

CHAPTER 2

MiniLab

Construct a Food Web

How is energy passed from organism to organism in an ecosystem? A food chain shows a single path for energy flow in an ecosystem. The overlapping relationships between food chains are shown in a food web.

Procedure

1. Read and complete the lab safety form.
2. Use the following information to construct a food web in a meadow ecosystem:
 - Red foxes feed on raccoons, crayfishes, grasshoppers, red clover, meadow voles, and gray squirrels.
 - Red clover is eaten by grasshoppers, muskrats, red foxes, and meadow voles.
 - Meadow voles, gray squirrels, and raccoons all eat parts of the white oak tree.
 - Crayfishes feed on green algae and detritus, and they are eaten by muskrats and red foxes.
 - Raccoons feed on muskrats, meadow voles, gray squirrels, and white oak trees.

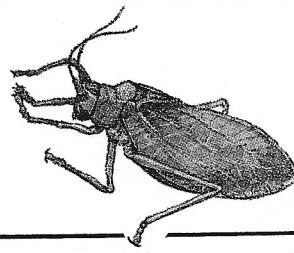
Data and Observations

Analysis

1. **Identify** all of the herbivores, carnivores, omnivores, and detritivores in the food web.

2. **Describe** how the muskrat would be affected if disease kills the white oak trees.

Food Web Analysis



Katydid

1. Classify each organism in the food web as a producer, consumer, or decomposer.
2. Name 3 organisms in the food web that are carnivores.
3. Given the rabbit and the fox, identify the primary consumer and the secondary consumer.
4. Which organisms in the food web are primary consumers?
5. Describe 1 food chain that is part of this food web. List its components.
6. Predict how frogs will be affected if the number of dragonflies in this food web suddenly decreases.
7. Add 1 or more organisms to this food web. How many additional links did this create? Explain.
8. Remove 1 organism from the food web. How many other organisms were affected? Explain.
9. Why is a complex food web better than a simple food chain for the survival of a community?

