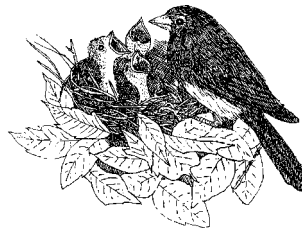




# Web It!

## Materials:

- ☆ package of unlined notecards
- ☆ food web list
- ☆ markers
- ☆ holepunch
- ☆ yarn



## Objectives

1. Identify the components of a food web with emphasis on Arkansas organisms
2. Examine the multiple interdependent relationships of food web components
3. Understand the effect of a disturbance on the complexity of a food web

## Procedure

1. Randomly distribute food web cards to students. Instruct them to wear the cards around their necks so that the names of the organisms are visible to the class.
2. Place the sun card around your neck.
3. Ask the students to think about the role of their organism in the food web. For example, is it a producer, consumer, or decomposer? What does it need to survive? What living things depend on the organism for survival?
4. Instruct the students to form a large circle facing inward. Explain to them that they will form a food web with a ball of yarn. Begin the food web by making the first toss to a student with a producer card. Explain that the sun is the source of energy for all living things, but only producers have the ability to harness the sun's energy.

NOTE: explain that nonliving things (such as the sun, soil, water, etc.) are not actually considered to be part of a food web.

5. The first student will now toss the yarn to a second student whose organism is dependent on a plant. The recipient may be a herbivore, omnivore, or decomposer. Continue this procedure. The student in possession of the ball of yarn must state whether he/she is a producer, consumer, or decomposer. If the student is a consumer, ask them to tell the group if they are a herbivore, omnivore, carnivore, or decomposer.
6. Toss the yarn until every member of the class holds at least one strand of yarn.
7. Discuss the appearance of the food web with the students. Is it simple? Complex?
8. Next, explain that a pesticide has destroyed all of the insects in the food web. The insects must drop their strand of yarn and step back from the web.
9. Now all of the creatures that were dependent on those insects for food die, and drop their strand of yarn.
10. The remaining members of the food web step back from the circle until the yarn is taut.
11. Examine the food web. How is it different from the first web?
12. Introduce another human

## Pre-Planning

With a permanent marker, write the name of each organism on unlined notecards. Punch a hole in each upper corner of the cards. Attach yarn to the cards so that they may be easily worn around the neck. **NOTE:** You may wish to make a set of food web cards appropriate to your specific natural division. Use old magazines (*National Wildlife*, *Audubon*, or other similar publications) to locate photographs. Cut the photographs out, affix to cards, and laminate for use from year to year.

## Rationale

An understanding of the intricacies of a food web is essential to the understanding of biological diversity. It is important that students not only understand the role of individuals within the web, but also the way in which they interact with one another to create a complex flow of energy



action that might further damage the food web. For example, build a shopping center and remove all of the trees. What impact will that action have on the web?

13. Facilitate a discussion about what happened to the food web, and why. How does the disruption of a food web affect biological diversity in Arkansas? Why is that diversity important?



### ***Extensions***

1. Introduce the affects of abiotic components to the food web (water, soil, specific climate conditions, etc.). Create disruption in the web with a drought, water pollution, application of dioxin to the soil, etc. Facilitate a discussion regarding the importance of non-living components to the health of a food web.
2. Place magazines on a table and let students choose any living thing they wish. Have them make their own food web cards from their choices. When they have completed their cards, attempt to form a food web. It is unlikely that the students will create a complete web, because most of them will probably want to be mammals. Follow this activity with the creation of a complete web using cards that you have prepared.



***Correlation to  
National Science Standards***  
Unifying Concepts and Processes  
Life Science

***Correlation to  
Arkansas Frameworks***  
Science: K-4: LS2.9, LS2.10  
5-8: LS2.11 9-12: LS2.13, LS2.10

## ***Suggested Upland Forest Food Web***

**NOTE:** remember that trees may serve as habitat for animals, and that insects as well as mammals eat the foliage of many plants. For example, white-tailed deer enjoy the tender new shoots of greenbrier.

**Puffball**-decomposer

**Soil bacteria**-decomposer

**Shortleaf pine**-producer; host of bark beetle

**White oak**-producer; acorn source for woodpeckers, blue jays, black bear, and white-tailed deer

**Mockernut hickory**-producer; source of hickory nuts

**Sassafras**-producer; source of berries

**Cat greenbrier**-producer; source of nectar and seeds

**Black-eyed susan**-producer; source of nectar and seeds

**Yellow honeysuckle**-producer; source of nectar and seeds

**Poison ivy**-producer; source of seeds

**Giant walkingstick**-consumer; plant tissue

**Periodical cicada**-consumer; plant juices

**Lubber grasshopper**-consumer; plant tissue

**Common ground beetle**-consumer; other insects

**Bark beetle**-consumer; plant tissue under bark

**Tiger swallowtail** butterfly-consumer; nectar

**Bald-faced hornet**-consumer; nectar

**Black widow spider**-consumer; preys on insects

**Lone star tick**-consumer; parasite

**American toad**-consumer; eats insects

**Black rat snake**-consumer; eats birds' eggs and small mammals

**Great horned owl**-consumer; eats small and medium-sized mammals, including rabbits

**Pileated woodpecker**-consumer; eats insects and acorns

**Blue jay**-consumer; eats a variety of foods ranging from nestling birds to acorns

**White-footed mouse**-consumer; prefers seeds

**Eastern cottontail rabbit**-consumer; eats green plants

**Black bear**-consumer; eats a variety of foods ranging from carrion to berries and nuts

**White-tailed deer**-consumer; eats plants, berries, and seeds