

Lab Framework

Text: Applied Mathematics

Unit number and title: 3 Measuring in English and Metric Units

Short Description: How long is the rod?

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Date: June 25, 2008

Lab Title Measurement

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

To teach students how to measure using different lengths of rod

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

Measure makings on a ruler/tape

- **Vocabulary**

Ruler, $1/16$'s, $1/8$'s, $1/4$'s, $1/2$,

- **Materials List**

Rulers, metal squares, metal rods, pencil, handout,

- **GLEs (State Standards) addressed**

Understand the relationship between change in one or two linear dimension(s) and corresponding change in perimeter, area, surface area, and volume. W

Reading: 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. W

Writing:

2.1.1 Applies understanding of multiple and varied audiences to write effectively.

- **Leadership Skills**

When students who understand and finish the lab first, and have been checked off by me they would go and help other students and pre-check other students work.

- **SCAN Skills/Workplace Skills**

Problem solving, arithmetic, and mathematics

- **Set-up information**

1. Using the ruler, measure the arrive lengths of metal rod, and record the length to the nearest $1/16$ ". When you are confident in measuring, bring 2 different sized rods, and see Mr. Mann for check-off

Short _____
Medium _____
Long _____

2. Using a ruler measure the length and width of 3 different sized metal squares. Also calculate the perimeter (add the length of all 4 sides) and the area

(length X width). Don't forget to use square inches when computing the area of the squares. When finished see Mr. Mann for the check off.

Small: Length: _____

Perimeter: _____

Width: _____

Area: _____

Medium: Length: _____

Perimeter: _____

Width: _____

Area: _____

Large: Length: _____

Perimeter: _____

Width: _____

Area: _____

Check Off:

Rod Measurement: _____

Area/Perimeter: _____

- **Lab organization** (-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)
Students work in pairs, but complete their own assignment. Take one class period.
- **Teacher Assessment of student learning** (scoring guide, rubric)
Grading the lab, and sign off sheet
- **Summary of learning** (to be finished after student completes lab)
Ask why this is important to learn.
Ask where they could apply this in their environment today.
- **Optional activities**
Go out in the parking lot and expand this with circumference of tires
- **Career Applications**
Construction, mechanics, engineering, medical field

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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)

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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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