Lab Framework

Text: CORD Applied Math

Unit number and title: Unit 1 LEARNING PROBLEM-SOLVING TECHNIQUES

Short Description: BULLETIN BOARD FUN

Measurement, Conversion from inches to feet to yards

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Lab Title
BULLETIN BOARD FUN

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

    To be able to measure width and height of two bulletin boards

    To use information gathered to determine amount of material needed to cover two different sizes of bulletin boards (one will required fabric with horizontal pattern)

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

    Knowledge of measurements—inches, feet, yards

    Knowledge of conversion from inches to feet to yards

- **Vocabulary**

Convert	Horizontal
Width	Vertical
Height	
Dimension	

- **Materials List**

    Students

    Measuring tape

    Paper

    Pencil/pen

    Worksheet

    Calculators

    Measurement conversion chart

- **State Standards addressed**

Math:

7.6.A Analyze a problem situation to determine the question(s) to be answered.

7.6.B Identify relevant, missing, and extraneous information related to the solution to a problem.

7.6.C Analyze and compare mathematical strategies for solving problems, and select and use one or more strategies to solve a problem.

7.6.D Represent a problem situation, describe the process used to solve the problem, and verify the reasonableness of the solution.

7.6.E Communicate the answer(s) to the question(s) in a problem using appropriate representations, including symbols and informal and formal mathematical language.

A1.6.B Make valid inferences and draw conclusions based on data.

A1.8.A Analyze a problem situation and represent it mathematically.

A1.8.B Select and apply strategies to solve problems.
- **Leadership Skills**
    Group collaboration, good listener, good communicator
- **SCAN Skills/Workplace Skills**
- **Set-up information**
    Bulletin boards accessible
    Calculators and pencils ready for distribution
    Worksheets ready to hand out
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; - **Timeline required)**
    1. Assign role of statistician
    2. Assign role of measurer
    3. Work in groups of two to complete worksheet
- **Teacher Assessment of student learning** (scoring guide, rubric)
    1. Visual observation
    2. Lab data collection sheet
    3. Completion of bulletin boards
- **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
    -opportunity for students to be responsible for bulletin boards each month/quarter, etc.
- **Optional activities**
- **Career Applications**
    1. Use data for future bulletin board updates
    2. To work within a team

LAB TITLE: BULLETIN BOARD FUN
STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
    How to measure width and height of two bulletin boards
    How to convert measurement in inches into yards
    How to deal with horizontal patterns
- **Grouping instructions and roles**
    Students will be assigned a partner by instructor (done by height, matching cards, randomly)
- **Procedures** – steps to follow/instructions
    Choose statistician. Teacher will explain role.
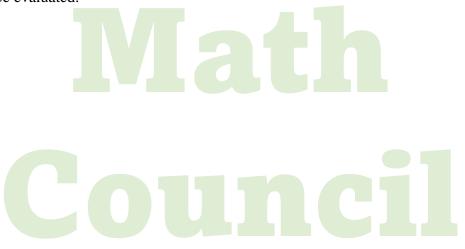   Choose measurer. Teacher will explain role.
    You will use the information compiled by the statistician to complete a worksheet and create two bulletin board backgrounds.
- **Outcome instructions**
    You will have one completed worksheet with diagrams of proposed plan to cover two bulletin board backgrounds.
- **Assessment instructions** (peer-teacher)
    Teacher will be observing the problem-solving process. That observation will include how team works together and their communication skills. Completion of the bulletin boards will also be evaluated.

Lab Data Collection
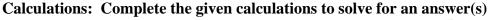
Student: _____ **Date:** _____

Unit: UNIT 1 LEARNING PROBLEM-SOLVING TECHNIQUES

Lab Title: BULLETIN BOARD FUN

Criteria: Write the problem/objective in statement form

Data Collection: Record the collected/given data
    1. Label all numbers

Calculations: Complete the given calculations to solve for an answer(s)
    1. Draw each of the bulletin boards, labeling the width and height dimensions
    2. Convert measurement from feet
    3. Determine amount of fabric needed for the following
       ▪ Board 1--- will use fabric that is 45" wide (with horizontal pattern)
       ▪ Board 2--- will use fabric that is 36" wide

Summary Statement:
    1. How much fabric is needed to cover both bulletin boards?