Name

Date Class

MiniLab 15.1

Formulating Models

Camouflage Provides an Adaptive Advantage

Camouflage is a structural adaptation that allows organisms to blend with their surroundings. In this activity, you'll discover how natural selection can result in camouflage adaptations in organisms.

Procedure

1. Working with a partner, punch 100 dots from a sheet of white paper with a paper hole punch. Repeat with a sheet of black paper. These dots will represent black and white insects.
2. Scatter both white and black dots on a sheet of black paper.
3. Decide whether you or your partner will role-play a bird.
4. The "bird" looks away from the paper, then turns back, and immediately picks up the first dot he or she sees.
5. Repeat step 4 for one minute.

Analysis

1. What color dots were most often collected?

2. How does color affect the survival rate of insects?

3. What might happen over many generations to a similar population in nature?

Date Class

MiniLab 15.2

Collecting Data

Detecting a Variation

Pick almost any trait—height, eye color, leaf width, or seed size—and you can observe how the trait varies in a population. Some variations are an advantage to an organism and some are not.

Procedure

1. Copy the data table shown here, but include the lengths in millimeters (numbers 25 through 45) that are missing from this table.

Data Table

Length in mm	20	21	22	23	24	–	46	47	48	49	50
Checks											
My Data—Number of shells											
Class Data—Number of shells											

2. Use a millimeter ruler to measure a peanut shell's length. In the Checks row, check the length you measured.
3. Repeat step 2 for 29 more shells.
4. Count the checks under the length and enter the total in the row marked My Data.
5. Use class totals to complete the row marked Class Data.

Analysis

1. Was there variation among the lengths of peanut shells? Use specific class totals to support your answer.

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2. If larger peanut shells were a selective advantage, would this be stabilizing, directional, or disruptive selection? Explain your answer.

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