Pencil Project

Objective: The student will perform an experiment to produce data for building a scatterplot.

Materials: Graphing calculator, graph paper, data sheet

Procedure: Students will sharpen new pencils seven times. They will begin with a base measure before sharpening begins.

Teacher divides class into groups of three. One student will be responsible for sharpening and weighing pencils. Another student will be responsible for recording data on paper. The other student will be responsible for inputting data into lists on the calculator. Student should sharpen about one eighth of the pencil and measure the length in centimeters and weigh it in grams. This is then placed in the data sheets and into the calculator.

When completed, the students create a scatterplot using the length as the independent variable and the weight as the dependent variable.

When completed, the students should discuss and answer the following questions:

1, What procedure was used for data collection.

2. Why was length chosen to be independent variable? Would the graph mean the same thing if the variables were switched? Explain your answer.

3. The scatterplot demonstrates what type of correlation:

a) positive, weak

b) negative, weak

c) positive, strong

d) negative, strong

e) linear function

4. Explain the meaning of the scatter plot using the length and weight of the pencils. Were the results consistent? Explain your answer. As collected, did the data move right or left? Why?