

Reading Guide Packet: Chapter 4: Ecosystems

Biology B

Name _____ Period _____

Ch 4.1: Energy, Producers, and Consumers

1. What is the relationship between *autotrophs* and *primary producers*?
2. Compare and contrast *photosynthesis* and *chemosynthesis*.
3. What is a problem with categorizing consumers into categories?

Ch 4.2: Energy Flow in Ecosystems

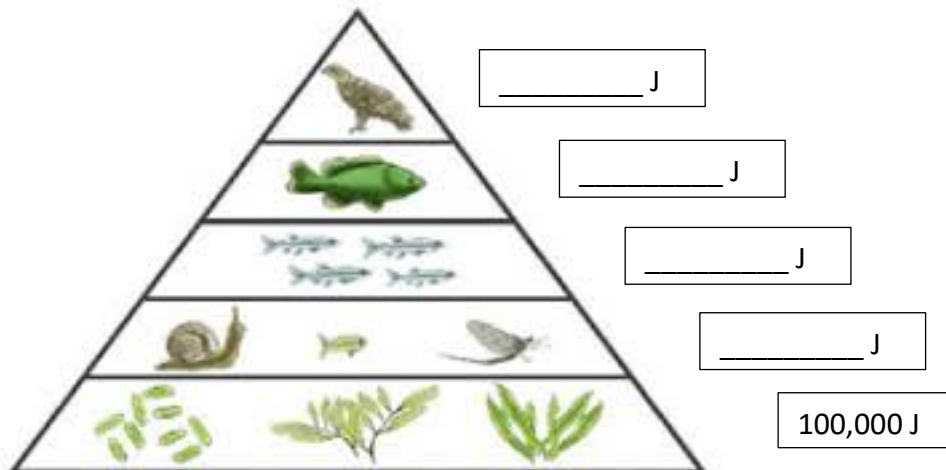
4. How does energy move in an ecosystem?
5. How is a *food chain* different from a *food web*?
6. What is the role of *decomposers* and *detritivores* in food webs?

Reading Guide Packet: Chapter 4: Ecosystems

Biology B

7. Why does the energy available at each *trophic level* in a food chain or food web create an *pyramid of energy*?

8. In Figure 1 below, fill in the blanks with the amount of energy that would be available at each trophic level.



9. How is a *pyramid of biomass* different from a *pyramid of energy*?

10. Why is it that sometimes a *pyramid of numbers* does not actually look like a pyramid?

Ch 4.3: Cycles of Matter

11. How does matter move in ecosystems?

12. Name 1 biological process and 1 human activity that drive *biogeochemical cycles*.

Reading Guide Packet: Chapter 4: Ecosystems

Biology B

13. What is a *nutrient*? Which *nutrient cycles* are especially important for life?

14. What is a biological process that drives the *carbon cycle*?

15. What is a human activity that drives the *carbon cycle*?

16. What is *nitrogen fixation*? Why is it important for life?

17. How do *limiting nutrients* affect ecosystems?