

Name: Paula Wood

Grade Level/Subject: Algebra I

Topic: Slope

Objectives (P.A.S.S.): Standard 3: Calculate the slope of a line using a graph and an equation. Standard 4: Develop the equation of a line and graph linear relationships given the slope and y-intercept.

Introduction: We will begin by taking a timed ten minute pre-test. The pre-test will be followed by a discussion of slope and real-life applications such as how steep is a roller coaster, what does the sign mean when it says 7% grade, and what is the pitch of the roof?

Instructional process: Discuss the following:

- Day 1:
1. What is the definition of slope?
 2. How is slope written mathematically?
 3. What is the slope of a horizontal line?
 4. What is the slope of a vertical line?
 5. What is slope-intercept form? What is represented by each variable?
 6. How does this relate to real-life?

Day 2: **Activity 1**

In this activity, students use the Hot Wheels racing track and cars to determine how different track slopes change the rate of the cars. Students collect the following information: rise of the track, run of the track, and time it takes for the car to complete each 'race' (this was collected for each of four test runs and then the average was taken) Results for 5 different slopes were recorded and the results discussed.

Day 3: **Activity 2**

Students measured the rise and run of steps in various locations throughout the school and then determine the slope of each set of stairs.

Day 4: 7. What is slope-intercept form?

Day 5: 8. Review of all concepts discussed.

Closure: Following a review of the concepts taught, the post test was given at the end of class.

Assessment: Assessments were made from our homework assignment, pre-test, post-test, along with questions that were asked during class discussions.

Modifications/Accommodations: The activities were included in the lesson to help those students that need more concrete examples of slope. Students that work at a slower pace were additional time to complete the work and also had the opportunity to work together.

Reflection: I think this lesson went well. This is the first time I have used the idea of positive and negative lines rising or falling-I have always explained this in different terms. I think the idea of rising and falling helped many students with this concept. Also by discussing real-life examples prior to really getting into the definition and formula for finding slope also helped. Every student in my class this year had played a video game that dealt with airplanes which helped them to understand the idea of zero slopes for horizontal lines.