

Algebra 2

Lesson Plan for Identifying Types of Correlation from a Graph and Calculator

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Objective

Students will identify different types of correlations graphically and by using the linear regression analysis obtained from a TI-84 Plus calculator. Students will also obtain and know the significance of a correlation coefficient as a result of this lesson.

Standard

The student will collect and analyze data to make predictions and solve practical problems. Graphing calculators will be used to investigate scatterplots and to determine the equation of the curve of best fit. Models will include linear, quadratic, exponential, and logarithmic functions (SOL A2.19).

Anticipatory Set

Information will be gathered regarding the students' knowledge and understanding about the subject by means of a 'Do Now.' This assignment will address basic correlational concepts such as positive, negative, weak, and strong correlations to ascertain a reasonable and prudent starting point for this lesson. If it is determined that the students understand basic scatter plots and the interpretation thereof, then we will progress to the introduction of correlation coefficients and the use of the calculator.

Students will login to NavNet and participate in a class graphing exercise using the Activity Center. The lists which result from this exercise will be compiled and distributed to the class for discussion and analyzation.

Teaching

Input

Students will use their assigned TI-84 Plus calculators and the TI Navigator system during the course of this lesson. Instruction will consist of obtaining and analyzing information and drawing reasonable conclusions from such analysis.

Modeling

Using three websites and various TI application and programs, the teacher will illustrate the significance of a line of best fit and the correlation coefficient.

Check for Understanding

Students will demonstrate their ability to collect, transfer, and compile information during class. We will use the TI Navigator system to share work and progress among students and the teacher.

Guided Practice

Students will begin working together in groups of two to share lists created by each individual. The lists will be comprised of the students' grade levels in L1 and L3 and her/his corresponding age at the start of that school year in L2 and L4. The first entry in L1 and L3 should be '0' to correspond with the student's year in kindergarten.

Students will then share their compiled lists with their partner. That is, one student will transfer these created lists from L1 and L2 to her/his partner's calculator, while the partner will similarly compose and transfer information from her/his lists L3 and L4. Each individual group of students will analyze their data by completing a linear regression on L1 and L2, then on L3 and L4 and determining the correlation coefficient of each analysis. The data points from all four (4) lists will then be collected using the Activity Center and analyzed by the class.

Closure

Students will work with their partner to compete in a Jeopardy game using TI Navigator's Quick Poll function.

Independent Practice

Each student will complete a worksheet that details her/his interpretation of each set of data. The student and her/his partner will complete the analysis of L1, L2, L3, and L4 on their own to demonstrate their understanding of the concepts contained in this exercise.