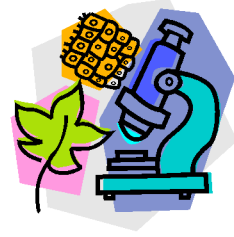


Roland-Story Biology Class
Chapter 16 Study Guide
Ecosystems



Name _____

Section: What Is an Ecosystem?

In the space provided, write the letter of the description that best matches the term or phrase.

- _____ 1. ecology
- _____ 2. habitat
- _____ 3. community
- _____ 4. ecosystem
- _____ 5. abiotic factors
- _____ 6. biotic factors

- a. the place where a population of a species lives
- b. a community and all of the physical aspects of its habitat
- c. the organisms living in a habitat
- d. the physical aspects of a habitat
- e. the different species that live in a habitat
- f. the study of the interactions of living organisms with one another and with their physical environment

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- _____ 7. An ecosystem is defined by the
 - a. organisms living in a particular area.
 - b. climate of the region.
 - c. community and physical aspects of the area.
 - d. pioneer species that occupy the area.

- _____ 8. A measure of how many different species live in an ecosystem is its
 - a. ecology.
 - b. biodiversity.
 - c. biology.
 - d. abiotic factor.

_____ 9. A typical organism that might occupy a forest in the southeastern United States is a

- a. cactus.
- b. wolf.
- c. deer.
- d. polar bear.

_____ 10. Which area could you expect to find the most biodiversity?

- a. a square yard of forest floor
- b. a square yard of desert sand
- c. the surface of a mountain stream
- d. a rock recently exposed by a retreating glacier

_____ 11. An ecosystem includes which of the following?

- a. microscopic organisms
- b. large mammals
- c. weather conditions
- d. All of the above

_____ 12. Which of the following can be considered an entire ecosystem?

- a. a small patch of farmland
- b. the underside of a large rock
- c. a stream flowing through a pasture
- d. All of the above

_____ 13. An example of a biotic factor in an ecosystem is

- a. an active volcano.
- b. the number of competing species.
- c. a river that floods frequently.
- d. the intensity of sunlight in summer.

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

14. What is meant by the term pioneer species?

15. Explain the differences among succession, primary succession, and secondary succession.

16. Why is Glacier Bay, Alaska, an example of how ecosystems change over time?

Section: Energy Flow in Ecosystems

In the space provided, explain how the terms in each pair differ in meaning.

1. producers, consumers

2. trophic level, food chain

3. herbivores, carnivores

4. detritivores, decomposers

In the space provided, write the letter of the description that best matches the term or phrase.

- _____ 5. omnivore
- _____ 6. herbivore
- _____ 7. producer
- _____ 8. detritivore
- _____ 9. decomposer
- _____ 10. consumer
- _____ 11. carnivore
- _____ 12. food web
- _____ 13. food chain

- a. interconnected group of food chains
- b. cause decay
- c. a path of energy through the trophic levels of an ecosystem
- d. eat only plants
- e. eat only animals
- f. organisms that first capture energy
- g. eat both plants and animals
- h. consume plants or other organisms to obtain energy
- i. obtain energy from organic wastes and dead bodies

Complete each statement by writing the correct term or phrase in the space provided.

- 14. At each trophic level, the energy stored is about _____ percent of that stored by the organisms in the level below.
- 15. A(n) _____ is a diagram in which each trophic level is represented by a block.
- 16. The rate at which organic material is produced by photosynthetic organisms in an ecosystem is called _____.

Section: Cycling of Materials in Ecosystems

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

1. What are biogeochemical cycles?

2. What are living and nonliving reservoirs?

3. What are the most important substances that pass through biogeochemical cycles?

Complete each statement by underlining the correct term or phrase in the brackets.

4. In a tropical rain forest, most of the water in the atmosphere comes from [evaporation / transpiration].

5. Water that falls to the Earth as rain or snow and seeps into the soil becomes [surface / ground] water.

6. In the living portion of the water cycle, water is taken up by [condensation / the roots of plants].

7. The process by which water evaporates from the leaves of plants is called [respiration / transpiration].

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

8. How does carbon become part of organic molecules?

9. List three ways carbon atoms return to the nonliving reservoir.

Complete each statement by writing the correct term or phrase in the space provided.

