

Rescuing Rare Butterflies

Group Activity Background and Instructions

Objective

Students will simulate a field test performed by ecologists studying populations of various endangered species. This activity will allow students to recreate the process of point-counting and illustrate the difficulty of determining the accurate population sizes of four different species of butterflies.

Prerequisite information

Point-counting is a method that is used to predict the size of a population based on the number of butterflies one can see from a specific point. Ecologists compile all of these points to form a cohesive image of population density in specific habitats.

Preparation

Each pair of students will attempt to observe a portion of the butterflies located around the room from the point at which they are sitting. They will then calculate the predicted population size of each species using the point-counting method.

Using multiple sheets of paper in two different colors, cut out two sets of butterflies. Each same-colored set should include two different sizes of butterfly (suggested: one in a color that blends in with the space and one in a brighter color that stands out). These represent four unique species of butterfly. Tape the butterflies around the room so that not all butterflies are visible from one location.

Activity Instructions

1. Participants must stay in one location without moving or standing.
2. Using the time provided, participants will partner up to count each of the four different populations of butterflies.
3. Afterwards, participants will work together to calculate the population sizes for each species of butterfly with the following formula:

Species (by size and color)	# you saw = U	# your partner saw = P	# you both saw = B	Your det. Probability= B/U	Your Pop. Est.= (U x P)/B
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4. After the participants finish estimating the population size, compare the findings to the actual totals. How accurate were your calculations?

Good luck!