

## ACTIVITY 16: FOOD CHAINS

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### Activity Summary

Students are given cards with pictures of organisms in a food chain. They are to arrange the cards in a "food chain" and be able to explain their arrangement.

### Introduction

While many students have heard of "food chains," this activity will help them to visualize the sequence of organisms that forms a food chain. They will see that different ecosystems and biomes have different organisms, but that food chains are similar in each place. The same niches (producer, herbivore, carnivore, scavenger, decomposer) are filled by different organisms. Since some animals may feed on a variety of organisms, the food chain can be more difficult to form than one might expect. This leads to the concept of the "food web." In addition to the basic set of organisms, additional optional ones, including humans, are provided.

One way to introduce this activity is to begin a discussion of vegetarianism with the students. Another way would be to pose the following problem:

The crew of a space shuttle bound for Neptune is able to grow wheat and corn in its spacecraft. Would the crew be able to support more crew members by:

1. eating the wheat and corn;
2. feeding the wheat and corn to chickens, then eating the chickens;
3. feeding the wheat and corn to chickens, then eating the chickens' eggs?

### Grouping

Teams of 5 students.

### Time

30–45 minutes, including discussion

### Anticipated Outcomes

The students will:

- be able to place five given pictures of organisms in a typical food chain in a logical sequence and be able to explain that sequence, orally or in writing.
- be able to define the following terms listed under "vocabulary" and use them appropriately when discussing the concept of energy in an ecosystem.

### Materials

—Photocopied student pages:

- 16.1 Food Chains: Background Information sheet (one per student)
- 16.2 Food Chains: Questions (one per student)

- Transparencies of food chains and a food web (made from masters provided)
- One set of laminated food chain cards for each team of students

### Vocabulary

abiotic	biomass	carnivore	consumer
decomposer	ecosystem	food chain	food web
herbivore	omnivore	photosynthesis	producer

### Teacher Preparation

1. Prepare food chain cards, either from the drawings on the following pages or from pictures cut from magazines, calendars, and so forth. You might consider having the students color the drawings before laminating. Consider simplifying the students' task of forming chains by color coding the cards, either by coloring the margins differently or by mounting each chain on a different color of paper or tag-board.
2. Familiarize yourself with the sequences. If you don't have even teams of five students, you might leave off the "abiotic" cards from some or all of the teams after explaining that the abiotic part of the environment is the basis upon which the food chains are built. You might also add organisms to one or more chains (for example, humans can be added to many chains, as can parasites such as mosquitoes).
3. Use the masters provided to make transparencies of food chains and a food web.
4. Photocopy the student Background Information sheet (16.1) and student Questions sheet (16.2).

### SAFETY CONSIDERATION

Remind the students to avoid pushing or shoving as they arrange themselves.

### Procedure

1. Discuss food chains with the students. Use transparencies made from the black line master to explain the concept.
2. Divide the class into teams of 4 or 5 students each.
3. Explain that this activity is to be done without talking.
4. Explain that their team's task is to arrange themselves into a logical food chain by lining up in order, from the abiotic to the last member of the food chain. (This might be a race.)
5. Issue the food chain cards to the students.
6. Have them arrange themselves silently.
7. When all the students have formed their food chains, have each student explain why he or she placed himself or herself at that point in the food chain.