

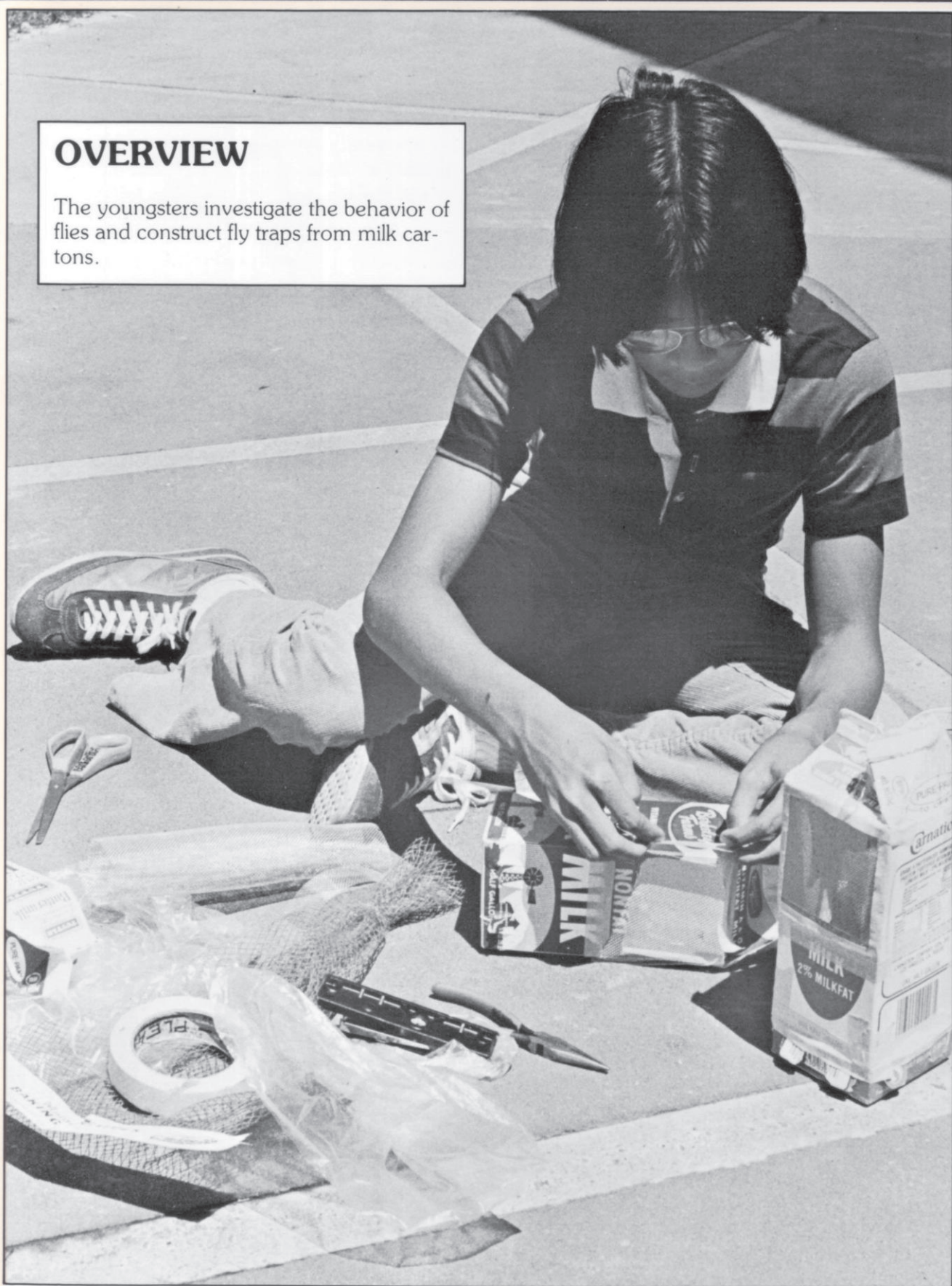
# A BETTER FLY TRAP

**BIO**  
**KEY**

Animal Behavior  
Pest Control  
Controlled Experiment

## OVERVIEW

The youngsters investigate the behavior of flies and construct fly traps from milk cartons.



