

Lab Framework

Text:CORD Classic

Unit number and title: Unit 11-Using Signed Numbers and Vectors.

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Lab Title

PEOPLE SHUFFLE

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Short Description: Using a group of students lined up in a row, demonstrate how a number line works

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

Student will understand how the number line works by demonstrating his/her willingness to participate in exercise.

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

Students need to have mastered how to do measuring in metric and English units; know how to do triangle, lines and angles, and how do interpret scale drawings.

- **New Vocabulary**

Absolute Value: The numerical value of a number without regard to its sign; the distance from 0 to a point on the number line (|__| means absolute value).

Whole Number: A number from the set of numbers {0, 1, 2, 3, 4 ...}.

Signed Numbers: numbers with a positive or negative sign in front of them

- **Materials List**

Just people/students.

Lab for each participant

Pencil

- **GLEs addressed**

Math: 2.2.1: Select and use relevant information to construct solutions. W

2.2.2: Apply concepts and procedures from number sense, measurement, geometric sense, and/or statistics to construct solutions. W

Reading: 2.1.5: Apply comprehension monitoring strategies for informational and technical materials, complex narratives, and expositions: predict and infer.

2.1.6: Apply comprehension monitoring strategies for informational and technical materials, complex narratives, and expositions: monitor for meaning, create mental images, and generate and answer questions.

Writing: 1.3.1: Revises text by adding words and/or phrases to draft.

1.6.2: Uses collaborative skills to adapt writing process.

- **Leadership Skills**
- **Group Skills:**
- **2.1 The student will communicate, participate, and advocate effectively in pairs, small groups, teams, and large groups in order to reach common goals.**
- **1.1 The student will analyze, refine, and apply decision-making skills through classroom, family, community, and business and industry (work-related) experiences.**
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- **SCAN Skills**
 - Responsibility:
 - A. Exerts a high level of effort and perseverance towards goal attainment.
 - Self-Esteem:
 - B. Demonstrates knowledge of own skills and abilities.
 - Sociability:
 - C. Relates well to others
- **Set-up information**
 - Line up students in a row. Have an inanimate object for the "zero". After experiment is completed, have students relate in his/her own words how the number line works.
 - Students will then complete Lab sheet.
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; **-Timeline required**)
 - Only one 45 minute period is needed for this lab.
 - Group recorder.
- **Teacher Assessment of student learning** (scoring guide, rubric)
 - Teacher observation/participation.
 - Rubric
 - Grading the lab sheets.
- **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
- **Optional activities**
 - Students could create their own number line/timeline using their own life as an example.
- **Career Applications**
 - Math teachers.

LAB TITLE: PEOPLE SHUFFLE

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
Students to learn how a number line works by being "shuffled" back and forth along the "number line".
- **Grouping instructions and roles**
One person to set up the "zero" and to get everyone in line.
- **Procedures – steps to follow/instructions**
Every student gets into line.
Teacher then will tell what student to move where up or down the "number line".
- **Outcome instructions**
Students will share with each other and instructor their lab sheets.
Students will then turn the lab sheet in to be evaluated by instructor.
- **Assessment instructions (peer-teacher)**
Teacher observation--follow directions carefully.
Completed lab sheets.

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)