Graphing Linear Equations and Functions

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Grade Level: Algebra I

Topic: Graphs of Linear Equations

Objective (P.A.S.S.): Relations and Functions – the student will use relations and Functions to model number relationships.

1) Relations and Functions
   a. Distinguish between linear and nonlinear data.
   b. Identify dependent and independent variables, domain and range.
   c. Evaluate a function using tables, equations, or graphs.

2) Linear Equations and Graphs
   a. Solve linear equations by graphing or using properties of equality.
   b. Slope
      i. Calculate the slope of a line using a graph, an equation, two points or a set of data points

Instruction:

1. Introduction

   The video “Testing the Mars Rover” from the Futures Channel will be used to introduce the lesson to the students. After the video, we will discuss how the video relates to the lesson of linear equations.

2. Instructional Process

   Day 1:
   The students took a pre-test on their knowledge of Graphs and Linear equations. We then discussed the video. The students were then grouped in two’s. We also started on building the rovers. We then discussed the vocabulary that was on the pre-test.

   Day 2:
   The students continued on their rovers and the making of all sets of
Wheel diameters. This took a large amount of the time because we did not have enough compasses to make the wheel diameters, so we had to share.

Day 3:
The students started testing their rovers over various obstacles. They had to test and plot their data on the graph that was provided to them and do the additional questions that were attached.

Day 4:
Using the info that the students recorded, we compared the results and graphs to see what the differences were. The students also received a handout activity that dealt with graphing linear equations and slope.

Day 5:
Post test

3. Closure

In closing the lesson, we discussed how the information we learned related to the activities of building a rover. We also discussed and reviewed the vocabulary that was discussed. We viewed and discussed the video again.

Assessment

Test
Building a Rover activity
Worksheets
Journaling

Modifications/Accommodations

I put the students in groups of two and paired some of my slower learners with some of the more advanced students to help these students with the process of building the rover. I do not have any students who need a lot of help, but I could have had all of the wheel diameters already cut out for some modifications for students.

Reflection

The activity went pretty well. The students wanted to decorate their rover
which took up most of the time on the first day. I needed more compasses to make everything go faster, but it worked out well with having partners instead of doing it individually. I always feel like I could do more activities in class. I would have not had pre-test on the heading, because I feel like the students get nervous when they see the word test. This is the first activity I have done with a class in the Fall. I always feel like I am not a great teacher in the fall. I am a football Coach, and I have to give so much time and effort to that part of my job, That it makes teaching class the secondary part of my job.