

Lab Framework

Text: CORD

Unit number and title: 11 – Using Signed Numbers and Vectors

Short Description: A lab allowing students to describe their physical traits vs. the class average using signed numbers.

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Lab Title

Average Physical Traits

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

To be able to use signed numbers to describe how far your personal traits are away from the class average.

To be able to use data collected and apply to a given table.

- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)

Knowledge of finding an average.

Knowledge of using tools to find measurements of given physical traits.

- **Vocabulary**

Average

Signed numbers

- **Materials List**

Rulers, meter sticks

Calculator

White board

Paper and Pencil

- **State Standards addressed**

Math: A.1.2.A, A.1.8.A, A.1.8.B, A.1.8.E

Reading: (Reading)

Writing: (Writing)

- **Leadership Skills**

Group collaboration, defined roles, being a good listener.

- **SCAN Skills/Workplace Skills**

- **Set-up information**

1. Table ready with columns for:

a. Foot length (in or cm)

b. Height (in or cm)

c. Hand width – end of thumb to end of pinky (in or cm)

2. Calculators and rulers ready for distribution.

- **Lab organization** (-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)

1. Assign role of statistician

2. Work in groups of 3 to get measurements of 3 physical traits.

- One person is being measured, second person is measuring, and third person is writing down measurements.

3. When all three students have been measured, report numbers to statistician.
4. Copy number from the class chart onto your own table. (Steps 4-6 will be turned in to be graded)
5. When class chart is done, find the average length for each physical trait.
6. Assign a signed number that represents your personal data of these three traits compared to the class average.

- **Teacher Assessment of student learning** (scoring guide, rubric)

Visual observation

Collection of steps 4-6

- **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

Assigning a signed number to a give situation

- **Optional activities**

- **Career Applications**

Banking, Electronic Tech, Contractors,

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LAB TITLE: Average Physical Traits

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**

How do you work in a group of 3 to collect data?
Can you assign a signed number that correctly describes your data compared to the class average?
- **Grouping instructions and roles**
 1. Class is broke up into groups of 3 - One person is being measured, second person is measuring, and third person is writing down measurements.
 2. Statistician will collect data from each group and write it into the table.
- **Procedures – steps to follow/instructions**
 1. In your group of 3 - One person is being measured, second person is measuring, and third person is writing down measurements.
 2. When finished getting data for each student in the group, report your data to the statistician.
 3. When finished reporting to the statistician, make your own copy of the class chart. (Will be turned in for a grade)
 4. When class chart is done, find the average length for each of the three physical trait.
 5. Assign a signed number that represents your personal data of these three traits compared to the class average.
- **Outcome instructions**

You should have a copy of the completed class table and an assigned number to represent your data compared to the class average.
- **Assessment instructions (peer-teacher)**

Your teacher will be watching for preciseness on your measurements and how well you work with each other.

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Calculations: Show or explain the work that you used to complete the above given calculations to solve for the totals and the averages.

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Please answer the following questions.

1. Did you enjoy this lab experience? Why or why not?
2. Did you already know how to find the total values and the averages?
3. Did you learn or reinforce the notion of assigning signed numbers to a set of data?
4. How will you apply what you learned to your every day life?

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