

## 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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