Biology Ecology Study Guide

1. Define ecology-

2. Differentiate between biotic and abiotic factors. Give an example of each.

3. What are the levels of organization ecologists are concerned with? (atoms make molecules, molecules make cells, etc)

4. Differentiate between heterotrophs and autotrophs and provide an example of each.

5. List and describe the 5 types of heterotrophs (think of your food web).

6. How can competition be reduced?

7. Describe how predator and prey populations affect one another.

8. Define the following and provide an example for each:
    a. Mutualism
    b. Commensalism
    c. Parasitism

9. Describe the affects an invasive/nonnative species may have on a habitat/ecosystem.

10. Create and explain an exponential growth graph and a logistic graph.

11. Describe the concept of carrying capacity. Include a graph to explain this concept.

12. What are density dependent factors and how do they keep populations "in check"?

13. Thinking back to your owl pellet lab, describe what may happen if the mice in the owls area were removed. Describe any and all consequences.

14. How does carbon cycle through an ecosystem?

15. How does nitrogen cycle through an ecosystem? Explain the importance of nitrogen fixing bacteria.

16. Where does energy originate and how does is move through organism trophic levels? Explain the 10% rule in relation to the energy pyramid.

17. How do adaptations (such as transport and excretion, respiration, nutrition, and reproductive) aid organisms in survival success?

18. Differentiate between structural, behavioral, and reproductive adaptations and provide an example of each.

19. Differentiate between innate and learned behaviors.

20. List and describe the 4 types of learned behaviors discussed in class.

21. Describe two methods in which we are attempting to preserve, protect, or increase biodiversity in particular areas.

Vocabulary- only focus on the ones you DO NOT know very well. Define and give examples on at least 15 vocabulary words that you do not understand.

Abiotic
Biotic
Food chain/web
Heterotroph
Autotroph
Decomposer
Producer
Consumer
The Water Cycle
The Carbon Cycle
The Nitrogen Cycle
Nitrogen Fixing Bacteria
The Greenhouse Effect
Adaptation
Innate
Learned
Suckling
Taxes/Taxis
Migration
Hibernation/Estivation
Habituation
Imprinting
Classical Conditioning
Trial and Error
Predator
Prey
Competition
Symbiosis
Mutualism
Parasitism
Commensalism
The 10% Rule
Deforestation
Bioaccumulation
Invasive Species
Acid Rain
Erosion
Urbanization
Waste Lagoons
Conservation