

Lab Framework

Text: CORD

Unit number and title: Unit 2: Estimating Answers

Short Description: Estimating

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Lab Title

Unit 2: Estimating Dots

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

Consider a problem that seems overwhelming, and use estimation skills to find a possible solution.

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

Understand the formula for area of a square
Know how to use a measuring tape

- **Vocabulary**

N/A

- **Materials List**

Masking tape
Tape measure

- **GLEs (State Standards) addressed**

Math: 1.1.7 Use vocabulary (word meaning) strategies to comprehend text.

1.1.8 Apply estimation strategies involving addition and subtraction of integers and the four basic operations on non-negative decimals and fractions to predict results or determine reasonableness of answers.

5.3.1 Understand that mathematics is used extensively in daily life outside the classroom.

5.3.2 Understand that mathematics is used in many occupations or careers.

Reading: (Reading)

Writing: (Writing)

- **Leadership Skills**

2.7 The student will demonstrate the ability to train others to understand the established rules and expectations, rationale, and consequences and to follow those rules and expectations.

2.8 The student will demonstrate the ability to incorporate and utilize the principles of group dynamics in a variety of settings.

- **SCAN Skills/Workplace Skills**

Reading: Understands instructions and interprets data

Writing: Communicates thoughts, ideas, information and data in writing.

<https://www.appliedmath.org/>

Mathematics: Performs mathematical operations such as finding area, multiplying, dividing, adding, subtracting and estimating.

Listening: Understands verbal cues and instructions.

Participation: Works well in a cooperative learning team, adding valuable input to the success of the lab.

- **Set-up information**

Need enough space in the room for students to mark out a one foot square area and measure the area of the room.

- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)

Students are in groups of 3.

One student is in charge of delivering the final estimation

One student is the scribe

One student is in charge of accuracy

Students will learn to work independently within a group as well as use cooperative learning to find the final solution.

- **Teacher Assessment of student learning** (scoring guide, rubric)

Grading will be based on participation

- **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

-discuss how we can use this lab to count the number of stars in the sky

-discuss how we can use this lab to count deer in the Snoqualmie Valley

- **Optional activities**

Do this lab in the grassy meadow, and dig a 1 foot square of sod and count the number of worms in that square, then estimate how many worms are in the entire meadow.

- **Career Applications**

Wildlife Ranger, Biologist, Retail Sales, Construction estimator

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

LAB TITLE: Unit 2: Estimating the dots

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
Given the carpet in our classroom, estimate the number of white dots in the carpet.
- **Grouping instructions and roles**
Students are in groups of 3.
One student is in charge of delivering the final estimation
One student is the scribe
One student is in charge of accuracy
- **Procedures – steps to follow/instructions**
As a group, brainstorm ways to accurately estimate the number of white dots on the carpet.
- **Outcome instructions**
Using the data collection sheet:
Write an estimation of the number of white dots on the carpet
Write a description of the brainstorming activity: What proposals were considered, what was the group discussion, and how did the group come up with ideas.
Write the steps the group used to estimate the number of white dots on the carpet in the classroom.
- **Assessment instructions** (peer-teacher)

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) _____