

## Lab Framework

**Text:** Cord

**Unit Number and Title:** Unit 9 Ratios and Proportions

**Short Description:** Students will analyze the proportion of calories that come from the fat content in a variety of potato chips.

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### “Let the Chips Fall Where They May”

#### LAB PLAN

**TEACHER:** Teacher Prep/ Lesson Plan

- **Lab Objective**

Students will analyze the proportion of calories that come from the fat content in a variety of potato chips.

- **Statement of pre-requisite skills needed**

Previous knowledge of ratios and percents

- **Vocabulary Review**

A ratio is a comparison of two units.

Example: The score from the ball game was “3 to 2”. You are comparing one team's score to another. The comparison or ratio is 3:2

A proportion is an equality between two ratios.

Example:  $\frac{2}{3} = \frac{4}{6}$

A percent is a special kind of fraction whose denominator is always 100 (1/100).

Example: “Parts per hundred” usually represented by the symbol %. Percents are special fractions whose denominator is 100. One percent is equal to 1/100.

- **Materials List**

Small bags of a variety of potato chips  
Instruction sheet (attached)

- **State Standards addressed**

Math: A1.8.A, A1.8.B, A1.8.C, A1.8.D, A1.8.E, A1.8.F  
Reading: 1.1, 1.2, 1.4, 2.1, 2.2, 2.3, 3.1, 3.2  
Writing: 2.1, 2.2

- **Leadership Skills**

CTE Leadership Standard 2.1  
CTE Leadership Standard 1.4

- **SCAN Skills/Workplace Skills**

**Arithmetic**

- A. Performs basic computations
- B. Uses basic numerical concepts such as whole numbers and percentages in practical situations
- D. And uses tables, graphs, diagrams, and charts to obtain or convey quantities information

**Mathematics**

- A. Approaches practical problems by choosing appropriately from a variety of mathematical techniques.
- B. Uses quantitative data to construct logical explanations for real world situations
- C. Expresses mathematical ideas and concepts orally and in writing
- D. And understands the role of occurrence and prediction of events

**Writing**

- A. Communicates thoughts, ideas, information, and messages in writing
- B. Records information completely and accurately
- C. Composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, and flow charts
- D. Uses language, style, organization, and format appropriate to the subject matter, purpose, and audience.

- **Set-up Information**

- Divide students into groups of two
- Hand out instruction sheet (attached) to each group
- Distribute as many varieties of potato chips to each group as possible
- Vocabulary Review

- **Lab Organization**(-Grouping/leadership opportunities/cooperative learning expectations;)

- Assign role of statistician
- Assign role of data finder

- **Teacher Assessment of Student Learning** (scoring guide, rubric)

- Visual Observation
- Collection of charts

- **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

- **Optional activities**

- Students may eat chips when lab is finished

- **Career Applications**

- Teamwork**
- Interpreting Data**
- Use of ratios/proportions/percents**

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**LAB TITLE: “Let the Chips Fall Where They May”**

**STUDENT INSTRUCTIONS:**

- **Statement of problem addressed by lab**

Students will analyze the proportion of calories that come from the fat content in a variety of potato chips.

- **Grouping instructions and roles**

Students divide into groups of two. One student will be the statistician and the other will find and read the correct data from each bag of chips

- **Procedures**

Fill in the chart below with the correct data.

- **Outcome instructions**

Student will know the percentage of fat calories in each kind of potato chips.

- **Assessment instructions** (peer-teacher)

Teacher will observe the ability to work as a team.

Teacher will check the data on the chart for reliability.

**LAB DATA COLLECTION**

Names:

Unit 9: Ratios and Proportions

Lab Title: “Let the Chips Fall Where They May”

Fill in the chart below by doing the conversions to ratios and percents.

Name of Potato Chips	Total Calories	Calories from Fat (fat grams x 9 calories per gram)	Ratio of Fat Calories to Total Calories	Percent of Fat Calories to Total Calories

1. What did you learn from this lab experience?

2. How will you apply what you learned to everyday life?

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