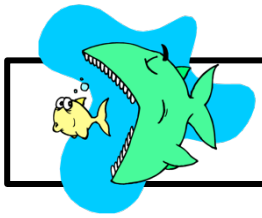


Name: Date:

Food Chains and Food Webs

Introduction: Ecology is the study of interactions that occur among living organisms and their environment. Ecosystems are composed of many different living organisms, as well as nonliving components with which they interact. Nonliving components might include air, water, temperature and soil. All living organisms on Earth need energy to survive, and they depend on each other to get this energy. Some organisms are capable of making their own food, while other organisms must obtain food by eating other living organisms. Food chains and food webs provide simple models that show the feeding relationships between the organisms in an ecosystem. By answering the questions and completing the activities below, you will master these essential concepts of ecology.

1. Food chains consist of producers and consumers. What are producers? _____

   _____

2. List three examples of producers. _____

   _____

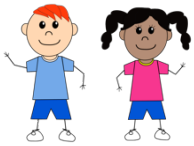
3. What are consumers? _____

   _____

4. List three examples of consumers. _____

   _____

5. Below are four categories of consumers. Define each of the terms used in the table below. Other than the example shown for each, give two additional examples for each category.

Type of consumer	Definition	Examples
herbivore 		
carnivore 		
omnivore 		
decomposer 		

6. Look back at question #5. Explain why all of the examples in the table are called "consumers."

_____

_____

7. Locate the page called "Table 1." This table contains pictures of 15 different living organisms. These organisms can be grouped into the following categories: producers, herbivores, omnivores, carnivores and decomposers. Cut out the pictures and tape them into the correct spaces below.

Decomposer			
Carnivore			
Omnivore			
Herbivore			
Producer			

8. Imagine a deer that lives in a meadow. What does the deer eat? _____

_____

_____

What eats the deer? _____

_____

_____

When the deer dies what happens to its remains?

_____

_____

9. All living things need energy. Where do consumers get their energy? _____

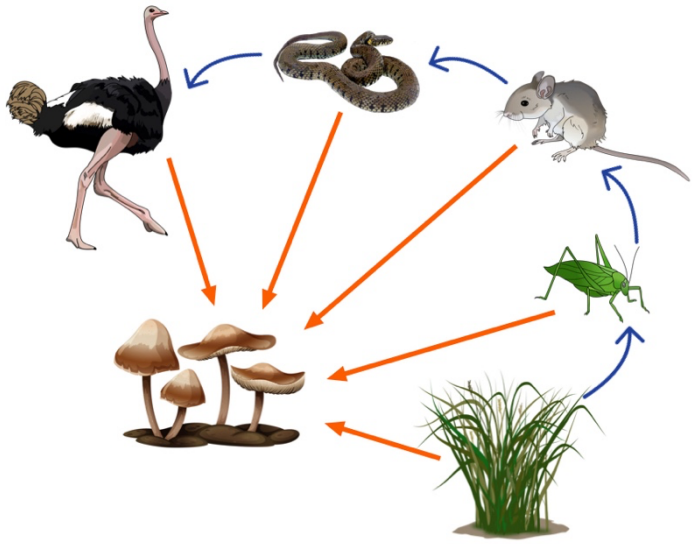
_____

Where do the producers get their energy? _____

10. Are you a herbivore, a carnivore, or an omnivore? Explain your answer. _____

_____

Directions: Use the picture to the right to answer questions 11 – 19.



11. This is an example of a food chain. In your own words, what is the definition of a food chain?

    _____

    _____

12. All food chains begin with a _____ and end with a _____.

13. What is the producer in this picture? _____

14. List a herbivore from this food chain. _____

15. According to this food chain, which organisms are carnivores? _____

16. This food chain shows a primary consumer, a secondary consumer, a tertiary consumer, and a quaternary consumer. Define each of these terms and list the organism from the food chain that matches your definition.

    Primary Consumer: _____

    _____

    Secondary Consumer: _____

    _____

    Tertiary Consumer: _____

    _____

    Quaternary Consumer: _____

    _____

17. Explain why there is an arrow leading from each organism to the mushrooms. _____

    _____

18. List two things that might happen if the snake was removed from this food chain. _____

    _____

19. What would be the result of removing the decomposers from the food chain? _____

    _____

20. Locate "Table 2." This table contains pictures of 12 different living organisms that live in three different ecosystems. The organisms can be arranged to form 3 different food chains. Cut out the pictures and place the organisms in the correct ecosystem and in the correct order to form a food chain.

Ocean				
Woodland				
Salt Marsh				

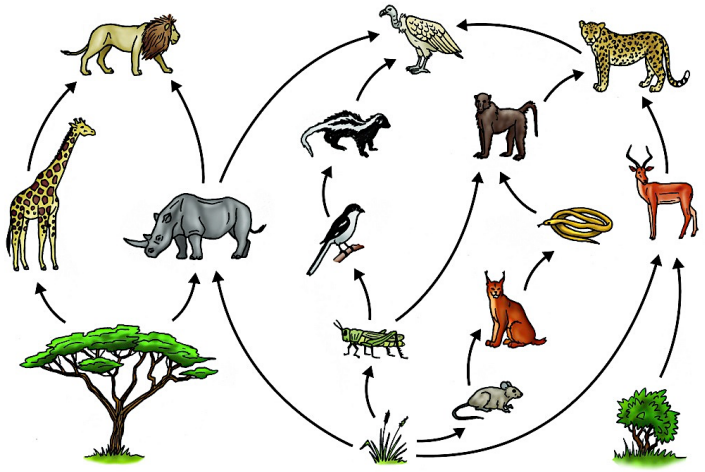
21. Locate "Table 3." This table contains pictures of 12 different living organisms that live in three different ecosystems. The organisms can be arranged to form 3 different food chains. Cut out the pictures and place the organisms in the correct ecosystem and in the correct order to form a food chain.

Arctic				
Desert				
Freshwater Pond				

22. Choose a meat product that you eat and construct a food chain that includes you as the final consumer.

_____

Directions: Use the picture to the right to answer questions 23 – 33.



23. This is an example of a food web. In your own words, what is the definition of a food web? _____

_____

_____

24. How is a food web different from a food chain?

_____

_____

_____

25. List the producers in this food web. _____

26. List the primary consumers in this food web. _____

_____

27. List three secondary consumers. _____

28. List three tertiary consumers. _____

29. List two quaternary consumers. _____

30. If grasshoppers were removed from this food web, which organism would suffer the most, the bird or the baboon? Explain your answer. _____

_____

31. What might happen in this ecosystem if the caracal (cat) was removed? _____

_____

32. What role does the vulture play in this food web? _____

_____

33. The vulture belongs to a group called "detritivores." What are detritivores? _____

_____

_____

34. What is the difference between a detritivore and a decomposer? _____

_____

_____

_____

35. Green plants are autotrophs and animals are heterotrophs. Based on what you know about food chains, give the definition of these new terms:

Autotroph: _____

Heterotroph: _____

36. Locate "Table 4." This table contains 18 organisms that can be found in and around a freshwater pond. Cut out all organisms in table 4. The picture below is an outline of a pond and the land surrounding the pond. Glue or tape the 18 organisms into the diagram below. Create a food web by connecting the appropriate organisms with arrows showing their position in the food web.