



Math Lesson 6: Analysis of Reef Data

Hawaii DOE Content Standards:

Math standard: [Data Analysis, Statistics, and Probability]-Pose questions and collect, organize, and represent data to answer those questions; Interpret data using methods of exploratory data analysis; Develop and evaluate inferences, predictions, and arguments that are based on data.

Performance indicator:

After completing this lesson, students will draw conclusions about coral coverage on the reef.

Time:

One or two class periods

Materials:

Butcher paper, tape, Post-It™ Notes, TI-84 calculators, View Screen

Activity

Students will have collected two pieces of information from each metric square they surveyed – an estimated percentage of coverage for each species of coral under study. They will use the concepts from the previous lessons to examine their data according to the directions below.

- A. Make a combined dot plot for percent of coverage using different colors for each of the two species on the same dot plot.
- B. Make a back-to-back stem-and-leaf plot for the data, each side representing the different species.
 - 1) Estimate what might be the mean percentage of coverage for each of the two species. From this estimated measure of center, can you estimate what the coverage is for the entire reef? Why or why not?
 - 2) Enter data on calculator (two lists) and compute mean, median, standard deviation and inter-quartile range using the CALC function under STAT. Generate by hand and on the calculator comparative box plots for the two species.
 - 3) Compare the two box plots. What do they show you? What are the differences, if any? Discuss why you think you got the results you did. What conclusions can you draw?