## BACKGROUND

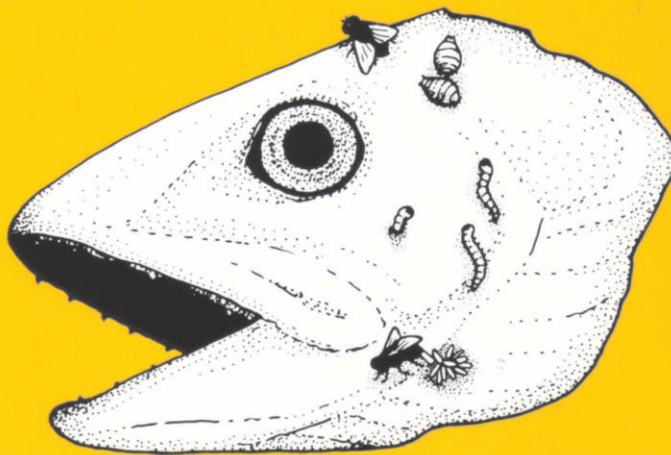


Flies of all kinds have plagued people from time immemorial. The housefly's bad reputation is due mainly to its habit of feeding on animal wastes and other germ-laden foods. When feeding, the housefly spreads digestive juices on its food and then sucks up the resulting puddle of partially dissolved food. The next time the fly feeds, it transmits germs from the previous meals to the new food source. In this manner, flies transmit germs to human foods.



After discovering that flies transmit disease, people intensified their efforts to avoid and control flies. Many chemicals that control flies and other pests have been produced, but these chemicals usually have drawbacks. Many are not safe to use around food, and they often harm desirable organisms. One of the safest and oldest methods of controlling flies is trapping. Building an effective fly trap requires some knowledge of fly behavior.

**CHALLENGE: MAKE A DEVICE THAT ATTRACTS AND TRAPS FLIES.**



LIFE CYCLE OF THE HOUSEFLY

## MATERIALS



### For each youngster:

- 1 piece of fly bait: "ripe" fish, meat, guts, or other fly-attracting food
- 1 milk carton (half-gallon size)

### For the group:

- water to keep the bait moist
- window screen\* (nylon is best): enough for each kid to cover the long side of a milk carton
- 1 Fly-Trap Junk Box\* containing: straws, paper plates, plastic wrap, aluminum foil, tape, popsicle sticks, rubber cement, string, cheesecloth, and cone-shaped cups
- construction tools\*: scissors, paring knives, stapler

\* Available from Delta Education.

## PREPARATION



**Group Size.** This activity is suitable for both small and large groups.

**Time.** Plan on one sixty- to eighty-minute session or two thirty- to forty- minute sessions. Choose a calm, warm day for this activity.

**Bait.** Obtain some fish parts, rancid meat, or other smelly food for fly bait. Cut the bait into sugar-cube-sized portions. The bait must be warm and moist in order to attract flies.



**Site.** Select an area with lots of flies—near a garbage can or dumpster, for instance. To attract flies for the activity, set out a few pieces of bait in the site an hour or two before conducting the activity. Cover the bait with some damp cheesecloth or netting. For groups of fifteen or more, set out bait in more than one area.

## ACTION



**Building the Traps** (Allow twenty to thirty minutes.)

1. Ask your group to recall and describe situations in which they were pestered by flies.
2. Point out the bait that you have set out, and explain to the youngsters that they are going to build fly traps and find out how many flies they can catch. Mention that their traps will be more effective if designed with the fly's habits in mind. Give the youngsters a few minutes to observe the behavior of the flies around the bait.
3. Call the group back to you, and show them the trap materials. Challenge each youngster to turn a milk carton into a fly trap. Spread out the materials, and let the youngsters build their traps. Circulate and assist the children with their traps. Traps can be of the hanging or free-standing variety and can be of any shape or combination of materials.

