

Name _____

Due Date _____

Ecology Review Packet

How the world works

A. Introduction

1. Define **ecology** _____

2. Explain the difference between **biotic** and **abiotic** factors _____

3. Name five **abiotic** factors that are important in all ecosystems

4. Explain what is meant by a **limiting factor** and give an example

5. A single living thing is called an _____

6. A group of the same species in a given area is known as a _____

7. All of the different biotic factors in a given area is called a _____

8. All of the different biotic and abiotic factors in a given area is called a _____

9. Large regions that have similar climates and inhabitants _____

10. Any region on earth that contains life is part of the _____

11. Nutritional classification of organism:

a. Autotroph: _____

b. Heterotroph: _____

12. Define the following:

- a. Producer _____
- b. Consumer _____
- c. Herbivore _____
- d. Carnivore _____
- e. Omnivore _____
- f. Detritivores _____
- g. Predator _____
- h. Scavenger _____
- i. Decomposer _____

B. Energy flow through an ecosystem

13. Nearly all of the energy on earth comes from the _____ and is converted into _____ by _____ during the process of _____

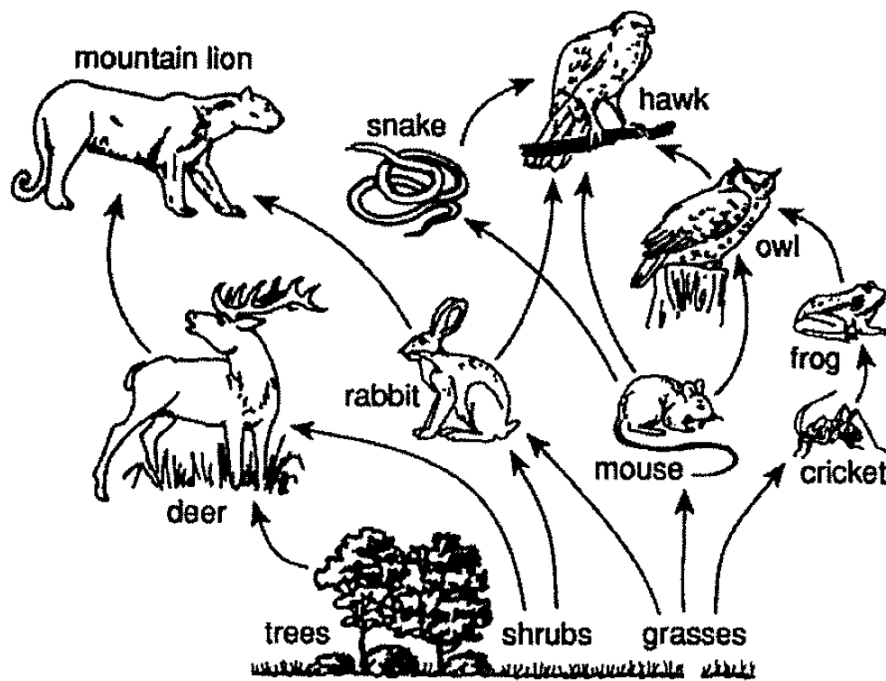
14. Define **niche** _____

15. Explain why **food webs** are used to study ecology

16. Explain why food chains and webs must **ALWAYS** start with a **producer**

17. What do the **arrows** in food webs represent? _____

18. Describe the significance of **decomposers** in an ecosystem. _____



19. Explain the significance of the trees, shrubs and grasses in this ecosystem _____

20. What type of relationship exists between the hawk and the mouse? _____

21. List all of the **primary consumers** in this ecosystem _____

22. Predict what would happen to the snake population if all of the mice were removed

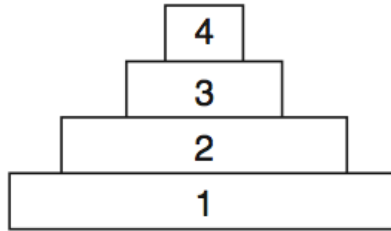
23. Predict what would happen to the grass population if all of the hawks were removed

24. The pyramid of energy illustrates the loss of usable _____ at each trophic level

25. _____ percent of energy is passed from one trophic level to the next. _____ percent of energy is lost to the environment as _____.

