



SKIN DEEP

4-H Plant Science Lesson

YOUTH EXPLORE HOW TO PROTECT THEIR SKIN WHILE APPLYING PESTICIDES



Project Skills:

Youth learn that some clothing fabrics provide only minimal protection when applying pesticides

Life Skills:

Personal safety
WI Academic Standards:
Science F.4. Life And Environmental Science

Time:

20-25 minutes

Supplies:

Access to water

One of each for every group of 3-4 youth:

- 1 ruler
- 4 cups
- 8 brown paper towel squares (5" x 5")
- 4 rubber bands
- Spray bottle filled with water
- 1 square of each of the following fabrics
 - 5 inch squares of 50% polyester and 50% cotton fabric
 - 5 inch squares of 100% cotton knit fabric
 - 5 inch squares of 100% cotton denim fabric

Getting Ready:

- Cut the brown paper towels into at least 8 five-inch squares.
- Fill each of the spray bottles with water.
- Find fabric and cut into 5" squares.

Adapted from Down to Earth: You're Safe! – Activity 11, pages 86-89.

WHAT TO DO

Conduct experiments with various fabrics

1. Divide the group into teams of 3-4 people.
2. Give each team of 3-4 youth the recommended supplies.
3. Place one paper towel on top of another, forming two layers (just like your skin). Drape them over the tops of each cup. On one cup, secure the towels with a rubber band around the rim, as tight as possible to form a "drum." This will represent unprotected skin.
4. Cover the top of the next cup with three layers – two paper towels and the square of 50% polyester and 50% cotton fabric to the "skin." Secure with a rubber band. Repeat this procedure with the 100% cotton knit fabric and the 100% cotton denim fabric. These will represent skin covered by three different types of clothing.
5. Turn the "skin" cup on its side. One person can hold the cup, one can use the sprayer and one can count the number of sprays. Another person will stand on the opposite side, close enough to the cup to observe and record what happens to the bottom layer. The sprayer will hold the tip of the spray nozzle six inches away from the top and begin to spray the water (pesticide substitute). When the bottom layer of paper is completely wet, the observer says "STOP!" The sprayer will record the number of sprays that it took to saturate the inner layer. Record this number of sprays on the Skin Deep Worksheet.
6. Repeat Step 5 with each of the other cups.

TALK IT OVER

Try to get each youth to express his or her feelings and experiences.

Reflect:

- How did the experiments go for your team?
- Why did the experiment using "skin only" become saturated the quickest?
- Why was it important to do each experiment the same way, with only the fabric being different?
- What did you learn about protective clothing and pesticide application?

Apply:

- What makes a person feel safe?
- How will you decide what type of protection is needed to keep you safe in the future?
- In what other ways could you use observations and experimentation to make good decisions about personal safety?



SKIN DEEP WORKSHEET

| TEAM #1 | Skin Only | 50% Polyester 50% Cotton | 100% Cotton Knit | 100% Cotton Denim |
|------------------|-----------|-----------------------------|------------------|-------------------|
| Number of Sprays | | | | |

1. What Fabric would protect your skin the best? _____
2. What Fabric would protect your skin the least? _____

| TEAM #2 | Skin Only | 50% Polyester 50% Cotton | 100% Cotton Knit | 100% Cotton Denim |
|------------------|-----------|-----------------------------|------------------|-------------------|
| Number of Sprays | | | | |

1. What Fabric would protect your skin the best? _____
2. What Fabric would protect your skin the least? _____

| TEAM #3 | Skin Only | 50% Polyester 50% Cotton | 100% Cotton Knit | 100% Cotton Denim |
|------------------|-----------|-----------------------------|------------------|-------------------|
| Number of Sprays | | | | |

1. What Fabric would protect your skin the best? _____
2. What Fabric would protect your skin the least? _____

| TEAM #4 | Skin Only | 50% Polyester 50% Cotton | 100% Cotton Knit | 100% Cotton Denim |
|------------------|-----------|-----------------------------|------------------|-------------------|
| Number of Sprays | | | | |

1. What Fabric would protect your skin the best? _____
2. What Fabric would protect your skin the least? _____

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