Lab Framework

Text:Applied Mathematics

Unit number and title: 11, Vectors

Short Description: How using vectors may make a student think twice that there's more than one way to accomplish anything

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Lab Title
From Here to Pysht

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
  Students should be able to compute final vectors
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)
  Working with scale drawings
- **Vocabulary**
  Resultant
  Magnitude
  Direction
- **Materials List**
  Map handout, ruler
- **State Standards addressed**
  Math: A1.2.D, A1.8.B, A1.8.C
  Reading: (Reading)
  Writing: (Writing)
- **Leadership Skills**
  A group leader following through that all answers are reasonable.
- **SCAN Skills/Workplace Skills**

- **Set-up information**
  Make sure that students read the scale correctly on the maps.
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required)**
  Students will work in groups of three, one will record making sure that while one of the other two students makes measurements the other student double checks the first student's measurements. This should take 20-25 minutes.
- **Teacher Assessment of student learning** (scoring guide, rubric)
  One-on-three mastery with the teacher. Students must show how they arrived at their answer and be prepared when challenged with a what-if situation to show mastery.
- **Summary of learning** (to be finished after student completes lab)
  -discuss real world application of learning from lab
  -opportunity for students to share/present learning
  Reflect on what you learned that would be useful if you were a pilot.

- **Optional activities**

  Make up a problem using a final vector between two cities on any given map (your choice) with your own list of cities that the problem solver must choose from (minimum of four cities) in order to achieve that final vector.
- **Career Applications**

  Pilots, ship navigators, Map makers, Various internet site programmers

LAB TITLE:_____
STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
- **Grouping instructions and roles**
- **Procedures** – steps to follow/instructions
- **Outcome instructions**
- **Assessment instructions** (peer-teacher)

Lab Data Collection

Student: _____ Date: _____

Unit: _____

Lab Title:

Criteria: Write the problem/objective in statement form

Data Collection: Record the collected/given data

Calculations: Complete the given calculations to solve for an answer(s)

Summary Statement:

Other Assessment(s)