

Ecology Unit Study Guide

Chapter 2

1. What is ecology?
2. What are examples of biotic factors? Abiotic factors?
3. In a food web, be able to:
 - a. determine how many food chains make up that food web.
 - b. identify each organism that makes up each food chain (autotrophy/producer, heterotroph/consumer).
 - c. determine how many trophic levels make up each food chain and what trophic level each organism belongs to.
 - d. calculate how much energy each organism in a food chain receives.
 - e. predict what will happen as a result of the removal of one of the organisms in a food chain.
4. As energy passes from one trophic level to the next, how much energy gets passed on to the next trophic level? What happens to the rest that is not passed on?
5. What is the difference between an organism's habitat and its niche?
6. How do water, nitrogen, and carbon dioxide go from the biotic (living) to abiotic (nonliving) parts of the biosphere? Abiotic to biotic?
7. What is the importance of autotrophs (producers) and decomposers in regards to an ecosystem's stability?
8. What is symbiosis? Be able to identify the 3 different types.

Chapter 3.1

9. What is the difference between primary and secondary succession?
 - a. When does each type occur?
 - b. Be able to identify each type of succession.
10. In a graph, be able to determine an organism's
 - a. optimum level.
 - b. its range of tolerance.

Chapter 4

11. What is carrying capacity? Be able to identify what affects a population's carrying capacity in terms of
 - a. biotic and abiotic limiting factors.
 - b. density-dependent limiting factors.
 - c. density-independent factors.
12. In a predator-prey relationship, be able to explain how each affects the other.
13. Be able to determine whether a population is increasing, decreasing, or staying the same based on
 - a. graphs of age structures
 - b. immigration and emigration
 - c. births and deaths

Chapter 5

14. What is biodiversity? Based on data given, be able to
 - a. calculate what area has the greatest and least biodiversity
 - b. calculate the average population size
 - c. determine which species would most likely have the greatest chance of becoming extinct
15. On a map of the world, where would you predict to find the greatest biodiversity? Least biodiversity?
16. What are examples of habitat loss, habitat fragmentation, and habitat degradation? How does each affect a population?
17. What are examples of renewable resources? nonrenewable resources?
18. How do exotic species affect native species?
19. What are ways to protect and save our biodiversity?