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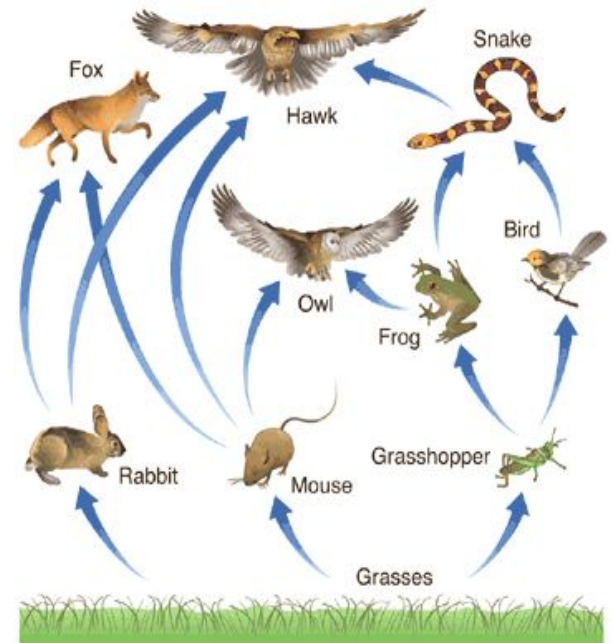
Study guide-Ecology

Apalachee High School, Biology

Define the following:

1. Autotroph
2. Heterotroph
3. Decomposer
4. Food chain
5. Food web
6. Biodiversity
7. Niche
8. Transpiration
9. Condensation
10. Nitrogen fixation
11. Denitrification
12. Eutrophication
13. Population density
14. Carrying capacity
15. Symbiosis
16. Limiting factor

Use this diagram to the right to answer 17-26



17. What is the producer in the food web?
18. The hawk is on two trophic levels. What are they?
19. Name an herbivore from the food web.
20. Name a carnivore from the food web:
21. Name an autotroph and a heterotroph from the food web.

22. Which trophic level contains the most energy?

23. What provides the Earth's energy?

24. How much energy is passed from one trophic level to the next?

25. List the organisms in a food chain that begins with grass and ends with the hawk, AND has FIVE trophic levels.

Grass → _____ → _____ → _____ → Hawk

26. a. Using the food chain from question 25, identify the trophic level for each organism. Write the trophic level beneath the organism.

b. Use the organisms from the food chain to create an energy pyramid.

27. Give an **example** of the 3 types of symbiosis. Tell which organism benefits and what happens to the other organism.

28. Complete the following chart on photosynthesis and cellular respiration:

	Definition of the Process	Chemical Equation	Where does the process occur? (cell organelle)
Photosynthesis			
Cellular Respiration			

29. Draw and label the parts of the water cycle. Include evaporation, transpiration, condensation, precipitation, runoff, and seepage.

30. Draw and label the carbon cycle. Include respiration, photosynthesis, feeding, waste excretion, burning fossil fuels (*combustion*), fossil fuel formation, decomposition.

31. What is the relationship between photosynthesis and cellular respiration? (Think about the carbon cycle.)
32. Where is phosphorus found?
33. What purpose do symbiotic bacteria in the roots of some plants have in the nitrogen cycle?
34. How are decomposers important to the nutrient cycles? What are examples of decomposers?
35. If a cat eats a mouse, what is the prey? _____ The predator? _____
36. Give 2 examples of a density-dependent limiting factor and two examples of density-independent limiting factors.
37. Give 2 examples of renewable resources and 2 example of nonrenewable resources.
38. What 4 factors affect population growth rate?
39. Draw a graph showing exponential growth and one showing logistic growth. Label carrying capacity. Which one represents human growth?
40. a. What is the difference between primary and secondary succession?

b. What are pioneer species?

c. What is a climax community? Why does it take time for the climax community to grow?

d. What are the stages of plants that move in after the pioneer species?

41. Describe the following and provide a solution:

a. Global warming and climate change:

b. Invasive(nonnative) species:

c. Deforestation:

d. Ozone depletion:

42. What is biological magnification? Give an example.

43. Give the main characteristics of the following biomes:

Tundra	
Deciduous Forest	
Desert	
Taiga	
Temperate Grassland	

Tropical Rainforest	
Freshwater	
Open Ocean	
Rocky Intertidal	
Estuaries	

44. **How does biodiversity relate to ecosystem stability?**