

## Principles of Ecology Study Guide

1. Define ecology (focus on interactions).
2. What is the term for a group of different species in a given area?
3. Which level of organization in ecology is considered a major regional or global community or organisms?
4. List examples of biotic factors. In other words, define biotic and list common examples.
5. Why would wind be considered an abiotic factor?
6. A rainforest is considered a location that has high levels of biodiversity. What is the definition for biodiversity?
7. What is a keystone species?
8. Beavers are sometimes trapped for their fur. What could be one effect of increased trapping of beavers in an area?
  - a. Biodiversity among the area's fish would increase
  - b. The number of herons and kingfishers would decrease
  - c. There would be more nesting areas for waterfowl
  - d. More trees would be cut down
9. An organism that makes its own food is called a \_\_\_\_\_.
10. A moose is considered to be a consumer because it \_\_\_\_\_.
11. The basis for the energy in an ecosystem is provided by \_\_\_\_\_.
12. Most producers get energy from the Sun using the process of \_\_\_\_\_.
13. Chemosynthesis is the process in which organism's \_\_\_\_\_.
14. A model that shows a single sequence of feeding relationships is called \_\_\_\_\_.
15. Why are decomposers important to the environment? What do they do to help the environment?
16. A food chain contains oak trees (producers), mice (herbivores), black rat snakes (carnivores), and bald eagles (carnivores). How many trophic levels does this food chain have?
17. What are food webs?

18. The water cycle, in which water moves from the atmosphere, to the surface, below ground, and back, is also called the \_\_\_\_\_.
19. Fossil fuels are part of which biogeochemical cycle?
20. Where does most of the phosphorus cycle take place?
21. Each level in a food chain contains less energy than the one below it because some energy is \_\_\_\_\_.
22. The term biomass refers to total \_\_\_\_\_.
23. What is the term used for a diagram that shows how available energy is distributed among trophic levels in an ecosystem?
24. What does a biomass pyramid show?
25. What is the term used for a diagram that shows the number of individual organisms at each trophic level in an ecosystem?
26. A group of gray wolves living in Minnesota is an example of \_\_\_\_\_.
27. Which of the following can be both primary and secondary consumers?
- Herbivores
  - Carnivores
  - Omnivores
  - Detritivores
28. Why are bacteria important in the nitrogen cycle?
29. What is a detritivore?
30. Define an ecosystem.
31. List the processes involved in the hydrologic cycle.
32. A pyramid of numbers is used to show \_\_\_\_\_.
33. All of the organisms that inhabit the savanna make up a (n) \_\_\_\_\_.
34. Why are producers important to ecosystems? What do they do?
35. What are two processes by which autotrophs make food?
36. If a keystone species is removed from an ecosystem, what happens to the ecosystem?

### Short Answer Review

Food Web Diagram

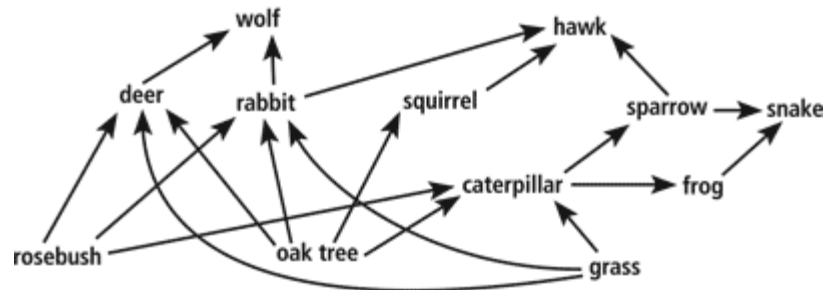


FIG. 13.3

37. What do the arrows in Figure 13.3 represent?
38. List all the heterotrophs shown in the diagram.
39. Identify one food chain in the diagram.
40. If caterpillars were removed from the ecosystem, which organisms would be affected? How?

**This is not an all-inclusive list of what is on the test. There will be one more short answer question.**

- Make sure to review what an energy pyramid is.
- Be able to recognize where secondary consumers fall in an energy pyramid.
- Be able to recognize the energy available at each consecutive level.
- Be able to compare energy pyramids and biomass pyramids.
- Be able to recognize why pyramids are actually shaped in a triangle shape.