

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?

