Biomes and Ecology Test Study Guide

Important terms: population, food chain, food web, energy pyramid, herbivore, carnivore, omnivore, producer, consumer, decomposer, scavenger, parasite, host, predator, prey, symbiosis, mutualism, commensalism, parasitism, competition, limiting factor, extinction, carrying capacity, community, individual, niche, biome, population, biomass

1. What is a limiting factor? Give examples.

2. Explain the flow of energy in a food chain or food web.

3. In which biome would you find caribou, mosquitoes, lichen, and snowy owls?

4. What is the major characteristic of abiotic features? Give examples.

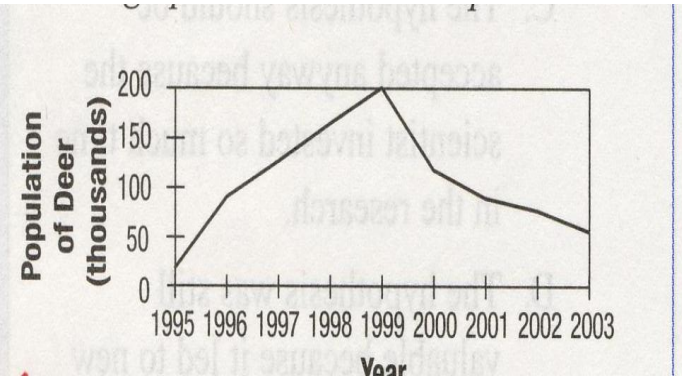
5. What is a pioneer species?

6. An organism found in an ecosystem breaks down dead plants and animals. In the process, it releases carbon dioxide into the atmosphere. This organism is MOST LIKELY a what?

7. Which process removes carbon from the atmosphere?

8. A marsh experiences a sudden, unusual freeze. Many organisms die as a result. The freeze can be considered what type of ecological factor?

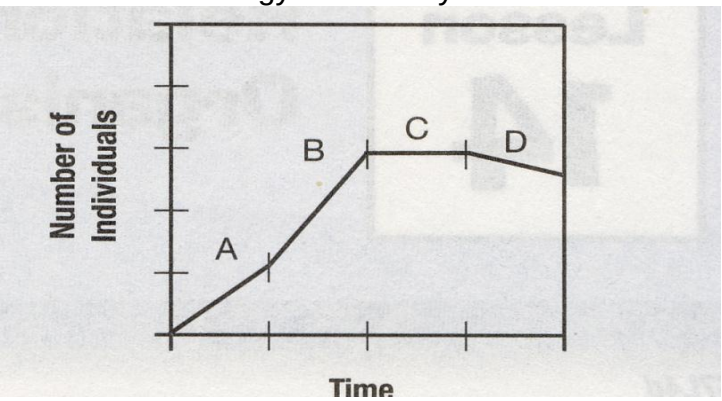
9. Which trophic level in an energy pyramid has the greatest amount of available energy?



10. Look at the diagram above. What trends do you observe? What might have happened in 1999?

11. Two populations with limited resources experience what limiting factor?

12. To be a producer, an organism must be able to do what?



13. Which interval on the graph represents the carrying capacity?

14. Predator is to prey as parasite is to _____.

15. The primary factor used to classify biomes is its _____.

16. Which two biomes receive the LEAST amount of precipitation?

17. Which forest biome is found closest to the equator?

18. To which biome do streams, rivers, and lakes belong?

19. Why are photosynthetic plankton found only near the surface of the oceanic zone?

20. Which is the northernmost biome?

21. Think about the carbon cycle. What is one way that plants benefit from animals?

22. What group of organisms can BEST be described as recyclers in an ecosystem? Give examples.

23. In which zone of the ocean would you expect to find tidal pools and organisms that can survive both in water and on land?

24. One characteristic feature of tundra is that only the surface thaws in the summer and refreezes in the winter, leaving a layer of permanently frozen subsoil. What is this frozen layer called?

25. Grasslands and savannas are biomes that are very valuable as areas for farming and grazing livestock. In the United States, these biomes are mostly found in what part of the country?

26. What leaf sizes can capture the MOST sunlight? In which biome would you find these types of leaves?

27. A biology class on a field trip traveled just a few miles to observe examples of three major biomes; temperate deciduous forest, a coniferous taiga forest, and a tundra environment. Where were they probably traveling?

A. Along the Georgia Blue Ridge Trail
B. In northern Canada
C. In the mountains of Colorado
D. along the US-Canada border

28. What type of organism is likely to be at the beginning of a **fresh water** food chain or food web?

29. Put these in order from most specific to most inclusive: community, individual, niche, biome, population.

30. Why is energy lost as it moves from producers to primary consumers?

31. What are some possible factors that would make the growth rate in a population of sheep slow down?

32. What is a relationship in which two organisms both benefit from their association?

33. What is ecological succession?

34. What are some of the characteristics of the tundra?

35. In a plains community, the population with greatest biomass would be which of these: hawks, foxes, prairie dogs, or grasses ?

36. Which biome has low rainfall, gravel-clay-sandy soil, and hot-to-cold temperatures?

37. *grass → grasshopper → snake → hawk*
Which of the living things in the food chain is a producer? Secondary consumer?

38. Use the organisms pictured in the ecosystem below to construct a food chain.

Food Chains