



Group Activity: Building Your Own Food Web

Goal:

Students will be able to organize organisms from each trophic level into a food web based on observed relationships.

Objective:

Students will be able to demonstrate how organisms are organized into trophic levels by identifying and assigning traits to organisms in different trophic levels.

NGSS (suggested):

MS-LS2-3: Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

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

Suggested Grade Level: 5-8

Background:

In each part of the video we briefly meet organisms from different trophic levels. These levels include: **producers**, organisms that make their own food; **consumers**, organisms that eat other organisms; and **decomposers**, a type of consumer that breaks down dead organic matter. All of the introduced organisms have some kind of relationship to one another. In fact, all of the living organisms in the Great Lakes have an impact on one another through their various interactions. This activity is meant to demonstrate the intricate web of life in the Great Lakes. By looking at what an organism eats and where it makes its home, we can find connections with other (sometimes unlikely) organisms. For example, the midge fly larvae live inside the mud of the benthos and are eaten by rock bass fry, which are eaten by larger predator fish. In this way the midge larvae have an impact on the predator fish!

Materials:

Activity sheets (attached)

Drawing materials

Research resources (internet access or a book about freshwater organisms)



Procedure:

1. Challenge your students to research (online or in a book, if that is available to you) Great Lakes producers, consumers, and decomposers.
 - a. Some examples might include diatoms (producer), elodea (producer), virile crayfish (consumer), colonial rotifer (consumer), isopod (decomposer), and midge larvae (decomposer).
2. Students will create a species profile for one species from each category. Each profile should include a photo or drawing, their common name, and what it eats. Profiles can also include where they live, unique adaptations, and their scientific name.
3. Have students collaborate in groups of 3-5 to create a Great Lakes food web with their chosen organisms. If there are duplicate organisms in a group, encourage students to find additional facts and features about the organism to further define its place in the ecosystem.
4. After the food webs have been completed, invite groups to share their mini Great Lakes ecosystems with the class! Ask the students if any of the group food webs overlapped to create a greater food web.

Evaluation:

Using the species profiles and conceptual food webs, ask students to remove all of the organisms from the second trophic level. What changes would occur in the first and third trophic levels? What implications does this have for the Great Lakes food ecosystem? This can be done with the removal of any trophic level.