

CORDLab Framework

Text: CORD

Unit number and title: Units 7/8 ; Working with shapes in two/three dimensions

Short Description: This LAB is designed to instruct students on how to compute board feet and costs related to buying lumber.

Developed by: John Flynn and Howard Clark

Contact Information: Stadium High Tacoma (253-571-3032) (JFLYNN or HClark@Tacoma.K12.wa.us)

Date: 6/24/10

Lab Title

Determining Board Feet

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
 - The objective of this lab is for students to have a hands-on experience converting linear feet to board feet and related costs.
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)
 - Understand and be able to articulate the vocabulary of the previous lesson.
- **Vocabulary**
 1. Board feet
 2. MBF
 3. Volume
- **Materials List**
 1. Calculator
 2. Cost calculations worksheet. See attached
- **State Standards addressed**
 - Math: 6.4.E. – Determine the surface area and volume of a rectangular object.
- **Leadership Skills**
 - Students can work in pairs and complete the lab. One will record data and one will present if called upon.
- **SCAN Skills/Workplace Skills**
- SCAN Skills A-D of Mathematics
- expectations; **-Timeline required**)
- 1. Hand out calculators and worksheet 3 minutes
 2. Explain and give examples of task 10 minutes
 3. Work on hand out 15 minutes
- **Teacher Assessment of student learning** (scoring guide, rubric)
 - Students will do the study activity on page 18, Unit 8 which will be turned in at the end of the lab for grade.
- **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

Students learn how to explain the identifying characteristics of board feet, how board feet relates to estimating costs in the construction trades. Board feet is used in engineering design, construction.

- **Optional activities**

Ask students to give examples of how an understanding board feet relates to construction they have done.

- **Career Applications**

Skill

Occupation

Construction

Roofer, Carpenter, Construction contractor,

Manager

Design

All fields of Engineering, Architects

Applied

Math

Council

<https://wa-appliedmath.org/>

LAB TITLE: _____

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
Given a sample piece of wood calculate the board feet and cost at a given rate.
- **Grouping instructions and roles**
Work as pairs. One to record the results and other ready to present the data.
- **Procedures** – steps to follow/instructions
Use hand out and calculator to compute worksheet
- **Outcome instructions**
Each team will demonstrate the ability to compute the work sheet accurately.
- **Assessment instructions** (peer-teacher)
Students will turn in activity.

Washington Applied Math Council

<https://wa-appliedmath.org/>

Lab Data Collection

Student: _____ Date: _____

Unit: _____

Lab Title:

Criteria: Write the problem/objective in statement form

What is board feet? How is it computed? Where is it used

Data Collection: Record the collected/given data

Record your results on the work sheet provided.

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

Show how calculations were derived

Summary Statement:

Explain the results of this lab

Other Assessment(s)

You will be given a quiz next session on this lab

<https://wa-appliedmath.org/>