Food Web Game

Suggested Curriculum links (Grade 7)

Life Science: Interactions with Ecosystems

- **304-2** identify the roles of producers, consumers, and decomposers in a local ecosystem, and describe both their diversity and their interactions
- **306-1** describe how energy is supplied to, and how it flows through, a food web
- **306-2** describe how matter is recycled in an ecosystem through interactions among plants, animals, fungi and microorganisms

Materials

- Paper
- Yarn
- String
- Hole puncher
- Pens/markers

Designed and produced by:

URCHIN KITS LTD.

Box 23099,
Churchill Square
St. John's, NL,
A1B 4J9

Overview

This is a class activity that should be done following a discussion on food webs. Students act out a food web demonstrating how everything is linked together.

Objectives

- To explore the interconnectedness of food webs

Procedure

1. *Discuss the concept of food webs.*
   The following points may be used as a guide in preliminary discussion before name tags are made:

   Sun is needed for plants to grow.

   Plankton are mostly microscopic plants (phytoplankton) and animals (zooplankton).

   Producers are plants which use the energy from the sun to produce their own food.

   Consumers are organisms that must get their food from the biotic environment by consuming other organisms.

   Herbivores are animals that eat plants.

   Carnivores are animals that eat other animals.

   Omnivores are animals that eat plants and other animals.

   Predators are carnivores that hunt live prey. There are very few predators and many more producers and herbivores.

   Scavengers are animals that eat decaying animals and waste materials.

   Decomposers are organisms that break down dead and waste materials into basic parts.

2. *Prepare materials for the game.*
   Students each make a name tag for themselves (using paper, markers, string and the hole puncher), putting on it the name of some plant or animal of the freshwater community. The game could be played

At the Fluvarium
Join us for *Environmental Interactions!* This program introduces intermediate students to the various relationships between organisms and their habitat. Students will examine various relationships within natural communities and investigate the interactions between biotic and abiotic factors found there. The role of producers, consumers and decomposers within food chains and webs will also be examined

twice – once using plants and animals from a particular freshwater community such as the pond; again using plants and animals from any of the freshwater communities. By including several communities the second time, students will see how communities are linked together. One student should represent the sun.

3. *Play the game.*
   To begin the activity, have the students sit in a circle and give a ball of yarn to the student representing the sun. This student is then asked to pass the ball to someone in the circle who needs the sun to grow (a plant). That student in turn must pass the ball to someone who eats this plant. He/she in turn passes the ball to someone who eats or is eaten by that animal. The ball continues to be passed in this manner.

   A student may be passed the ball more than once. Try to ensure that each student is included. At the end. The students will have created a food web that almost looks like a spider web.

4. *Discuss the activity with the class while holding onto the food web.*
   Discuss the following points: 1) A plant or animal may be eaten by several different animals. 2) An animal may eat several different animals. 3) Pretend that some environmental accident eliminates one species of herbivore. Have the student representing that animal tug on the yarn by raising his/her hand. How many animals are affected? Try eliminating different plants or animals in this way to show how dependent each animal in the community is on other plants and animals.

Extensions

- Introduce an "invasive species" to the food web that out competes a local species. What happens to the food web?

Resources

Websites

Cool Classroom: Food web game
http://www.coolclassroom.org/cool_windows/home.html
Online marine food web game.