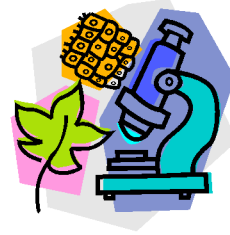


Roland-Story Biology Class
Chapter 17 Study Guide
Biological Communities



Name _____

Section: How Competition Shapes Communities

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

- _____ 1. competition
- _____ 2. niche
- _____ 3. fundamental niche
- _____ 4. realized niche
- _____ 5. competitive exclusion
- _____ 6. biodiversity
- _____ 7. species richness
- _____ 8. species diversity
- _____ 9. productivity

- a. the functional role of a particular species in an ecosystem
- b. the entire range of conditions an organism is potentially able to occupy
- c. biological interaction in which two species use the same resources
- d. the part of a fundamental niche that a species actually occupies
- e. the variety of living organisms living in a community
- f. the relative numbers of each of the species living in a community
- g. the amount of plant material produced in a plot of land
- h. elimination of a competitive species
- i. the number of different species in a community

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

10. What are the different niches of *Chthamalus stellatus* and *Semibalanus balanoides*?

11. What happened in Connell's experiment with *Chthamalus stellatus* and *Semibalanus balanoides*?

12. Why was *Chthamalus* unable to compete with *Semibalanus* at the lower depths?

13. Why was *Semibalanus* unable to survive in shallow water?

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

14. In the experiments by G. F. Gause, *Paramecium* fed on [bacteria / culture].

15. The smaller species of *Paramecium* in the first experiment was [more / less] resistant to bacterial waste products.

16. The process by which the smaller species of *Paramecium* drove the larger species to extinction is called [survival of the fittest / competitive exclusion].

17. In the second experiment, *Paramecium caudatum* [coexisted with / eliminated] *Paramecium bursaris*.

18. *P. caudatum* and *P. bursaris* had [different niches / the same niche].

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

19. In the studies of Robert Paine, why did eliminating sea stars cause the number of species to decrease?

20. Describe two aspects of a community that biodiversity measures.

21. What is the relationship between biodiversity and productivity?

Section: How Organisms Interact in Communities

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

1. coevolution, secondary compounds

2. predation, parasitism

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

3. The evolution of flowering plants and the insects that transport their male gametes is an example of _____.
4. The interaction between mosquitoes and human beings is called _____.
5. The relationship between small insects called aphids and ants is called _____.
6. The relationship between certain small tropical fishes and sea anemones is an example of _____.
7. When two or more species live together in a close, long-term relationship, it is called _____.
8. A symbiotic relationship in which both participating species benefit is called _____.
9. A symbiotic relationship in which one species is neither harmed nor helped is called _____.

