

Lab Framework

Text: CORE

Unit number and title: Unit 4 Using Graphs, Charts, and Tables

Short Description: Students will go around and find out how many letters are in each student's name and be able to collect, record, and graph data to determine the average length of a student's name in the class.

Developed by: Erik Madsen

Contact Information: erikmadsen23@gmail.com

Date: 6/28/2011

Lab Title **Letter's in a Name**

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
 - Find the probability of some simple event.
 - Count the number of ways an event can happen.
 - Draw diagrams and charts to help find probability.
 - Use your calculator to find probabilities.

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

Students need to have an understanding of how to make tables, charts, and use central tendencies to help make predictions.
- **Vocabulary**
 - Axis, horizontal, vertical, histogram, central tendency, mean, mode, range, median, data, bar graph, circle graph, histogram, stem-and-leaf graph, box-and-whisker
- **Materials List**

Paper, pencil, calculators, rulers, markers, crayons, color pencils, graph paper
- **State Standards addressed**

Math: A1.8.A, A1.8.B, A1.8.C, A1.8.D, A1.8.E, A1.8.F, A1.8.G, A1.8.H
Reading: 1.2, 1.2.2, 1.3.2, 3.1, 3.3, 3.3.1
Writing: 1.1, 1.1.1, 1.2, 1.3, 3.1.1

- **Leadership Skills**

Students will work in groups of 2-3 that must communicate in order to collect their data in a timely manner. Grouping may be 2-3 students per group. Once grouped, job responsibilities rotate within the group allowing each student to collect measurements and record data.
- **SCAN Skills/Workplace Skills**

Writing: Record information completely and accurately.
Math: perform basic computations (use tables, graphs, diagrams, and charts to obtain or convey quantities.

- **Set-up information**

This will be done in the classroom. Make sure students understand the vocabulary and how to collect data, graph it, and find central tendencies.

- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)
 1. Day 1—Students will create their tables to gather information on each student and gather their data. They will start to organize their data to find the central tendencies.
 2. Day 2—Students finish finding their central tendencies. They will then create an appropriate graph to display their data. They will answer the questions for the lab.
- **Teacher Assessment of student learning** (scoring guide, rubric)
 - Graph (10 pts.)
 - Label x/y-axis (2pts)
 - Title (2 pts)
 - Used correct graph (1 pt)
 - Correct units (2 pts)
 - Appearance (3pts)
 - Table (10 pts)
 - Title (2 pts)
 - Label each part (2 pts)
 - Record data (1 pt)
 - Found each central tendency (5 pts)
 - Answer (10 pts)
 - Answer the question (2 points)
 - Uses data to back up answer (6 points)
 - Predicts what would happen next (2 pts)
- **Summary of learning** (to be finished after student completes lab)

Check the answers and data that the students found and check to see if it all matches up. See if they labeled graphs, tables, and were able to make a logical prediction.

- **Optional activities**
 1. Make another graph or graphs that can also be used
 2. If computers are possible, use excel to create your data table, find averages, make different types of graphs.
- **Career Applications**

Any type of data manager, marketing, productivity analysis

<https://wa-appliedmath.org/>

LAB TITLE: How Many Letters in a Name

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
An average student in this class has how many letters in their first name and last name?
- **Grouping instructions and roles**
Groups of 2-3
 1. Leader- Makes sure everyone is on task
 2. Recorder- Writes down the data
 3. Recorder- Writes down the data
- **Procedures – steps to follow/instructions**
 1. As a group create a data table
 2. Have Recorder(s) go out and ask everyone in class how many letters in their name.
 3. Leader tells other groups how many letters are in each person in their groups
 4. Figure out the central tendencies for names
 5. Create an appropriate graph that has all the necessary parts on it
- **Assessment instructions (peer-teacher)**
Write a conclusion that uses your data and predict if a new student joined the class how many letters would be in their name.

<https://wa-appliedmath.org/>