

Legacy Ecology Lesson Plans(Grades 3-5)

THE WEB OF LIFE

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SUBJECT: Science

TIME: One class period.

MATERIALS

construction paper

markers

scissors

tape string

science journal

cards for each group with the following words:

bird, dragonfly, frog, mosquito, water plants, minnows, molds, bacteria

OBJECTIVES

The student will be able to:

1. Define the term "food web."
2. Explain what happens when food chains overlap in an ecosystem.
3. Name the three components of a food web in an ecosystem.

BACKGROUND

Almost everything in nature works in a cycle. Plants and animals live, die, and decompose only to be recycled again. In nature the plants or producers make the food. Animals eat the producers or other animals.

- An animal that eats only other animals is called a carnivore.
- Animals that eat only plants are called herbivores.
- Omnivores are animals that consume both plants and animals. As each living thing eats another, energy and materials are passed among them. The path that passes this energy and material is called a food chain. Since most animals eat more than one specific food, then most animals belong to more than one food chain. When two or more food chains overlap, they connect plants and animals by the plants and animals they eat. This is known as a food web. Within a food web, each member depends on another member. If one member changes, then the rest of the web will change in some way. Every part of the web depends on decomposers to return materials to the soil, air, water and start the cycle over.

VOCABULARY

carnivore- an animal that eats only other animals

consumer- an organism that obtains energy by eating other living things(Animals are consumers.)

decomposer- an agent that breaks down the bodies of dead organisms

ecosystem- all the communities that live together in an area including the water, soil and climate

food web- two or more food chains that overlap, connecting plants and animals through the plants and animals they eat

herbivore-a plant-eating animal

omnivore-an animal that eats both plants and animals

producers- organisms that make their own food and are the beginning of a food chain

ADVANCE PREPARATION

1. Copy Information Sheet for each group
2. Prepare cards with the following words for each group: bird, dragonfly, frog, water, plants, mosquito, minnow, bacteria, and molds.

PROCEDURE

(Setting the stage)

1. Guide the students to discuss the meanings and differences of producers, herbivores, carnivores, omnivores, and decomposers that represent populations in a community.
2. Ask students to predict what would occur if two food sources disappeared in a food web.

(Activities)

1. Allow students to make a food web model.

- Divide the class into two teams.
- Ask one student from each team to serve as the scorekeeper• Place a plant card on the board.

- Have the first team tape a herbivore card on the board, linking it to the producer card with yarn.

- Have a second team:

Link an omnivore or carnivore to the herbivore

Start another chain with another herbivore card.

Start a different food chain with another plant card.

- Continue to have teams place cards on the board earning a point for each correct card.

- Continue to play until each team member has had a turn.

- Determine the winning team by the largest number of correct cards.2. Prepare a Hanger Web.

- Provide a coat hanger for each student or small group

- Cover and decorate the body of the hanger to represent the environment in which the members of this food web would be found.

- Hang the food web stages from the bottom of the hanger. Use different lengths of string, wire, or thread.

- Display each model.

- Have students in small groups place the cards marked with different components of a food web in order on a piece of poster board.

- Place arrows for the steps of a food web in the proper arrangement.

(Follow-Up)

Ask Students to brainstorm why food webs are usually more stable than food chains.

- Lead them to conclude that predators in a food web would have other food sources if one food source became less abundant or became extinct.

- Have students work in small groups to design a web drawing to summarize the concept of a food web.

EXTENSIONS

1. Make a poster of a food web in the area.

2. Read *Why Save the Rain Forest?* by Donald Silver

3. Have students read about life downtown and in a city park in *The City Kid's Field Guide* by Ethan Herberman.

- Then have students classify things found in each area.

- Classify organisms as producers, decomposers, herbivorous, carnivorous, omnivorous.

RESOURCES

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Ecology.(1989). World Book Encyclopedia.(Volume E, p.51). Chicago, IL: World Book, Inc.
Gega, P.(1982). Science in Elementary Education. New York, NY; John Wiley and Sons, Inc.

Guy, R.(1989). Discover Science. Glenview, IL: Scott Foresman and Company.

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