

EXPLORE

9 | Web of Life

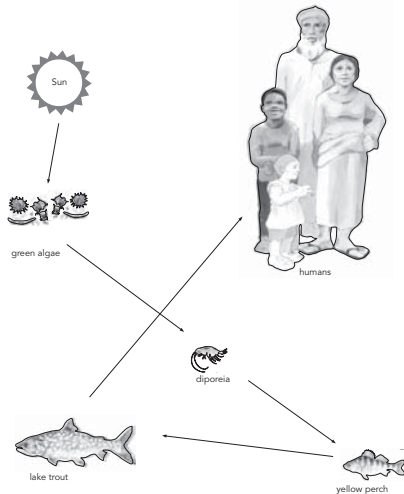
GRADE LEVEL

K-3



summary

Students make a web of connections between Great Lakes organisms and discuss the idea of a food web.



subjects

Ecology

standards

This Great Lakes in My World activity is aligned to the Common Core State Standards and to state learning standards in:

- Illinois
- Indiana
- Michigan
- Minnesota
- New York
- Ohio
- Pennsylvania
- Wisconsin

This alignment is available on your Great Lakes in My World CD in the "Standards" folder and on-line at <http://www.greatlakes.org/GLiMWstandards>.

objectives

- Describe a food web.
- List connections between Great Lakes organisms in a food web.

prerequisite

Lake Connection, A Closer Look

vocabulary

Food chain: a series of organisms in which each uses the next usually lower member of the series as a food source

Food web: the whole group of interacting food chains in a living community

materials

- Creature Cards with asterisks*
- Photocopied food chain species (1 set per student)
- Ball of yarn
- Masking tape

setting



background

Food chains that show feeding relationships in an ecosystem are part of large and complex food webs. By exploring these relationships, students become familiar with the concept of

food webs, as well as the different plants and animals that inhabit the Great Lakes. Information on eating habits can be found on the backs of the Creature Cards.

procedure

1. Discuss food chains by talking about the food eaten by humans. For example, if we eat a fish, that fish has possibly eaten a smaller fish, which ate microscopic zooplankton, which ate microscopic phytoplankton, which gained its energy from the sun. Have students trace back an element from their lunches in order to see how these connections apply. Show students Creature Cards listed above that make up a food chain (an example: sunlight (not a card), green algae, diporeia, yellow perch, lake trout, humans). Diagram this for students.
2. Have students complete the journal page and/or give students photocopied Creature Cards to color and glue on a page. Have them add lines to show which creatures eat each other.
3. Choose organisms from the Creature Cards that are best connected in a food web. The plants and animals with an asterisk (*) are best suited for this activity. This can be done in two small groups, each supervised by adults, which will make the activity move more quickly. Pass out one card to each student. Have students hold the cards so that everyone can see the pictures. Have students act like their species for 10 seconds to create an "instant Great Lake."
4. Have students sit in a circle and announce the names of their organisms. Make sure everyone understands what all of the organisms are.
5. Holding the ball of yarn, tell students that you represent the sun. You will give your energy to one of the plants (e.g., algae) by holding onto the end of the yarn and passing the ball to a student with a plant card. When a student receives the ball of yarn, she/he should hold onto

- one end, and pass the ball to a student with the card of a species that her/his organism could eat OR be eaten by. It is VERY IMPORTANT that students realize that it can go to the species that eats their creature OR to a species their creature eats. Otherwise, a food web will not be successfully created. For example, the algae could pass the yarn to a zooplankton, who could pass it to a forage fish, and so on. Likewise, the fish could pass it back to something else it eats. Students look at the backs of their cards to determine what the species eats or is eaten by. Pass the yarn until it has reached everyone at least once. This may involve some problem-solving. A web will form between the students. Some species may be included more than once. Continue the game to find new connections.
7. Have a student give a light tug on his/her piece of the yarn. Have students "tug back" when they feel the tug, raising their hands as they tug for a visual on the web interconnections. For each species, at least two others will feel a tug on the yarn. Soon all students will be gently tugging with one hand raised, which demonstrates that the food web is all connected. If one species feels a tug from another, it means these are especially important to each other in the food web.

Satisfy Your Curiosity QUESTION IDEAS

- Where does my species fit into the food web?
- What eats my species?
- What does my species eat?
- What other organisms are impacted by my species?

wrap-up

Discuss

1. What did the yarn look like after it had been passed to everyone? *A web.*
2. Why did it look like this instead of a straight line or circle? *The food web connections are complex, like a web.*
3. Ask one student to drop their piece of the yarn. Pretend this species is no longer a part of the food web because it has died off or left to live elsewhere. Have the other students re-tighten the web to adjust for the change. When one student dropped the yarn, what happened? *The rest of the species adjusted, and the web did not fall apart.* Explain that this worked because there are so many organisms in the web.

4. Now, have everyone drop their yarn except for three students. Now what will happen? *It is a lot harder to readjust this time, because there are fewer organisms left.*
5. A food web is healthier when it is more complex and when there are a variety of species present. Like students, most animals eat more than one type of food. A web with many types of species gives them food choices. If the web is not very complex it is harder to adjust to changes.
6. Why is it important that there are so many different types of organisms in the food web? *The high number of types of species keeps a healthy web and allows for food choices.*
7. If students have not completed the journal page, have them do so. Use the diagram to show how three to five organisms need each other to live.

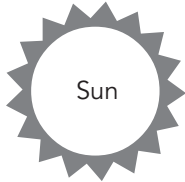
assessment

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FIRST NAME																				
LAST NAME																				

CONNECT the parts of the lake food web.



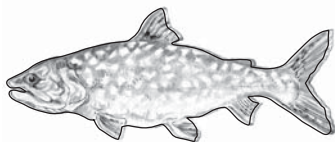
green algae



humans



diporeia



lake trout



yellow perch

APPROVED BY

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