

## What Can I Eat?

Experiencing the food chain is one way to understand how every living thing on this planet is dependent on each other.

The objectives are: understand how contaminants in the environment affect the life of every living thing, describe the effects of contaminants in the food chain, realize how we can prevent or counter the effects of contaminants.

Background:	As the number of birds, fish, plants, animals decrease, they are classified as threatened or endangered. The laws protecting threatened and endangered species were enacted to slow or stop the extinction of the species.
Skills:	The children should be able to move in a limited area. The children should also have a basic understanding of prey and predator.
Age:	Grades 4 - 9
Materials:	Paper squares or poker chips in at least three different colors. You will need about 30 pieces for each child. Plastic sandwich bags - one for each child. Three or four pieces of yarn or ribbon. Scarves or bandanas can also be used.
Activity:	<p>Explain that a food chain consists of plants and animals. The lowest plant or animal in the food chain is eaten as food by the next. This chain continues until the animal at the top has no predator.</p> <p>In this activity, each child will become a part of the food chain. They all live in or near a lake. (Set up a predefined area to serve as the lake. Place the paper or poker chips in this area.) In the lake are water bugs and nymphs, and fish. Flying over the lake is an eagle. Hand each child a sandwich bag. This is their stomach. Depending on the number of children select two or three to be fish. Tie the yarn, ribbon or bandana around the arm to mark the fish. Select one child to be the eagle. Use the ribbon or bandana as a headband. The bugs and nymphs live in the water and absorb the contents of the water. The children act this out by picking up the chips, one at a time, and placing them in their "stomachs". The fish "eat" or "tag" the bugs and nymphs. When a bug or nymph is tagged, they give the contents of their stomach to the fish and sit down. The eagle eats the fish. When the eagle "eats" a fish, the eagle gets the "stomachs" from the fish and the fish sits down. Let the bugs and nymphs "swim" in the water and absorb the contents for a minute or two. Release the fish to "eat" in the lake, then allow the eagle to fly over and try to catch a fish. Once the eagle has caught one fish, stop the game. The entire activity will take about 5 minutes to complete.</p>
Discussion:	<p>Have everyone who has been caught sit on one side of the area and the ones who are still alive on the other. Now explain that the (pick a color) elements were contaminated with a chemical. Any of the live bugs or nymphs that have a high concentration of that color are probably dead or close to it. If they have a few, they are probably sickly. If there are any fish that haven't been caught, check the contents of their bags. This represents what they ate. Again, a high concentration means they are very sick or possibly dead, a low concentration means they are still affected.</p> <p>Ask the eagle to show what it ate. The eagle won't die, unless the concentration is near 100%, but would lay eggs that wouldn't hatch or would crack from the brittle shell.</p> <p>This is a good time to discuss gardens and lawns, how much fertilizer and insect/weed killer is used. How is this introduced to the food chain? Could they end up affected by eating plants, fish, animals that contain contaminants?</p>
Junior Badge:	Foods, Fibers, and Farming #8

This activity is based on Deadly Links from Project Wild.