

Lab Framework

Text: CORD

Unit number and title: 1 Problem solving techniques

Short Description: Putting tile on a kitchen island

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Lab Title

Tiling a Kitchen Island

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

To be able to read a blue print

To use dimensions from the blue print to form equations

Use equation to determine how much tile is needed

Use equation to determine which tile option will save me the most money

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

Problem solving techniques

Units of measurement

Read and interpret information from tables

Basic geometry

- **Vocabulary**

Computational solution Area Problem Equation

Plan Factor Problem solving

- **Materials List**

Price list for tile Blue print for kitchen island

Calculator Pencil and paper

- **State Standards addressed**

Math: A1.1.A Select and justify functions and equations to model and solve problems

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

A1.8.E Read and interpret diagrams, graphs, and text containing the symbols, language, and conventions of mathematics

G.6.C Apply formulas for surface area and volume of three-dimensional figures to solve problems

Reading: 1.1. Use word recognition skills and strategies to read and comprehend text.

2.3. Expand comprehension by analyzing, interpreting, and synthesizing information and ideas in literary and informational text

3.4. Read for literary experience in a variety of genres

Writing: 2.1. Adapts writing for a variety of audiences.

2.3. Writes in a variety of forms/genres.

3. The student writes clearly and effectively

Communication: 1.1. Uses listening and observation skills and strategies to focus attention and interpret information

- **Leadership Skills**
Group collaboration, communication skills, and defined roles
- **SCAN Skills/Workplace Skills**
- **Set-up information**
Price list, blue print, paper, pencils, paper, calculator, ready for distribution
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)
Assign group leader, task manager. Work with a partner
- **Teacher Assessment of student learning** (scoring guide, rubric)
Visual observation
Collection worksheet
- **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
 - apply information learned to their lives
- **Optional activities**
Apply lesson to larger areas or other home improvement projects
- **Career Applications**
Gathering and interpreting information
Presenting information in a user friendly format
Work within a team

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LAB TITLE: Comparing breakfast cereals

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**

Wife wants to tile our kitchen island. I want to find the cheapest and most efficient way (save time). Find the area of the kitchen island top. Find which tile to buy that will save me the most money and save me the most amount of time.

1. What is the area of the kitchen island surface?
2. How many tiles will I need of tile 1?
3. How many tiles will I need of tile 2?
4. Which tile should I use to save me the most money?

- **Grouping instructions and roles**

Form groups of two

One leader gathers materials

One timekeeper keeps group on task

Both create equations and determine which tile to use, check each others work

- **Procedures** – steps to follow/instructions

- a. Gather all materials
- b. Find the blue print for the island top
- c. Record dimensions for the surface of the kitchen island
- d. Use the dimensions to formulate an equation to determine the area.
- e. Calculate how many tiles (of each type) it will take to cover the top of the kitchen island
- f. Determine which tile to purchase that will save me the most money and time

- **Outcome instructions**

You should have a worksheet with your equations and calculations for the area and how much tile you should have. You should have calculations for the two different sizes of tile. Your worksheet should also express which tile I should purchase to save me the most money and time.

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

Turn in individual worksheets with equations, and your answers to the 4 questions form the problem section.

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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, and form equations.

Calculations: Answer 4 questions from “statement of problem”.

Summary Statement:

Other Assessment(s) answer the following question:
How would you apply this lesson/lab to your life?

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