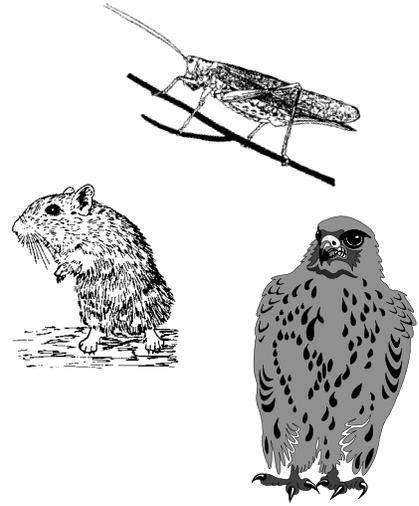


## ACTIVITY #1: The Deadly Links Game

### Get Started

Each student will be assigned a role to play in a simulation of a food chain: you will be either a **grasshopper**, a **shrew**, or a **hawk**.

Arm bands of different colors will indicate which organism you are. There will be approximately three times as many grasshoppers as shrews, and three times as many shrews as hawks.



### The Deadly Links Game

1. Each grasshopper collects a small paper bag or container from the instructor. Write your initials on it. This container will represent your "stomach." Turn your back to the "food area" in which the simulation will take place while your teacher distributes the "food" for the grasshoppers: pipe cleaners, paper dots, or other materials.
2. At your teacher's signal, grasshoppers move into the "food area" and begin gathering the food and placing it in their stomach bags one piece at a time. (The shrews and hawks are predators who watch their prey from the sidelines!) When your teacher tells you, stop collecting food.
3. Next, your teacher will tell the shrews that it is their time to hunt for food. When a shrew tags a grasshopper, the shrew should take the bag of food and the grasshopper should go sit on the sidelines. When your teacher indicates, the shrews should stop hunting.
4. At your teacher's signal, the hawks may begin hunting for shrews. Shrews may hunt again for any grasshoppers who are still "alive," following the same rules above. When a shrew is tagged by a hawk, the hawk takes the food bag(s) and the shrew goes to sit on the sidelines. Stop hunting when your teacher indicates.
5. Animals who are still living at the end of the simulation should empty their food bags and count the number of food pieces they have, then fill out the table on the following page accordingly. Animals that were consumed should find out which animal has the bag with their initials on it and help to complete its tables.

<b>TABLE: Count Your Deadly Links Food Pieces</b>			
<b>Animal</b>	<b>Total No. of food pieces</b>	<b>Total No. of white food pieces</b>	<b>Total No. of colored food pieces</b>

**What Happened to Your Animal?**

In the environment in which these animals live, a pesticide was sprayed onto the crops to prevent damage by the grasshoppers.

**The colored food pieces represent plants that contained the pesticide.**

- Grasshoppers still alive at the end of the simulation should check their food pieces. **If any grasshoppers have colored food pieces, they are now dead.**
- Shrews still alive at the end should check their food pieces. **If half or more of the shrews' food pieces are colored, they are now dead.**
- **The hawk with the highest number of food pieces lives at this time.** However, because it has consumed pesticide, it will not have any baby hawks, because the egg shells it produces will be so thin that the eggs will not hatch successfully.

