

# Lesson Plan

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**Objective: Students will determine and present the slope of an outdoor staircase at Dana Middle School. (Stemming from the beach lesson on tides and how the ocean floor is not flat.) Students will use the fourfold way to present their findings to their classmates**

**California Content Standards Addressed In This Activity (Problem Solving Experience)**

**Algebra and Function**

**1.3, 1.4, 1.5, 3.3, 4.1**

**Measurement and Geometry**

**1.2**

**Math Reasoning**

**1.1, 1.2, 1.3, 2.1, 2.8, 3.2, 3.2**

**Activity:**

**Students will work in homogenous cooperative learning groups to determine the slope of the stairs at Dana Middle School.**

- a. rise/run
  - b. change in y/change in x
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1. **Students will use a 3 foot piece of PVC pipe and a level to get a run of 3 feet.**
  2. **The will threat string with a weight and measure the change in y after a 3 foot run.**
  3. **Students will work collaboratively and mathematically determine the slope of the stairs.**
  4. **Students will present their answers to class**
    - a. **Graphically (graphing and showing slope)**
    - b. **Numerically (Slope intercept form or other equations to determine answer)**
    - c. **With words (describe answer)**
    - d. **And pictorially (Use a drawing of what we did and explain it)**