**Redwater School Junior High Lab Report**

*Contain the following components*

**Title of Lab**

**Your Name**

**Purpose/Question/Problem:**

* *as described in textbook*
* *reason for doing lab*

**Hypothesis:**

* *a sentence that answers the question of the lab and describes what you think will happen in the lab. Another word for hypothesis is prediction.*

*Eg. I hypothesize that …*

**Safety Precautions:**

* *a sketch or words to describe any and all safety precautions that should be taken during the lab.*

**Apparatus:**

* *unless changes are made to the apparatus, you may reference to the appropriate page in your textbook. For example: Refer to Apparatus section p. 50 of Science Focus 7.*

**Materials:**

* *Unless changes are made in the materials we will be using, you may reference the appropriate page in your textbook. For example: Refer to Materials section p. 50 of Science Focus 7.*

**Procedure:**

* *Sometimes you will be required to write out the entire procedure as directed by your teacher and other times you may reference the appropriate page(s) in your textbook. For example: refer to Procedure section p 50 – 51 of Science Focus 7.*

**Variables:**

* *After writing a hypothesis or making a prediction, you will need to correctly determine the variables for each lab you do. Finding out your variables is often one of the most difficult parts of a lab write-up. This should help make it easier:*
  + *A variable is defined as any part of an experiment that changes or could be changed.*
  + *The three (3) variables you must identify are:*
    - ***Manipulated Variable*** *– the one variable that you, the experimenter are going to change. There is generally only one manipulated variable in each experiment.*
    - ***Responding Variable*** *– the variable that automatically changes because of what you have done. The change in the responding variable causes a response, or the responding variable. There is generally only one responding variable in each experiment.*
    - ***Control variable(s)*** *– the variables that are kept the same in the experiment. They could be changed if you were doing a different experiment, but for the one you are doing, you are making sure they stay the same. There should* ***always*** *be at least* ***4*** *of these that you identify for each experiment.*

**Results:**

* *Measurements made during the lab*
* *Observations made during the lab:*
  + *Qualitative Observations –*
  + *Quantitative Observations –*
* *May include data tables, charts, and graphs of data collected. (Data tables and/or charts* ***must*** *be done prior to lab.)*

**Analysis:**

* *Includes answers to questions at end of lab. ALL ANSWERS* ***MUST*** *BE WRITTEN IN COMPLETE SENTENCES.*

*Eg. Question: Which WHIMIS symbols do you think you might see in this unit?*

*Eg. Answer: The WHIMIS symbols I will see in this unit are: corrosive, flammable, dangerously reactive, and compressed gas.*

**Conclusion:**

* *Includes answers to the concluding question at the end of the lab. ALL ANSWERS* ***MUST*** *BE WRITTEN IN COMPLETE SENTENCES.*
* *Includes a brief sentence that states whether your Hypothesis was correct or incorrect.*
* *Includes a brief sentence describing what you found out (usually answers or responds to the Purpose/Question/Problem stated at the beginning of the lab).*

**Sources of Error:**

* *May be required for some labs.*

**Grade 9 Introductory Review**

**An investigation was made of nutrients that help plant growth. A student was given two young tomato plants of the same type. Each plant was placed in a 15 cm pot containing potting soil. The plants were placed on a window sill at the south side of the classroom and watered at the same time with the same amount of water. In pot A, the student added nutrient A to the soil, and in Pot B, he added nutrient B. It was discovered that the tomato plant grew better in nutrient B.**

**Problem:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Hypothesis:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Manipulated Variable:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Responding Variable:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Controlled Variables:**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Units of Measure:**

* Match the unit of measure from column A with the correct description on column B:

|  |  |
| --- | --- |
| **Unit** | **Description** |
| 1. Meters 2. Seconds 3. Liters 4. Grams 5. Newtons | \_\_\_\_\_ 1. Force  \_\_\_\_\_ 2. Distance  \_\_\_\_\_ 3. Mass  \_\_\_\_\_ 4. Time  \_\_\_\_\_ 5. Volume |

**RULES FOR GRAPHING:**

1. Graphs **MUST** be completed on graph paper.

2. All graphs **MUST** be a full page. The graph itself should take up at least ¾

of the graph paper.

3. The manipulated variable is **ALWAYS** placed on the x-axis (horizontal or

bottom).

4. The responding variable is **ALWAYS** placed on the y-axis (vertical or up

and down axis).

5. Each axis **MUST** be labeled and units (cm, g, mL, etc) provided.

6. Make sure all increments or spaces (ticks) between the numbers on the

scales are evenly and equally spaced apart. It is not necessary to write

the number next to every tick.

7. Make sure you choose numbers for your scales for each axis that will

allow your graph to contain all the data and fit the whole page.

8. If there is more than one line graph on the same graph, each line **MUST**

be in a different color.

9. If you are using a Legend, the legend **MUST** be within a textbox and situated on the top right corner within the graph, but not overlapping the data.

10. All graphs **MUST** have a Title (proper noun so use capitals) and that title is usually given in the lab or is the same title used for the chart or data table in the Observations.

11. Neatness counts!!

**Practice Examples:**

**1. Graph the following data using “How to Make a Line Graph” and referring to “RULES FOR GRAPHING”:**

**May 2011 Rainfall**

|  |  |
| --- | --- |
| **Week** | **Amount**  **(mm)** |
| 1 | 5 |
| 2 | 24 |
| 3 | 16 |
| 4 | 0 |

**May 2012 Rainfall**

|  |  |
| --- | --- |
| **Week** | **Amount**  **(mm)** |
| 1 | 10 |
| 2 | 0 |
| 3 | 2 |
| 4 | 34 |

**2. Graph the following data using “How to Make a Bar Graph” and referring to “RULES FOR GRAPHING”.**

**Favorite Foods of 300 Grade 7 Students**

|  |  |
| --- | --- |
| **Food** | **Number of Students** |
| Pizza | 103 |
| Spaghetti & Meat Sauce | 88 |
| Hamburger & Fries | 42 |
| Steak & Baked Potatoes | 45 |
| Macaroni & Cheese | 22 |