

Ecology: Chapter 3 and section 4.2 Review Biology 1

Key Ecology Terms:

Biotic and abiotic factors

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|------------|--------------|-------------------------------------|
| Ecology | habitat | parasitism |
| Ecosystem | niche | biomass |
| Species | producer | energy pyramid |
| Population | consumer | nitrogen fixing bacteria |
| Community | food chain | *succession (primary and secondary) |
| | food web | *climax community |
| Carnivore | symbiosis | |
| Herbivore | mutualism | competitive exclusion principle |
| Omnivore | commensalism | *limiting nutrients |
| | | *Primary productivity |

Objectives:

- 1) List the characteristics of living things as well as any vocabulary term associated with them that we went over in class.
- 2) What is the difference between a dependent (responding) variable and an independent (manipulated) variable?
- 3) Describe the relationship between species, populations, communities and ecosystems.
- 4) List the trophic levels we mentioned in class and the differences between them
- 5) Describe the niche of decomposers in an ecosystem.
- 6) Explain the relationship between the niches or organisms and competition. Explain the difference between inter- and intraspecific competition.
- 7) Know how to read a food chain or food web.
- 8) Draw a simple food web and describe the trophic level of particular organisms within the food web.
- 9) Differentiate between the different types of community interactions. Also give examples of the different types of symbiotic relationships
- 10) Be able to explain how and why available energy and biomass decreases as you travel up the food chain. Be able to calculate how much energy is passed on (in calories) at each step of the energy pyramid as well.
- 11) Understand the major cycles (**nitrogen, carbon, and water**) and describe the role that they play in an ecosystem. Be able to identify the major processes of each cycle. **STUDY YOUR CARBON CYCLE ASSIGNMENT.**
- 12) Describe the niches of the different types of bacteria in the nitrogen cycle (nitrogen-fixing, denitrifying, and decomposer bacteria)
- 13) Describe the difference between biotic and abiotic factors and be able to list some important abiotic factors. Describe how abiotic and biotic factors can influence the composition of a community.
- *14) Describe the process of ecological succession and explain the difference between primary and secondary succession.
- *15) Explain what is meant by a climax community? How is the climax community determined by abiotic factors?
- *16) What is *primary productivity*? How is it influenced by limiting nutrients? How would an increase in primary productivity affect the biomass of the tertiary consumer level in a community? Explain.

* = information you are responsible for looking up on your own. It will NOT be a major component of the test, but it will be on there!