

Lab Framework

Text: AMME Unit 14

Unit number and title: Unit 14 Who is Responding?

Short Description: In this activity, students will demonstrate an understanding of dependent (responding) and independent (manipulated) variables.

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Lab Title

Who is Responding?

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
SWBAT identify an responding variable and a manipulated variable
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)
Algebraic expression
- **Vocabulary**
Responding
Manipulated
Variables
- **Materials List**
Various classroom materials
- **State Standards addressed**

Math: A1.3.A, M1.2.A Determine whether a relationship is a function and identify the domain, range, roots, and independent and dependent variables.

Reading: 1.2.2 Apply strategies to comprehend words and ideas.

Writing: 3.3.6 Uses complete sentences in writing.

- **Leadership Skills**
Working in group
- **SCAN Skills/Workplace Skills**

Mathematics

B. Uses quantitative data to construct logical explanations for real world situations

Thinking Skills-- Creative Thinking

Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and perhaps goals in ways that reveal new possibilities.

- **Set-up information**
Before beginning lab define vocabulary words
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)
Day 1- Form teams of three, Set up cooperative learning tasks, Review vocabulary, review algebraic expressions, cover model, then introduce lab, complete activity sheet.
Day 2 – Design a table explaining variables using real life situations and reflect.

- **Teacher Assessment of student learning** (scoring guide, rubric)
Rubric
- **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**
5 exercises naming the responding and manipulated variables
- **Career Applications**
Science experiments where there is a control and other variables

LAB TITLE: Who is Responding?

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
Name the responding variable and the manipulated variable
- **Grouping instructions and roles**
Form groups of three, one student recorder, one student reader, one student solver (rotate after each exercise)
- **Procedures** – steps to follow/instructions
The team will design a model, from the assigned algebraic expression, to demonstrate responding and manipulated variables.
From real life decide on the elements of your model
Construct your model
Label responding and manipulated variables
- **Outcome instructions**
Completed model
Reflection
- **Assessment instructions** (peer-teacher)
Labeling algebraic expressions for responding and manipulated variables
Team to determine correct answers through discussion of answers.

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