Lab Framework

Text: CORD

Unit number and title: Unit 1 Learning Problem-solving Techniques

Short Description: Students will use the 4-step problem-solving model to solve a problem.

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Lab Title
Seat Me, Please

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
  Students will use the 4-step problem-solving method to solve our stadium seating problem.
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)
  Percents and measurement.
- **Vocabulary**
  Pacing
- **Materials List**
  Student worksheet
- **GLEs (State Standards) addressed**
  Math:
  1.1 Understands and apply the concepts and procedures from number sense
  2.1 Define Problems
  2.2 Construct solutions
  4.1 The student communicates knowledge and understanding in both everyday and mathematical language.
  Reading:
  1.2 Use vocabulary (word meaning) strategies to comprehend text
  Writing:
  2.4 Writes for career applications
- **Leadership Skills**
  2.3 The student will analyze the complex responsibilities of the leader and follower and demonstrate the ability to both lead and follow.
  2.4 The student will demonstrate skills that assist in understanding and accepting responsibility to family, community, and business and industry.
  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**
  Writing
  A. Communicates thoughts, ideas, information and messages in writing.
  B. Records information completely and accurately.
  Math
  A. Performs basic computations.

B. Uses basic numerical concepts such as whole numbers and percentages in practical situations

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

  Teams of 2 with specific tasks.

  Lab will be done in an 80-minute block period. Students will use most of the period gathering data. Additional time may be needed in the following period.
- **Teacher Assessment of student learning** (scoring guide, rubric)

  Students will be assessed, on a percentage basis, on the accuracy of their calculations and their persuasive conclusion that must include a minimum of two statements of supporting data and meets the WASL standard for writing.
- **Summary of learning** (to be finished after student completes lab)
  - Each team will share their conclusion and supporting data with the class.
  - The teachers should ask for possible career applications and discuss them.
- **Optional activities**

  Students can calculate how much space the bleachers will need.
- **Career Applications**

  The ability to problem-solve is critical in all careers.

LAB TITLE: Seat Me, Please
STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
  The Cedarcrest Stadium currently seats 300 fans. With the overwhelming increase in our fan sport, the district will add 50% additional seating.
  Each 30' of bleachers seats 20 fans.
  How many additional feet of bleachers need to be added and how many fans will be seated?

- **Grouping instructions and roles**
  Students work in groups of 2. One student will be the pacer and one will record the data.

- **Procedures** – steps to follow/instructions
  1. The student doing the pacing will use the 1' x 1' tiles in the commons to pace off 15'.
  2. The student records the number of steps in 15'.
  3. After the pacing is determined, the students will go to the stadium.
  4. Students pace off the bleachers and record the length of each bleacher.
  5. Students calculate the current amount of seating in feet.
  6. Students calculate the additional amount of bleacher need to seat the additional fans.

- **Outcome instructions**

- **Assessment instructions** (peer-teacher)
  Students will be assessed on the accuracy of the data and their calculations.
  The conclusion should include supporting data from their lab as well as a persuasive answer.

Lab Data Collection

Student: _____ Date: _____

Unit: Unit 1 - Learning Problem-solving Techniques

Lab Title: Seat Me, Please

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)