

## Lab Framework

**Text: Cord Classic**

**Unit number and title: Unit 19 Working With Statistics**

**Short Description:** Taking self established data and establishing an average utility payment.

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### Lab Title Paying Utilities

#### LAB PLAN

**TEACHER:** Teacher Prep/ Lesson Plan

- **Lab Objective**

Calculate the mean, mode, and median for a set of data. Distinguish between mean, mode and median as measures of central tendency.

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

Students will need a basic understanding of working with data, and a working understanding of working with statistics.

- **Vocabulary**

Central tendency, mean, median, mode, normal curve, range, standard deviation, trend

- **Materials List**

Parts 2 through 9 of the budgeting project, calculator, data sheet

- **GLEs (State Standards) addressed**

Math: 2.1.1 Formulate questions to be answered to solve a problem. 2.2.2 Apply mathematical concepts and procedures from number sense, measurement, geometric sense, probability and statistics, and/or algebraic sense to construct solutions. 2.2.3 Formulate and apply a strategy for solving the problem. 1.4.6 Develop informative tables, plots, and graphic displays to accurately represent and study data.

Reading: 3.3.1 Apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings 1.3.2 Understand and apply content/academic vocabulary critical to the meaning of the text, including vocabularies relevant to different contexts, cultures, and communities.

Writing: 2.2.1 Demonstrates understanding of different purposes for writing. 2.4.1 Produces documents used in a career setting.

- **Leadership Skills**

1.1 The student will demonstrate the ability to identify, organize, plan, and allocate resources. This means that the student is able to demonstrate allocating time, money, materials, space, and staff. A. *Time*. Select goal-relevant activities, rank them, allocate time, and prepare and follow schedules B. *Money*. Use or

prepare budgets, make forecasts, keep records, and make adjustments to meet objectives

- **SCAN Skills/Workplace Skills**

A. Performs basic computations B. Uses basic numerical concepts such as whole numbers and percentages in practical Situations A. Approaches practical problems by choosing appropriately from a variety of mathematical techniques.

- **Set-up information**

Students need their budget sheets from project parts 2-9. They will use this data (the amounts paid for the utilities) to calculate the mean, mode and median of the amount paid and determine if it would be advantageous for them to enroll in paying an equal amount each month.

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

This lab should be able to be completed within 60 minutes

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

Mathematical accuracy and justification as to whether it would be beneficial to pay equal amounts each month or pay actual amounts each month

- **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

- **Career Applications**

Practical home use, Accounting, Bookkeeping and in various areas of management such as facility management

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**LAB TITLE: Paying Utilities**

**STUDENT INSTRUCTIONS:**

- **Statement of problem addressed by lab**  
Is it better to pay utilities as they are billed or pay an annual average each month based on the previous year's monthly totals?
- **Grouping instructions and roles**  
This is an individual exercise based on each student's project results to date
- **Procedures – steps to follow/instructions**
  1. Go back through the budget sheets from parts 2 through 9 and record the amount paid for utilities.
  2. Determine the high, the low, the median, mode, and the mean payments for these utilities.
  3. Determine if paying a consistent amount each month would be beneficial to the budgeting process.
- **Assessment instructions (peer-teacher)**  
Accuracy of calculations determining the mean, mode, median, etc. and their written response and rationale to the question, "Is it better to pay utilities as they are billed or pay an annual average each month based on the previous year's monthly totals?"

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## 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)

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Math  
Council

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