Name _____ Period _____ Date _____

Chapter 13 and 14 Study Guide

1. List the levels of organization in ecology from the simplest to the most complex.
2. State the three methods used by ecologist to study our environment.
3. Define the terms abiotic and biotic.
4. State the first level of organization of an ecology that has both abiotic and biotic components.
5. Describe how the removal of a keystone species may affect the biodiversity of an ecosystem.
6. Explain how a change in an abiotic factor, such as too much sunlight, could change the biodiversity of an ecosystem.
7. State the main source of energy for producers on earth.
8. Match the following terms together: autotroph, consumer, heterotroph, and producer.
9. State the name of the organism that uses chemicals to produce food for itself.
10. Give an example of a food chain that includes a producer, and primary through tertiary consumers.
11. Compare a food chain to a food web.
12. Describe what happens to most of the energy that passes through a food web. State the name of this rule.
13. In an energy pyramid, where is most of an ecosystem's energy stored?
14. Ecosystem's energy flow can be modeled as pyramids. Explain which pyramid model best represents how energy is passed from one trophic level to another.
15. State the names of the four biogeochemical cycles and outline why each is important to life.
16. Explain why a farmer may plant legumes such as peas to improve the nitrogen level in the soil of the farm.
17. Outline the three parts that are included in an organism's niche.
18. State the definition of competitive exclusion principle.
19. Describe one possible outcome when two organisms try to occupy the same niche.
20. State the three ways organisms can interact with one another.
21. Outline an example of each type of symbiosis (uses example from the text and video).
22. Outline the three ways a population can be described.
23. Outline the three types of survivorship curves.
24. Describe an advantage and disadvantage of the giant panda's Type I survivorship curve.
25. Climate change may destroy the giant panda's habitat in the next 60 years. Explain how the panda's reproductive strategy may contribute to its extinction.
26. State the four factors that play a role in population growth.
27. Outline the difference between logistic and exponential growth.
28. Based on our discussion of human populations, deduce the type of growth the human race has shown over the last 2000 years.
29. Describe limiting factors to population growth.
30. State an example of a density-dependent limiting factor and density-independent limiting factor.
31. Compare and contrast primary and secondary ecological succession.
32. State the name of a species that is an important pioneer for primary succession?
33. Describe how a pioneering species helps ecological succession occur.