Lab Framework

Text: CORD

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

Short Description: Students will be given a problem around cell recycling and determine how profitable it would be to recycle the phone. Students will demonstrate application of the 4 Step Problem-Solving Technique.

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Contact Information: WAMC

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Lab Title
Cell Phone Fundraiser

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

    To have more practice in solving a problem using math concepts.

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

    The ability to use a calculator.
    Problem solving techniques.

- **Vocabulary**

    Recycle
    Percentage

- **Materials List**

    Paper and pencil
    Student Instruction Sheet
    Lab Collection Data Sheet

- **State Standards addressed**

    Math:
    A1.8 B Select and apply strategies to solve problems.
    Reading:
    3.1,3.2,3.3
    Writing: NA

- **Leadership Skills**

    Ability to work on a team
    Ability to communicate clearly

- **SCAN Skills/Workplace Skills**

- **Set-up information**

    Students will organize into groups of 4
    Students will have worksheets available.
    Each team will have a calculator.

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

    Lab will take approximately 30 minutes
    Distribute worksheets
    Present and review problem

Direct Students to work out problem.
Compare answers and step taken to solve problem with other teams.

- **Teacher Assessment of student learning** (scoring guide, rubric)
  Collection of worksheets at end of class.
  Observation of teams.
- **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**
  Other Lab activities in the student workbook
- **Career Applications**
  List how this problem solving benefits career in the environmental field.

LAB TITLE: Cell Phone Fundraiser
STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
Your school had decided to use old cell phones to benefit their student body by recycling them. The student council needs to know how much money can be made.
- **Grouping instructions and roles**
Breaking into teams of four and applying the 4 Step Problem-solving Process your team will decide how much money can be made.

- **Procedures** – steps to follow/instructions
Given the following information:
1) Old cell phones can be recycled in three ways:
a. Some cell phones, if they still work, can be sold for re-use.
b. With other cell phones, the phones can be taken apart and their parts can be sold.
c. With phones that are older or broken, the parts of the cell phones can be crushed and melted into metals and plastic that can be used to make new cell phones or other things.
2) When you collect old cell phones from homes, usually around 20 pounds out of 100 fit into category (a), about 30 pounds fits into category (b), and about 50 pounds fits into category (c).
3) The cell phones in category (a) can be sold to a distributor for about $10 a pound.
4) The cell phones parts in category (b) can be sold to manufacturers for about $1 a pound.
5) The cell phones in category (c) can be sold to raw materials processors for about 10 cents a pound.
Based on this information, if you collected 2,500 pounds worth of cell phones, about how much money would expect to make?

Using the 4 Step Process determine the amount of money that could be made. Show your work and be precise.

- **Outcome Instructions**
Explain the outcome and whether or not your team thinks that this program could be a successful fundraiser?

_____
_____
_____
_____
_____
_____

- **Assessment instructions** (peer-teacher)
Collect the Lab Data Collection Report

Lab Data Collection

Students:_____ **Date:** _____

Unit 1: Learning Problem-solving Techniques

Lab Title: Cell Phone Fundraiser

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)