

Lab Framework

Text: Cord Applied Mathematics

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

Short Description: Students will have a chance to familiarize themselves with the units of measuring length for both the English and Metric systems. They will also compare the two units and understand which unit is better for a given situation.

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Lab Title

English & Metric Length Basics

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

Students will know the basic measurements for length in both the English and Metric systems. They will understand the Metric system is a base 10 system and they will be able to state which measurement would be best in a given situation.
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)

Some basic knowledge of taking measurements using rulers
- **Vocabulary**

Centi Kilo Inch Yard Meter
- **Materials List**

Rulers, paper clips, pennies, meter sticks, yard sticks
- **State Standards addressed**

Math: 2.3.C Measure length to the nearest whole unit in both metric and U.S. customary units.
A1.8.B Select & Apply Strategies to Solve Problems
Reading: (Reading)
Writing: (Writing)
- **Leadership Skills**

Communication of ideas and thoughts
- **SCAN Skills/Workplace Skills**
- **Set-up information**

Tools are handed out to tables of students
Students work in groups of 2 or alone
Students gather required measurements
Students complete calculations on worksheet
Students make observations about Measurement Systems
Students discuss findings
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations;
-Timeline required)

Data collection should only take about 15 to 20 minutes. Discussion may take ½ to 1 hour.
- **Teacher Assessment of student learning** (scoring guide, rubric)

Teacher observations and class discussion. This is a pre-assessment lesson.

- **Summary of learning** (to be finished after student completes lab)
 - discuss real world application of learning from lab
 - opportunity for students to share/present learningDiscussion of findings, discovery of Base 10 system, discussion of businesses and impact of global economy on measurement systems and jobs.

- **Optional activities**

- **Career Applications**

Construction, Fashion, Material use and/or ordering

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LAB TITLE: English & Metric Length Basics

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
In this lab you will review the basic measurements for length in both the English and Metric systems. You will make observations about the systems and do some basic conversions.
- **Grouping instructions and roles**
Students may work alone or with a partner.
Complete the required measurements and conversions
Record a few observations of thoughts about the 2 systems
- **Procedures** – steps to follow/instructions
Make sure each table of students has a couple of rulers, 1 metric stick, and 1 yard Stick
Hand out the student worksheets
Review the requirements
Students make and record the appropriate measurements
Students complete the conversions
Students record a couple of observations or thoughts about each system
Have the class discuss their findings
- **Outcome instructions**
Students will complete their data collection. Once the class is done, materials will be returned and class will discuss findings and draw conclusions. Students will understand that the Metric System works as a base 10 system and changes by multiples of 10.
- **Assessment instructions** (peer-teacher)
Teacher observations and class discussion

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Lab Data Collection

Student: _____ **Date:** _____

Unit: Measuring in English and Metric

Lab Title: English & Metric Length Basics

Criteria: Write the problem/objective in statement form

Data Collection: Record the collected/given data in English & Metric

Length of a table
Height of a chair
Width of the table
Width of a penny
Width of a finger
Length of a paperclip

Calculations: Complete the given calculations to solve for an answer(s)

Inches in a foot inches in a yard feet in a yard

Millimeters in a centimeter centimeters in a meter

Millimeters in a meter

Summary Statement: What do you notice about the two Measurement Systems

Other Assessment(s)

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