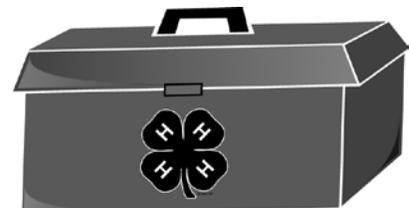


2d

"Dots Before My Eyes"

Lesson

Plan





Learning Objectives

1. Describe the importance of colors in the insect world.
2. Explain how insects use colors for defense.

Intended Audience

4-H Club members



Supplies & Resources Needed

- Lesson plan outline
- 2 sheets each of blue, red, green, and white paper - with no lines or patterns
- Hole punch
- Colored toothpicks or beans
- "Dots Collected" paper and pen to record results



References

4-H Cooperative Curriculum System. (1998). *What's Bugging You? Entomology 2* (BU-6854). University of Minnesota.

Projected Length

20-30 minutes

Introduction



Colors are important in our lives. Imagine how dull the world would be without them! Color is important in the insect world, too. In fact, it can mean life or death. In this activity, we'll see how insects use color.

Objectives 1 & 2

Describe the importance of colors in the insect world.

Explain how insects use colors for defense.



Some insects use bright colors to say "Stay away! I'm dangerous." See the examples below (also available as a handout or visual aid at the end of the lesson).



(From left to right: Monarch Butterfly, Yellow Jacket, Palm Beetle)

Others use drab colors as camouflage to blend into the scenery to hide from predators. See the examples below (also available as a handout or visual aid at the end of the lesson).



(From left to right: Geometer Moth, Lichen Moth, Brimstone Butterfly)

Activity



The activity that we'll do next illustrates how various colors make it easier (or more difficult) to see insects based on their color.

Find eight sheets of colored paper, two each of blue, red, green, and white. If you can't find these colors, you may use others. The sheets should not have any lines or patterns. Use a paper punch to punch out 20 holes from each of the colors. Mix all the dots together in a jar or other container. These dots will become the "insect prey."

For the first round, place a green sheet (unpunched) on the ground as your habitat. Spread the dots across the habitat sheet. Now, have one of the club members be the insect predator. Have a helper or friend time the club member for 15 seconds. See how many prey (dots) can be picked up during that time. Only one dot may be picked up at a time, and the habitat may not be picked up. When the time is up, count the number of dots



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collected, and record the result in a chart similar to the “Dots Collected” sheet provided. Return all the dots to the container and repeat the process using the other three colored sheets of paper representing different insect habitats.

Next, go outdoors and try the activity using colored toothpicks or beans. Count out an equal number of each. Scatter the toothpicks or beans over vegetation or bare soil. See how many prey (toothpicks or beans) can be picked up in 15 seconds. Only one item may be picked up at a time. When the time is up, count the number of toothpicks or beans collected, and record the results.

Group Discussion

Ask the group some of the following discussion questions.

- How many dots, toothpicks, or beans did you collect? What color was collected the most? Why do you think that color was most often collected?
- What was the most difficult part of this activity?
- What was the purpose of this activity?
- How did the color of the habitat (the color sheet) make a difference in how the insect communicated its presence? How did the color of the habitat affect how many prey you were able to gather?
- What other ways do insects defend themselves besides using colors?

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DOTS COLLECTED					
Habitat		White	Blue	Green	Red
Insect Prey	White				
	Blue				
	Green				
	Red				

DOTS COLLECTED					
Habitat		White	Blue	Green	Red
Insect Prey	White				
	Blue				
	Green				
	Red				



Colors Are Important to Insects!

Bright colors communicate danger to potential predators as seen in the examples below.



Monarch Butterfly



Yellow Jacket



Palm Beetle



Drab colors camouflage some insects to help them blend into the scenery to hide from predators as seen in the examples below.



Geometer Moth



Lichen Moth



Brimstone Butterfly

