Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Class Period:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**P-AP Ecology Exam Review**

**\*\*Review key vocabulary\*\***

*(Abiotic, Biotic, Species, Population, Community, Ecosystem, Biome, Biosphere, Carrying Capacity, Limiting Factors, Omnivores, Detritivores, Carnivores, Herbivores, Producers, Consumers, Nitrogen Cycle (nitrogen fixation), Carbon Cycle, Water Cycle, Symbiotic Relationships, Primary Succession, Secondary Succession, Pioneer Species, Climax community)*

**Define the following symbiotic relationships and give an example of each:**

1. Parasitism-

Ex.-

2. Mutualism-

Ex.-

3. Commensalism-

Ex.-

4. Competition-

Ex.-

5. A flower is pollenated by an insect that feeds on its nectar- what type of symbiotic relationship is this?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6. Name two abiotic and biotic factors that could affect the size of a population in an ecosystem.

7. \_\_\_\_\_ % of energy is passed from one trophic level to the next while \_\_\_\_\_% of energy is lost as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

8. Why do the trophic levels get smaller as you move up the ecological/biomass pyramid?



**Using the diagram below answer questions 9-14**

9. What is the original source of the energy in the ecosystem below?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. What trophic level is the plants?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. What trophic level is the mice?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. What trophic level is the snake?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. What is missing from the food web?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. What would happen to the rabbit population if all the fox died?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Label the trophic levels above (A-D)- then answer questions (15-17)

15. Which level includes small carnivores?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. Which level includes herbivores?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. Which level would be considered to have the smallest biomass?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18. Referencing the food web above, complete the following: ----- A. **circle** the trophic level that contains the greatest amount of biomass B. put a **box** around the trophic level that would have accumulated the largest amount of a pesticide such as DDT if it were introduced into this ecosystem.

19. What is nitrogen fixation? Why is it important?

20. Fill in the Venn diagram comparing and contrasting primary and secondary succession. You will use the following statements to fill the Venn diagram:

* Last stage Hardwood trees
* Takes longer to establish
* Types of succession
* Soil
* Bare rocks
* Root systems left over
* Caused by events like lava flows
* Abiotic factors
* Caused by events like forest fires
* Pioneer plants
* Less time to grow back



21. Name the pioneer species for primary succession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

22. Identify three factors that might limit Carrying Capacity.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



23. What abiotic factor is being recycled in the diagram to the left?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

24. Explain how carbon moves from autotrophs -> consumers -> decomposers. What role do fossil fuels play?