

# Biomagnification in the food chain

name:

We know that biomagnification is when organisms accumulate chemicals from the organisms they are eating underneath them in the food chain. An animal higher up on the food chain tends to have a greater concentration of chemicals because of what it eats. Even though there might be very little concentration of chemicals in the tissues of an organism at the bottom level of the food chain, the concentration of chemicals builds up as you go up the food chain. The consumer at the top of the food chain can have the highest concentration of pesticides, plasticizers, or pollutants in them.

What does that mean for humans, who are the apex consumers in most food chains?

For today's activity, you are going to experience first hand how those chemical concentrations increase as you go up the food chain. Some of you will start out as phytoplankton algae. Each algae has a little chemical residue in it, and you'll see what happens as the energy and matter inside it moves up through the food chain. The algae will be eaten by zooplankton, which will be eaten by fish, and the fish will be eaten by birds.

Let's see what happens to all the chemicals.

Each algae has 0.5 written on it, and this is the chemical concentration. At each level of the food chain, we'll stop to calculate what the concentration is for each consumer.

Algae Concentration:

Zooplankton eats \_\_\_\_\_ algae.

Zooplankton Concentration:

Fish eats \_\_\_\_\_ zooplankton.

Fish Concentration:

Bird eats \_\_\_\_\_ fish

Bird Concentration:

**How did the bird end up with such a high level of chemical concentration, even though it ate only a few fish?**