Section: Major Biological Communities

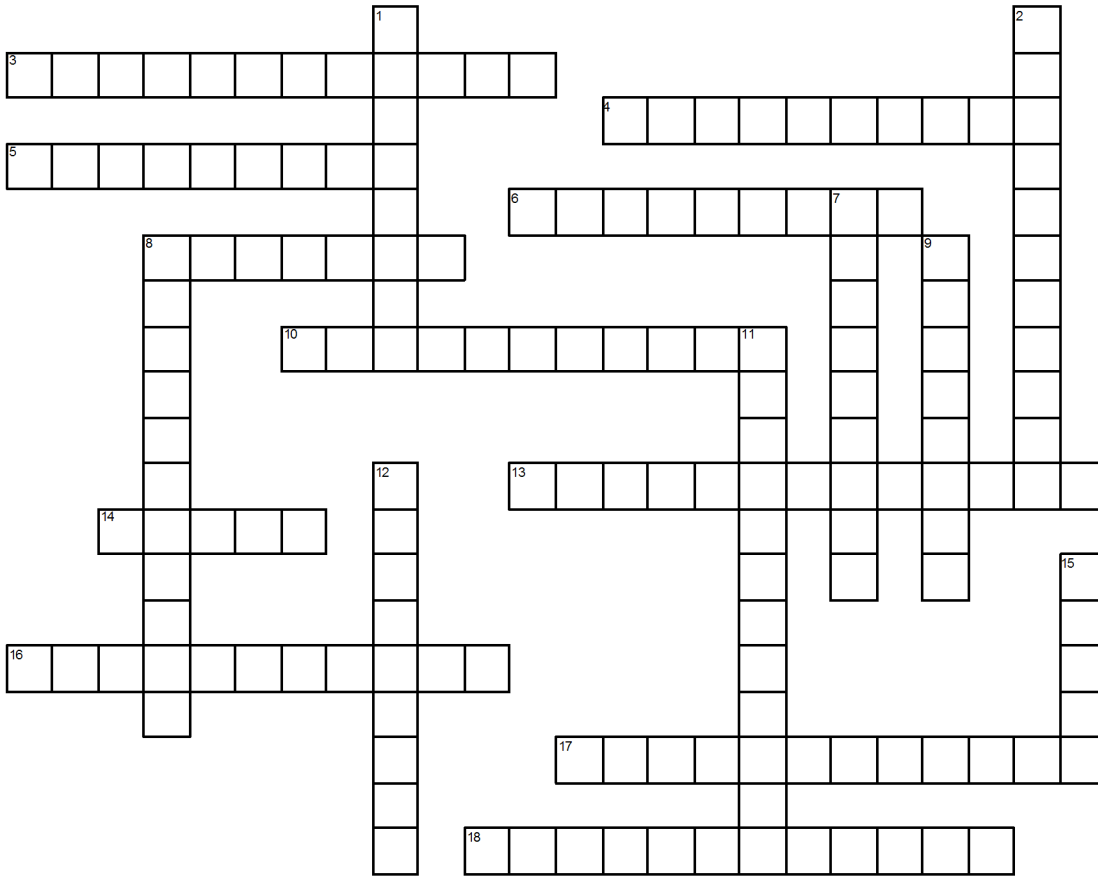
In the space provided, write the letter of the description that best matches the term or phrase.

- _____ 1. tropical rain forests
- _____ 2. deserts
- _____ 3. savannas
- _____ 4. temperate deciduous forests
- _____ 5. temperate grasslands
- _____ 6. taiga
- _____ 7. tundra

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

8. The prevailing weather conditions in any given area is called _____.
9. The growing season of plants is primarily influenced by _____.
10. The moisture-holding ability of air _____ when it is warmed and when it is cooled.
11. A major biological community that occurs over a large area of land is called a(n) _____.
12. In general, temperature and moisture _____ as distance from the equator .
13. The shallow area of ponds and lakes, near the shore, is called the _____.
14. The _____ of lakes and ponds is away from the shore but close to the surface.
15. The _____ is a deep-water zone that is below the limits of effective light.
16. Nearly three-fourths of the Earth's surface is covered by _____.
17. Small organisms that drift in the upper waters of the ocean are called _____.

Crossword puzzle of vocabulary terms



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Clues on next page

ACROSS

- 3 a relationship between two living things in which one living thing benefits and the other is unaffected
- 4 a relationship between two species in which one species, the parasite, benefits from the other species, which is harmed
- 5 a relationship between two species in which one species, the predator, feeds on the other species, the prey
- 6 a relationship between two living things in which both living things benefit
- 8 the average weather conditions in an area over a long period of time
- 10 the largest range or niche where a living thing or species can possibly live
- 13 the area in a freshwater habitat where little sunlight gets to
- 14 a large area that has a specific type of climate and certain types of plant and animal communities
- 16 the evolution of two or more species that is due to the relationship they have with each other
- 17 a shallow area in a freshwater habitat where light reaches the bottom and can be used by plants
- 18 the variety of living things in a given area

DOWN

- 1 the mass of mostly microscopic living things that float in the waters of freshwater and marine environments
- 2 the relationship between two or more species (or individuals) that use the same limited resource
- 7 a chemical compound formed in plants that is used to protect the plants against being eaten by animals that eat plants
- 8 type of exclusion in which the keeping out of one species by another due to competition for food or living space
- 9 the part of a fundamental niche that a species actually lives within and uses as a result of competition
- 11 the area in a freshwater habitat that is away from the shore but still close to the surface
- 12 a relationship in which two different living things live in close association with each other
- 15 the unique position that a species has in the physical use of its habitat and in its function (job) within an ecosystem