community help each other is called _____.
11. A symbiotic relationship in which one species benefits while another is harmed is called _____.
12. A symbiotic relationship in which one species benefits and the other is not helped or harmed is called _____.

Name _____ Date _____ Class _____

Key Concept Builder **LESSON 2**

Populations and Communities

Key Concept How do individuals and groups of organisms interact?

Directions: *Complete this table by writing what happens to the population size on the lines provided.*

Factor That Changes a Fish Population	Does the population size increase, decrease, or stay the same?
1. Fish are eaten by other organisms.	
2. Fish swim to another location.	
3. A large number of fish eggs hatch.	
4. Fish die.	
5. Fish are added to the lake.	
6. More food is available.	

Directions: *Respond to each statement on the lines provided.*

7. **Explain** what population density is in your own words.

_____

_____

_____

_____

8. Give an example of an area of your school that has a high population density and an area that has a low population density.

_____

_____

_____

_____

_____

Name _____ Date _____ Class _____

Key Concept Builder **LESSON 2**

Populations and Communities

Key Concept What are some examples of symbiotic relationships?

Directions: *Complete this table by writing how populations might interact with other populations in a pond community.*

Populations in a Pond Community	How They Interact with Other Populations
1. Cattails and other plants	
2. Different populations of insects	
3. Different populations of fish	
4. A population of ducks	
5. A population of turtles	

Directions: *Fill in the chart to compare a habitat and a niche.*

Habitat	Niche
6. What is it?	**7.** What is it?
8. In a community, which populations share the habitat?	**9.** In a community, which populations share a niche?

Name _____ Date _____ Class _____

Content Practice A

LESSON 3

Energy and Matter

Directions: *Circle the term in parentheses that correctly completes each sentence.*

1. Energy (flows/cycles) through an ecosystem.

2. Only organisms that are (producers/consumers) can change the energy available in their environment into food energy.

3. Producers use photosynthesis or (chemosynthesis/succession).

4. Organisms that are (producers/consumers) depend on eating other organisms for energy.

5. Energy in an ecosystem moves from the (soil/Sun) to producers and then to consumers.

6. Consumers can be (classified as/eaten by) herbivore, carnivore, omnivore, or detritivore.

7. A (food chain/food web) models how energy flows in an ecosystem through feeding relationships.

8. (An energy pyramid/A food web) is a model that shows several connected food chains.

9. An energy pyramid shows the amount of energy (available at/cycled by) each step of a food chain.

10. Matter moves through ecosystems in (straight lines/cycles).

11. Three examples of (energy/matter) that are important for survival are water, oxygen, and carbon.

Name _____ Date _____ Class _____

Language Arts Support

LESSON 3

Word-Meaning Activity: Matching

Directions: *Study the terms listed below. On the line before each definition, write the letter of the term that matches it correctly.*

A. **abiotic factors** *n.* nonliving parts of an ecosystem

B. **biome** *n.* a geographic area that contains ecosystems with biotic and abiotic features

C. **ecosystem** *n.* organisms and the area where they live

D. **habitat** *n.* place where an organism lives

E. **niche** *n.* the unique way an organism survives in its habitat

F. **organism** *n.* any living thing

G. **species** *n.* group of organisms that has similar characteristics and that interbreed successfully

_____ **1.** a bacterium, a spider, or a tree

_____ **2.** blue whales or sugar maples

_____ **3.** a marsh and the organisms that live there

_____ **4.** temperature, water, air, and other nonliving things in an ecosystem

_____ **5.** desert, tundra, or forest

_____ **6.** the wetland area where a beaver lives

_____ **7.** A turtle eats fish and plants in the pond where it lives.

Name _____ Date _____ Class _____

Key Concept Builder

LESSON 3

Energy and Matter

Key Concept How is the movement of energy in an ecosystem modeled?

Directions: *Answer each question or respond to each statement on the lines or in the space provided.*

1. What is a food chain?

_____

_____

2. In the space below, draw a food chain that begins with the Sun and has the following organisms: a fox that eats a rabbit, a plant, a rabbit that eats a plant. You may draw pictures of the organisms or write their names. Label the producer, herbivore, and carnivore.

3. What is a food web?

_____

_____

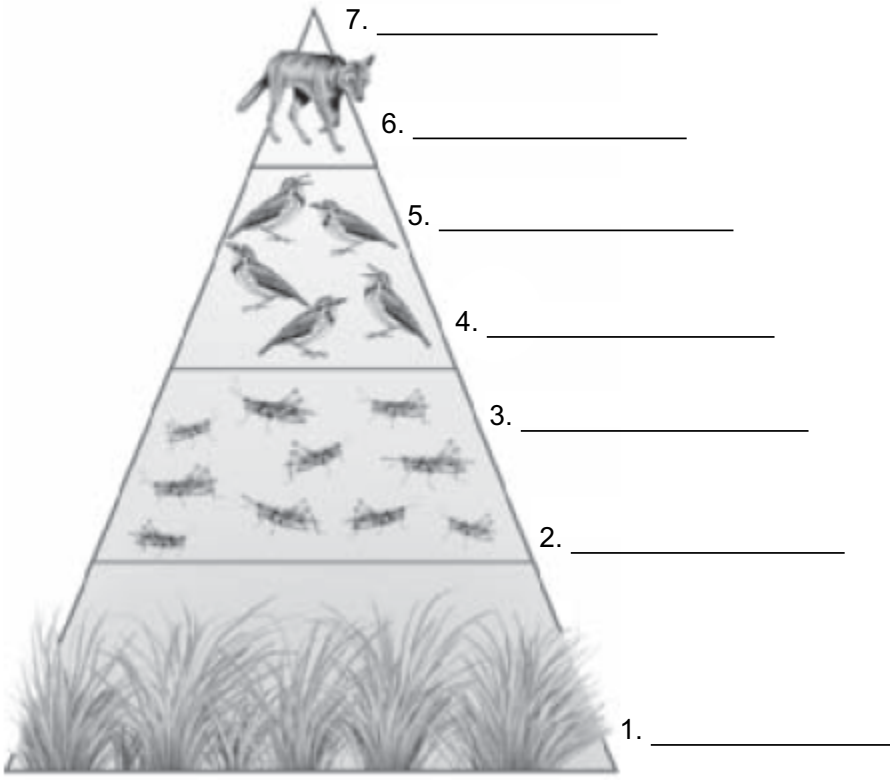
4. In the space provided, use the names of organisms and arrows to draw part of a food web that begins with the Sun and includes the following organisms: plants; grasshoppers, mice, and rabbits that eat plants; frogs that eat grasshoppers; snakes that eat frogs and mice; and an owl that eats snakes, rabbits, and mice.

Energy and Matter

Key Concept How is the movement of energy in an ecosystem modeled?

Directions: *The energy pyramid below models the amount of energy available at each level in a community. Label the pyramid by writing the correct term from the list below on each line. Some terms will be used more than once. Then use the diagram to help you answer each question or respond to each statement on the lines provided.*

carnivore **consumer** **herbivore** **producer**



8. Which organisms in an energy pyramid have the most energy available to them?

_____

_____

9. Which organism in an energy pyramid has the least energy available?

_____

10. What does an energy pyramid have in common with a food chain and a food web?

_____