26. Besides usable energy, what else decrease as you move up trophic levels in the ecological

pyramids (think of the other 2 types of pyramids) _____



27. Which level of the pyramid contains the **producers**? _____

28. Which level contains the **herbivores**? _____

29. What would occur if the biomass of level 3 became larger than level 1? _____

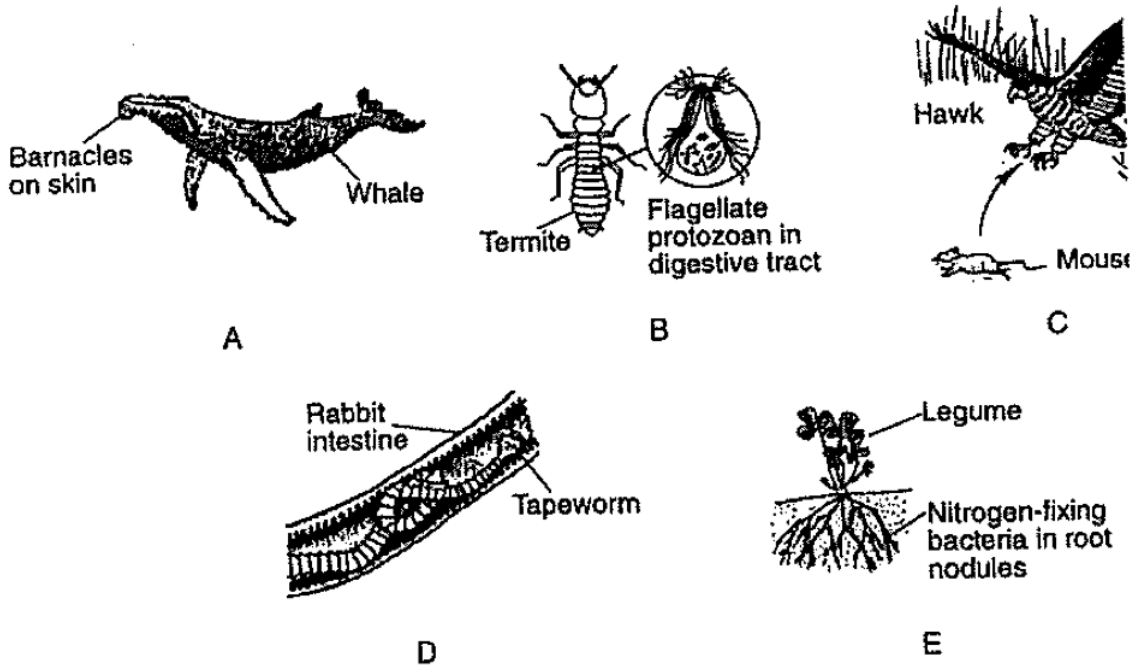
30. Why do most food chains/pyramids typically not go further than 4 trophic levels?

C. Symbiosis

31. Describe what is meant by **symbiotic** relationship _____

32. The three **types** of **symbiotic** relationships are:

33. **Describe** each type of symbiotic relationship listed above



34. Describe the type of relationship shown in each of the pictures above:

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

D. Biomagnification

35. Describe **Biomagnification** and how organisms are affected differently at different trophic levels

36. Identify some common chemicals that are accumulated in animal tissue and why is this?

E. Succession

37. What is the difference between **primary** and **secondary** succession? _____

38. Identify a **pioneer** species and describe what this term means _____

39. Describe what a **climax community** and at what stage of succession are they found?

40. Why is **biodiversity** important?

41. What is meant by **carrying capacity** and what occurs if a population exceeds this?

F. Biomes

42. The fundamental classification of biomes are:

a. _____ (land) biomes which includes grassland, tropical rainforest, temperate and tundra

b. _____ biomes (including freshwater biomes and marine biomes)

43. Which biome is known for having the most biodiversity? _____

44. Which biome is known for having the most stable climate? _____

45. Which biome is characterized by drastic daily temperature fluctuations? _____

G. Human Microbiome

46. Describe the importance of the microbes found on/in the human body and why types of symbiotic relationships exist.

47. Why can the human body be considered an ecosystem? Compare what you know about natural ecosystems to what you learned about the microbiome.

H. Sayings:

48. DNA IS _____

49. SHAPE DETERMINES _____