Lesson 8.2 Food Webs

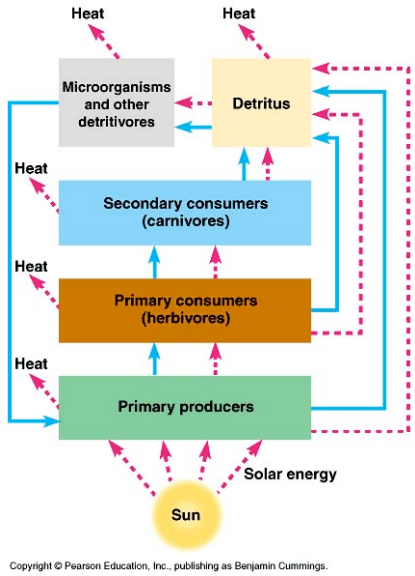
Name

Date

Period

Key Terms			
Detritus	Producer	Consumer	Decomposer
Food web	Carnivore	Herbivore	Keystone species
Trophic level			

Engage



1. What do you think an herbivore is?

2. What do you think a carnivore is?

3. What do you think detritus is?

4. Draw lines from the following terms to appropriate locations on this graphic.
- ❑ Producer / Autotroph
- ❑ Consumer/Heterotroph
- ❑ Decomposer / Saprophyte

5. Where does biochemical energy for all biomass ultimately come from?

6. Describe what happens to biochemical energy as matter cycles through each stage.

7. Which organisms return biomass to primary producers for reuse in the system?

Explore I: Food webs

A food web is a model ecologists create to express all possible feeding relationships at each trophic level in a community. Food webs are important because they allow each relationship an organism has in its community to be expressed. A food web, unlike a food chain, is not unidirectional because most organisms depend on more than one other species for food.

Examine the food web below

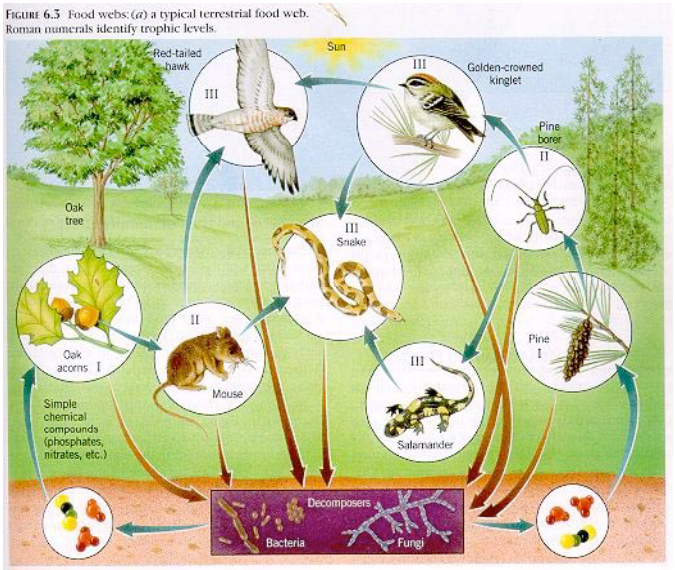


FIGURE 6.3 Food webs: (a) a typical terrestrial food web. Roman numerals identify trophic levels.

8. How many relationships are there in this activity (count)?

9. In this food web, identify a species that more than two other depend upon for survival (this is commonly called a *keystone* species)?

10. Which species would be affected if this species were to become extinct in this community?

11. In this food web, which group of organisms draws matter and energy from all other organisms?

12. Is the mass and stored biochemical energy of all of the producer organisms greater or less than the mass of all of the first level consumer organisms. Explain why.

13. Is the mass and stored biochemical energy of the second level consumers greater or less than the mass of the first level consumers. Explain why.

14. When a biochemical reaction occurs that releases energy, some of that energy is used to drive other biochemical processes (like building new molecules or making muscles contract). What happens to energy that is not trapped in new molecules or used to do work for the organism?

15. In the relationship between the golden-crowned kinglet and the snake, in which direction does energy flow? How do you know this?

16. In the relationship between the pine and the pine borer, in which direction does the energy flow?

Explain

ATTACH YOUR MEAL INVENTORY TO YOUR LESSON

List the origin of the foods that you have eaten over the last 3 days in the table below. In other words, where did the food come from. Under the classification column, identify each item as one of the following: a producer/ autotroph, a consumer/ heterotroph, or a decomposer.

DAY 1

Origin of Food consumed	Classification

DAY 2

Origin of Food consumed	Classification

DAY 3

Origin of Food consumed	Classification

17. In the space below, identify the organisms in your diet. Draw arrows between the organisms to represent the feeding relationships. Be sure to draw the arrows in the direction of the flow of energy. Refer to food web picture on page one.

18. Describe any patterns you see. Include in your description what impact you think your feeding patterns have on food webs.