Lab Framework

Text: Cord Applied Math

Unit number and title: Unit 16- Linear Problems that Involve Linear Equations

Short Description: Students will be following a process to guide them to the point where the students are creating problems written in words to be translated into equations.

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Lab Title

Translating problems into equations

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
  - Recognize the different parts of information written in word form
  - Translate the parts of information into an equation
  - Write problems written in word form
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)

  Basic math and measurement skills, ability to write an equation
- **Vocabulary**

  Slope intercept form
  Equation
  y-intercept
  x-intercept
  plot
- **Materials List**

  Student Activity Sheets
  Pencil
- **GLEs (State Standards) addressed**

  Math:
  1.1 Understand and apply concepts and procedures from number sense
  1.2 Understand and apply concepts and procedures from measurement
  1.3 Understand and apply concepts and procedures from geometric sense
  1.5 Understand and apply concepts and procedures from algebraic sense
  Reading:
  1.2 Use vocabulary (word meaning) strategies to comprehend text
- **Leadership Skills**
- **SCAN Skills/Workplace Skills**

  Performs basic computations
- **Set-up information**

  Copies of worksheets set by the document camera
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required)**

Working independently until stated in the directions, Leadership problem available, and one 55 minute class period.

- **Teacher Assessment of student learning** (scoring guide, rubric)
  Follow scoring on rubric. If the students complete both worksheets fully then they have successfully completed the activity.
- **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**
  You can have the students create problems that will be incorporated into the test with the knowledge and understanding that you will only include those problems that are quality.
- **Career Applications**
  Construction, farming, design, mechanics, nutritionists, fashion design, vets, surveyors, nurses, fashion producers, and architects.

LAB TITLE:_____
STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
  Recognize and translate problems written in word form into equations

- **Grouping instructions and roles**
  This is a worksheet that you will be filling out by yourself unless otherwise instructed in the directions of the problem.

- **Procedures** – steps to follow/instructions
  - Pick up a worksheet from the stack by the document camera
  - Follow the directions for each question section.
  - For numbers 9 and 10 you are just going to copy the same problems you created for 8 and 9. Make sure you put your name on the "worksheet created by" line.
    - Give the worksheet containing numbers 9 and 10 to another student to answer the equation and solution sections
    - When the student finishes the worksheet they will give it back to you
    - You need to correct the assignment and answer any questions they may have
    - Make sure to attach the worksheet that you created (and the other student answered) and attach this to the back of your assignment sheets
  - Pick up grading rubric-located by the document camera-and fill out student section

- **Outcome instructions**
  - Successfully recognize the different parts of information written in word form
  - Successfully translate the parts of information into an equation
  - Successfully write problems written in word form

- **Assessment instructions** (peer-teacher)
  Fill out student section of grading rubric and turn in with assignment worksheet

Translating Problems into Equations

Student: _____ Date: _____

Unit: 17-Solving Problems that Involve Linear Equations

Directions: Write an equation to express the information for problems 1-3. Use the equation to solve the problem.

Example: A bottle of soft drink holds 20 ounces. How many ounces are there in a case of 24 such bottles?
Key: Volume=v
Equation: V=24 cans x 20 oz per can
V=24 x 20
V= 420 oz total for a case of 20 bottles

1. A metal pipe is 40.8 inches long. How much must be cut off to leave a piece that is 26.9 inches long?

2. Your allowance money has a ten percent of the amount assigned to go into a savings account. If your monthly allowance is $120.00, how much money is put into a savings account?

3. It costs $7.50 per person for admittance to the movie theatre. If there is a group of 16 people going to the movie, how much money are they going to need total to pay for admittance?

Directions: Write a problem to express the information represented by the equation for numbers 4-6.

Example: t = 50 x 4

A team of debaters are going to a tournament in Sunnyside and it costs $50.00 per person for the entry fee. If there are four people on the team how much will it cost for them to attend the tournament?

4. s = 10.80 – 5.70

5. i = 780 ÷ 6

6. c = 9 x 45

Directions: For numbers 7-8 write a problem that expresses information to be used in an equation. Write the equation to express the information for the problem you write and then use the equation to solve the problem.

7. Problem:

Equation:

Solution:

8. Problem:

Equation:

Solution:

Directions: For numbers 9-10 write the problems that you created for 7 and 8. Give this worksheet to another student and have them fill in the equation and the solution.

Translating Problems into Equations

Student: _____ Date: _____
Worksheet Created by_____

Unit: 17-Solving Problems that Involve Linear Equations

Directions: Write an equation to express the information for problems 9 and 10. Use the equation to solve the problem. When you are finished solving the problems please give this worksheet back to the person who created the problems. They will correct the assignment and answer any questions you may have. *=parts to be answered by you

9. Problem:

*Equation:

*Solution:

10. Problem:

*Equation:

*Solution: