

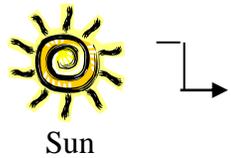
Something Fishy

Objective: *You will be able to investigate the use of pesticides in everyday in order to determine the effects bioaccumulations on a food chain including the bluebird.*

DDT & mercury are not the only problems that secondary and tertiary consumers face. Humans use herbicides and pesticides everyday to control weed and bug populations. In the long run these pesticides are not just harmful to the bugs or weeds for which they were intended. Through bioaccumulation the harmful chemicals build up and eventually hurt or even kill larger organisms. Today we will apply the use of pesticides to our friend the bluebird and determine how bioaccumulation hurts more than just fish.

Activity 1: Food chain

Construct a food chain using the organisms below. Use arrows to show energy movement and label all trophic levels.



1. Which level of the food chain needs to consume the most food/resources? **Explain** your answer.

Activity 2: Poison, don't eat!

Uncle Bob loves his garden. He spends afternoons weeding, watering and planting. Unfortunately the bugs have enjoyed some of the plants Uncle Bob has planted. To control the bugs he went to the store and bought Pesticide X, the strongest pesticide he could find. **Pesticide X** has a chemical that is **harmless** to organisms in **small quantities**, but **hazardous** to organisms in **large amounts**. He uses the pesticide on the **entire** garden. This kills some of the bugs that are eating his garden but what else might it be affecting?

2. Explain what else the pesticide might be affecting and how?

Assuming each higher level consumes **10 times more** toxins than the level before, create a toxicity pyramid that shows the bioaccumulation that occurs in the aforementioned food chain.

Example:

