



**CORTEVA™**  
agriscience

Agriculture Division of DowDuPont™

## Escaping Predation Lesson

**Target Grade Level(s):** can be tailored for 3<sup>rd</sup> grade to high school

**Instructional Objectives:** Students will be able to identify at least 3 strategies insects use to escape predation. Students will be allowed to express themselves with art. Students will learn to create a graph with data.

**What you will need for this activity:**

**Required Materials:** Paper moths (pre-cut to save time), crayons, tape, white board, dry erase marker

**Optional Materials:** Hat/costume to identify predators

**Advance preparation:**

Have paper moths pre-cut to save time and for safety especially in younger grades. You can also print the moth cut outs on different colored paper and in different sizes to have additional discussions. Review ways insects avoid predation (crypsis, location/habitat, numbers, chemical defense, mimicry, alarm pheromones)

**How to carry out the activity:**

1. If the students have little to no background in insects begin with the basic components of insect biology (six legs, 3 body segments, metamorphosis, etc.).
  - 1a. Otherwise you can begin by passing out the paper moths and asking students to color their moth. Always put a time limit (5-10 minutes) on this part of the activity to stay on track. While students are coloring is a good time to hand out a piece of tape for each moth they are coloring. If students finish early you can give them additional moths to color.
2. Upon completion of the coloring time ask for 2-3 volunteers. Ask your volunteers to step outside while you explain to the class that there are hungry predators outside the door waiting to eat the moths.
3. Give the students 2 minutes to tape their moths around the room. Make sure you ask a student to put up the moths of your volunteers waiting outside. Instruct students to remember carefully where they have placed their moth.
4. While students are placing the moths you can instruct the volunteers that they are predators and will have until you say stop to find/eat as many moths as possible. You might want to give them something to identify the type of predator they are, but this is not necessary.
5. After the classroom students have placed the moths, allow the volunteers access to the room. Give them time to find approximately half of the moths (or more if you are short on time), but not all of them.
6. After your determined time period ask the predators to stop and count how many each has “eaten”. Use this number to determine the percentage survival of moths. In addition you could calculate the number of moths consumed per minute. Thank the volunteers and ask them to sit down.

7. You could include a discussion of why there are so many more prey animals than predators in higher-level classes.
8. Ask the students to raise their hand if their moth survived the predators. Begin calling on students and asking them to reveal where their moth was.
9. A discussion should follow each moth and why it was able to survive. During this time write the strategies for avoiding predation on the board and make tally marks for those that are similar. Common strategies for survival are crypsis (or camouflage), habitat (they live high or low, where it's not easily accessible or visible, etc.), large numbers emerging at once (example: locust swarms; the predators get full eating all they can and the rest survive).
10. After revealing the surviving moths create a graph showing what the most successful strategy was for this particular class.

**Additional Topics:** If you teach multiple classes you might want to compile each class and see if there are common patterns that emerge and do a follow up math lesson with averages and additional graphs. If you teach higher grade levels this activity can be followed up with a genetics lesson. Use the surviving moths to create the next generation. Talk about the traits that can be passed on (phenotypes versus genotypes). You can look at phenotypes in the colors, shapes, and sizes.

### **Integrated Curriculum:**

**Insects  
Behavior**

**Math  
Environment**

**Art  
Genetics**

### **Contact Information:**

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