**Testing the Traps** (Allow ten minutes.)

1. Give every trapper an equal-sized chunk of moist bait.
2. Ask the kids to set up their baited traps near the area where you had set out the bait. Remove any bait that isn't in a trap so it doesn't draw flies away from the baited traps.
3. Encourage the youngsters to sit about a meter away from their traps to watch the behavior of the flies as they approach, fly around, land on, enter, and try to escape



the traps. Circulate among the kids and suggest that they think about ways to improve their traps as they observe the flies.

### Outwitting the Flies

1. After the test period, call everyone back to you, and have them bring their traps.
2. Ask the kids how the flies responded to their traps.
  - Did your traps attract flies? Capture flies? How many?
  - Why do you think your traps worked or didn't work?
3. Challenge the youngsters to make modifications that will make their traps more effective. Mention that flies usually fly up and towards the light when they take off. As the kids modify their traps, ask them to consider the following points:
  - Does your trap allow the smell to come out?
  - Does it let the flies find their way to the bait?
  - Does it prevent the flies from escaping?
4. Have the youngsters test their modified traps.

## Finding the Best Traps

You may want to find out which traps work best during this second test period. Testing two or more traps in the same area at the same time and with the same kind and amount of bait will provide a fair comparison of the traps. This fair comparison is called a **controlled experiment** because all factors that can vary (such as location, shade, wind, time of day, bait) are controlled (kept the same), with the exception of the factor under investigation. The factor under investigation in this activity is the design of the trap. If the group uses the fair comparison approach to test their traps, they can then try to figure out which trap

designs work the best. (Traps that keep the bait moist, have small dark entry holes low on the trap, and have a large window on the top seem to work best.)

## TRAPPING IDEAS



1. Which traps caught flies during the second test period? How many flies?
2. Why do you think the flies didn't escape?
3. What other insects were attracted or trapped by the traps?
4. What recommendations do you have for a home, school, or camp with a fly problem?

## KEEP ON TRAPPING

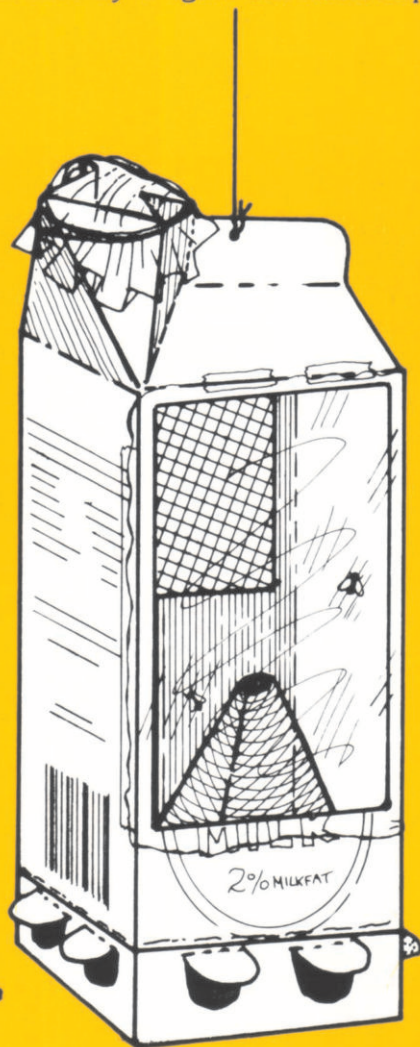


1. Test your traps with different baits and in different locations. Test your trap at home.
2. Suspend a trap from a long string. Swing the trap to find out if flies will land on a moving object.
3. Test your trap a number of times, each time painting the trap a different color. Does color make a difference in fly catching?
4. Find out if your traps catch more flies at night or during the day.
5. Make traps and sell them.
6. Figure out how some commercial fly traps work.

## THE LAST THINGS TO DO:

**Disposing of Captured Flies.** Flies may be sold to pet shops as frog and lizard food, submerged and released in water as fish or turtle food, left in the traps to become bait for other flies, or let go.

**Cleaning Up.** *Have the kids wash their hands!*



AN EFFECTIVE FLY TRAP

