Sample Data Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Candy Color** | **# of Candies** | **Mass of Candy (g)** | **Relative Mass (g)** | **% Abundance** |
| Red |  |  |  |  |
| Blue |  |  |  |  |
| Green |  |  |  |  |
| Pink |  |  |  |  |
| TOTALS |  |  |  |  |

AVERAGE ATOMIC MASS OF YOUR CANDY ELEMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**How to perform calculations:**

Column 1 (# of Candies): This is the total number of a particular color of candy. You count these.

Column 2 (Mass of Candy): Take the mass of each color candy. Put them on an electronic balance and record mass to the hundredths place (0.01).

Column 3 (Relative Mass): For each candy color, divide the mass by the number of candies in that color.

Column 4 (% abundance): Divide each number in Column 1 by the total number of candies and multiply by 100. Your total should be 100%

To calculate average atomic mass, multiply each candy’s mass by its DECIMAL form of the percent abundance. Add them up.

Analysis:

1. What is the average atomic mass of your element?
2. If there is someone in your class who has the same bag of candy you do, compare your results. How are they similar? How are they different?
3. What is the point of knowing the relative mass of an element?

What you are going to submit:

This is your very first lab writeup, so I wanted to make it fairly easy so you can make the best grade possible. The information below can be found on the website, but I’m including it here. This lab report is due Friday, September 15.

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Grade 9/10 Lab Report Template

Font: Times New Roman Size 12

Margins: Standard

Formatting: APA

Citations should be included in the introduction and the conclusion.

**Introduction**

5 to 6 sentences in the following sequence: (a) introduce the topic by defining and/or giving a real world example (4 sentences) and (b) then state what the current lab will be investigating and why (2 sentences).

**Problem**

What is the problem to be investigated? (This must be a question)

**Hypothesis**

A reasonable prediction about what might happen

**Variables**

IV:

DV:

Controls: (You should have at least 2)

**Materials**

(a bulleted list and equipment needs to be specified)

**Safety Precautions**

 There should be at least two. The more, the better, but they have to be logical.

**Procedure**

(a step by step numbered list. If your procedure is short and unclear, then you run the risk of getting a 3 or 4. Detailed procedures get higher marks.

**Data Processing & Analysis**

Data should be presented first in a summary table (Table 1: Title) with labeled columns (including units).

Then data should be presented in a graph with labeled axes and a title. The IV is the x-axis and the DV is the y-axis.

After the graph comes a description of the trend shown in the graph and a statement that describes whether the hypothesis was supported or refuted. (REMEMBER: YOU CAN’T PROVE ANYTHING!

**Conclusion**

7-8 sentences. Summarize the experiment (2-3 sentences). Describe what was learned during the course of the experiment and relate it to the problem statement (answer the problem, in other words; 3 sentences). Describe what should be investigated in future experimentation (2 sentences).

**Evaluation**

There are three things that must be discussed in this section.

1. Describe the validity of the experiment. Validity means that the experiment measured what it was supposed to measure. The experiment was either valid or not. If it was, explain why. If it was not, explain why not. (4 sentences minimum)
2. Describe the errors (both human and otherwise) in the experiment and explain how they affected the outcome. Random errors are uncontrollable and systemic errors are errors within the equipment. Some errors include inaccurate and unclean equipment, data collection, and individual issues in terms of preparation and setup. (4 sentences minimum)
3. Describe what changes need to be made to improve the experiment. (3 sentences minimum)

**References**

 At least 3.