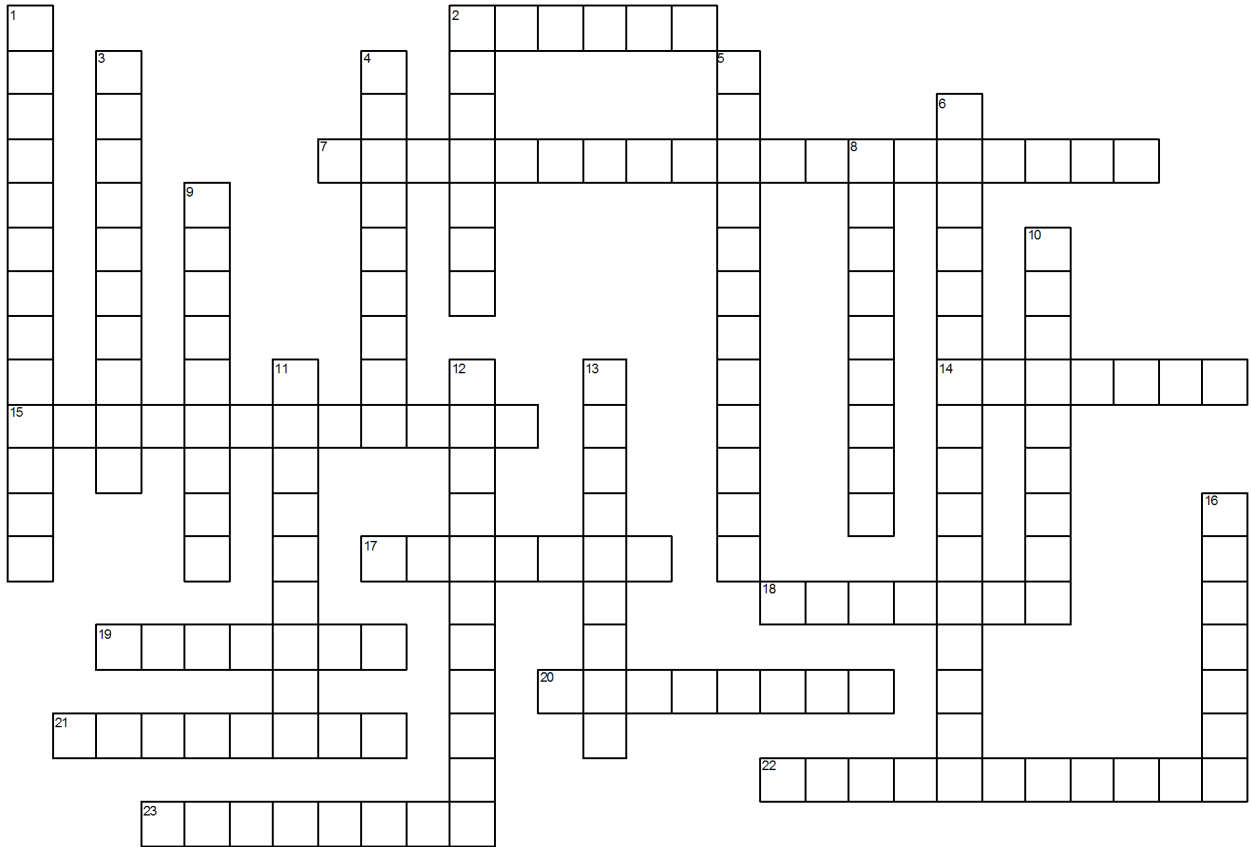
10. Organisms need nitrogen and phosphorus to build _____
and _____ .

11. Phosphorus is usually present as _____ in soil and
rock.

12. The process of combining nitrogen gas with hydrogen to form ammonia is called
_____ .

13. Nitrogen-fixing bacteria use _____ to split molecules of
nitrogen gas and combine the nitrogen atoms with hydrogen.

Crossword puzzle of vocabulary terms



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Clues on next page

ACROSS

- 2 a factor in the surrounding area that is linked to the activities of living things
- 7 the total amount of organic material in an ecosystem that is made by the living things that get energy from sunlight or chemicals
- 14 the study of how living things interact with each another and everything around them
- 15 one of the steps in a food chain or food pyramid
- 17 a factor in the surrounding area that is not linked to the activities of living things
- 18 the process by which a new community forms where no community lived before
- 19 the place where a living thing usually lives
- 20 a living thing that makes its own food by taking in energy from its surrounding area
- 21 a living thing that gets energy by eating other living things
- 22 water that is stored in wide areas or channels under the surface of the Earth
- 23 a living thing that eats both plants and animals

DOWN

- 1 the method by which plants release water vapor into the air through tiny holes in the leaves called stomata
- 2 organic matter that can be a source of energy
- 3 the replacement of one type of community by another
- 4 a living thing that eats only plants
- 5 the variety of living things in a given area
- 6 the way in which nitrogen gas from the air is changed into ammonia by bacteria in the soil
- 8 a group of various species that live in the same habitat and interact with each other
- 9 the path in which energy is transferred as each living thing gets its food
- 10 the process by which a new community replaces another community that has been partially or totally destroyed
- 11 a community of living things and their environment
- 12 a living thing that feeds on dead plants and animals
- 13 an animal that eats other animals
- 16 a species that takes over to live in an area where no other living thing lives