

Lesson 2 Build a Better Bug Trap

Description:

The group of 4-H'ers are challenged to think of as many ways as they can to catch or kill a cockroach. Then each individual chooses a partner to design and draw a roach trap on paper and explain how it works to the rest of the group.

◆ **Life Skill:**
problem solving

◆ **Purposes:**

1. To help 4-H'ers learn that there can be many ways to solve an insect problem and that sometimes several measures are best.
2. To show that solutions to insect problems do not always require pesticides.
3. To use problem-solving skills while inventing.

◆ **Time:**
45 to 60 minutes

◆ **Materials You'll Need:**

1. blackboard, large easel with pad, or poster board
2. pencils (1 for each), rulers, blank paper for each
3. several self-sticking note pads (3-inch-by-3-inch size)
4. a commercial roach trap from a store for the discussion phase at the end of the lesson (optional)

◆ **Before the Meeting:**

Draw a large picture of a cockroach on the blackboard, easel pad, or poster board. (See pictures on pages 5 and 6.)

◆ **Background:**

Man has been always been faced with insect problems. There are many strategies for dealing with an insect pest.

Sometimes insects are sprayed with chemicals. Sometimes they are trapped, starved, sterilized, swatted, or stomped. Similar to a mouse, there are many ways to entice a roach into a trap, and there are many types of traps whose design is based on the needs, habits, and behaviors of an insect.

◆ **Lead In:**

“Today we are going to see how creative you can be in solving an insect problem. Here is the problem! (Uncover or point to the roach picture.) Your job is to think of as many ways as possible to catch or kill this roach and then design a trap using one or more of the ideas presented. Please work in teams of two to solve this problem.

First, let's learn a little about the

1. Where do roaches live? [kitchens, bathrooms, behind refrigerator, outdoors in woodpiles]
2. What do roaches eat? [crumbs, dog food, scraps]
3. When are roaches active? [night]
4. What might attract them? [food, odors, water, warmth, other roaches]
5. What might repel them? [heat, odors, smoke, noise, light]
6. How many roaches could you tolerate before you decided to try to eliminate them? [one, two]

7. How do roaches avoid being caught?
[run fast, are active only at night,
hide]

◆ Procedure:

1. Give a pencil and part of a “sticky” pad to each 4-H'er. Have them stand around the picture in a semi-circle. Tell them to write down any way they can think of to kill a cockroach. Each time they write something on the note, have them stick it anywhere on the board surrounding the picture. (Encourage them to think individually for this part of the exercise.) The note does not have to be neatly placed. Have each one go up as many times as needed until all have run out of ideas. Duplicates are fine for this part of the exercise.
[Some of the ideas may be: squash, step on, swat, trap, spray with poison, feed poison, drown, electrocute, freeze, starve, sterilize, heat, give it a disease, bring in something that eats it, or use a bomb.]
2. Read aloud the above ideas one at a time to see if they have all been mentioned on the board. Designate someone to write down any that were

not mentioned and add them to the board. Point out the ones the 4-H'ers thought of that are not on the above list.

3. Have the 4-H'ers sit back down and hand out pencils and paper to each. Offer rulers to anyone who desires one.
4. Have them use the ideas posted on the board to draw a picture of a device someone might build to control roaches. They can incorporate one or several of the ideas.
5. When everyone has finished, have each team stand and present its design to the group. Have the group applaud each presentation. (Optional: Purchase a commercial roach trap at a grocery store. Examine it and discuss how it works.)

◆ Leader's Script:

1. “Do you think any of these designs could be made and sold in stores?”
2. “How safe would each of these designs be to other creatures or the surroundings? Could anything or anyone else be harmed?”

Let's Talk About It:

Sharing:

- What did we do today in this activity?
- What steps did we go through?
- How did you feel about doing this activity?
- What was the most difficult part?

Processing:

- What issues or problems arose from this activity?
- What did you learn about problem solving?
- What did you learn about killing insects?

Generalizing:

- What problems have you tried to solve with your friends before?
- Does anything in this activity relate to anything in your life?

Applying:

Could this technique be used for solving other problems in your life?

Examples?

How will what you have learned about killing insects make you think or act differently in the future?