

Title: Graphing and Interpreting Linear Equations in Two Variables

Brief Overview:

Using linear equations of the form $Ax + By = C$, the lesson demonstrates how to make a table of values and graph using pencil, paper and the graphing calculator. The lesson also explores connections to real-life situations.

Link to Standards:

- **Problem Solving** Students will graph linear equation from a table of values.
- **Reasoning** Students will acquire an understanding of the relationship between the x and y components.
- **Connections** Students will use their knowledge of graphing linear equations to model real-life situations.

Duration/Length:

This lesson will take four or five 50-minute class periods.

Grade/Level:

Grades 8–12; Pre-Algebra and Algebra I

Prerequisite Knowledge:

Students must be skilled in evaluating expressions, solving an equation, plotting points in the xy - plane, and have knowledge of the basic features of a calculator.

Objective:

- To graph linear equations in two variables from a table of values.
- To use a graphing calculator to graph linear equations from a calculator generated table.
- To determine the x and y components and their relationship to each other in terms of a real-life situation.

Materials/Resources/Printed Materials:

- Graphing Calculator
- Graph Paper
- Ruler

Development/Procedures:

- The teacher will discuss dependent and independent components of a linear equation, show how to make a table of values for a linear equation of the form $Ax + By = C$ and read a graph. Students will then do Activity #1 followed by the teacher checking for understanding.