Web of Life
Classroom Activity

In this activity, the students will create a huge ecosystem and show how living and nonliving things depend on one another.

SYNOPSIS

Using string and index cards, students will create a food web. Students will be able to discuss the relationships among its members and the impact humans have on the entire system.

OBJECTIVES

Students will:

- recall the relationship between components of an estuarine ecosystem in a classroom game.
- observe and experience the interdependance of all components of an ecosystem.
- observe and identify the impact of trash on an ecosystem.

NGSS CONCEPTS

3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

MATERIALS

- Estuary Illustrations and/or Coastal Sage Scrub Illustrations
- ball of string or yarn
- clothespins
- bag of trash (fill with miscellaneous items)

PROCEDURE

1. Have each student select an Estuary Illustration. Have the class sit in a large circle. Tell the students the circle represents the ecosystem, and each person represents a different part of the ecosystem.
2. Using clothespins, have the students attach the cards to their clothing. The cards should be worn so all participants are clearly able to see them.
3. Ask the students to identify and describe which nonliving component is the most important to the survival of the living. Explain that the sun is the energy source for all green plants. Plants make up the beginning of all food chains. The person representing that part of the ecosystem will be the one to start the game
4. Give the ball of yarn to the person who represents plants. Instruct that person to look around the ecosystem and gently roll the ball of yarn (while holding the loose end) to a person who represents something that is affected by, or has any relationship to his/her element of the estuary. The person receiving the yarn then explains the relationship to everyone.

Web of Life
Classroom Activity (cont.)

PROCEDURES (continued)

5. Have the "receiver" hold the end of the yarn in one hand, and roll it to someone who represents a component of the ecosystem which has some relationship to him/her. That recipient then states the relationship, holds his/her end of yarn and rolls the ball of yarn to another person. Continue this process until all students are a part of the "web.
6. Add a weighted bag of "trash" to the center of the completed web to represent pollution. Ask students to tug gently on the string if they feel the weight of the "trash." Ask the students to explain whether or not all components of an ecosystem are impacted by the pollution. Why?

NOTE: To avoid knotting, have students hold the yarn taut, close to the floor or ground.

CHECK FOR UNDERSTANDING

1. Ask students, "What is found in a food web?"
2. Have students choose several elements from the food web and describe the relationship among them.
3. Choose a specific plant or animal to remove from the web.
4. Ask students, "If this plant or animal were to become extinct, what is likely to occur in our food web?"
5. Define endangered species.

EXTENSIONS

- Compare the Estuary and the Coastal Sage Scrub food webs.
- Have the students research other plants and animals that could be added to their food webs.
- The students could research their part of the ecosystem before starting the activity.