## How do pesticides affect the food chain?

### Materials needed:

75 - 100 corn kernels (2/3 yellow, 1/3 another color).

Pie pan or other shallow container

Stopwatch

Tweezers (one per student)

Snack sized plastic bags (five per student)

Sandwich sized plastic bags (one per student)

Large sack (plastic grocery bag)

One die or number cube

"Mystery card" in a sealed envelope

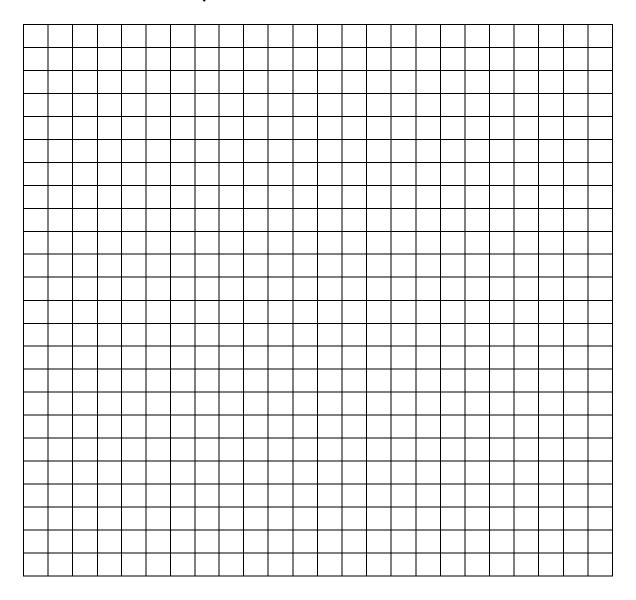
#### Procedure:

- 1. Part One: Grasshoppers need food. Grasshoppers eat corn.
  - a. Pour the corn kernels into the pie pan. Mix the colors.
  - b. Each student is now a grasshopper looking for food. Using the tweezers, you have only 15 seconds to pick up one kernel of corn at a time and place it in your plastic bag (the grasshopper's "stomach"). DO NOT TAKE TURNS YOU ARE COMPETING FOR FOOD!
  - c. Repeat this process until you have been a grasshopper 5 times.
  - d. Put all grasshopper stomachs into a sack or plastic grocery bag.
- 2. Part Two: Shrews need food. Shrews are small mammals that look like mice but eat grasshoppers.
  - a. Taking turns, reach into the bag and select one grasshopper.
  - b. Keep taking turns until every student has "eaten" 2 grasshoppers.
  - c. Put your 2 grasshoppers into a larger bag. This is the stomach of the shrew.
  - d. Do steps a and b again so you each have 2 shrews.
  - e. Number your shrew stomachs 1 and 2.
- 3. Part Three: Hawks need food. Hawks eat shrews.
  - a. Roll the die.
  - b. If the number is even, "eat" the number 2 shrew. If the number is odd, "eat" the number 1 shrew.

#### Results:

- 1. Examine the contents of the hawk's stomach.
  - a. Divide the corn into two groups yellow and not yellow
  - b. Create a bar graph of each hawk's stomach contents.
- 2. Open the "Mystery Envelope" and read it. What is the fate of your hawk?

# How do pesticides affect the food chain?



- 1. Was your grasshopper alive or dead when the shrew ate it?
- 2. Did your shrew live after eating the grasshopper or did it die? How do you know?
- 3. How healthy is your hawk? How do you know?