Chemistry
Unit #1: Introduction

Independent and Dependent Variables Activity

Purpose

The purpose of this investigation is to identify and example the independent and dependent variables.

Materials

Five washers	Ruler	Paper Clip
Rubber Band	Pencil	Triple Beam Balance

Procedure

1. Make three qualitative and three quantitative observations for the items on your table.
2. Place the observations into the observations table.
3. Develop a hypothesis for the activity. Place the hypothesis under the observations table.
4. Measure the initial length of the rubber band. Record measurement in the data table.
5. Place the opened paper clip on one end of the rubber band.
6. Hold the rubber band and opened paper clip by one hand.
7. Place one washer onto the opened paper clip and hold by one hand.
8. Measure the length of the rubber band ONLY, in centimeters, after placing the washer onto the opened paper clip.
9. Record the length of the rubber band into the data table.
10. Repeat Steps 7 through 9 for 2 washers, for 3 washers, for 4 washers, and for 5 washers.
11. Answer the Questions.
12. Perform the Calculations.
13. Write a Conclusion.

Qualitative and Quantitative Observations

Qualitative Observations		Quantitative Observations	
1.		1.	
2.		2.	
3.		3	

Hypothesis

Data Table

Initial Length of Rubber Band (centimeters) _____ cm

Number of Washers	Length of Rubber Band
1	cm
2	cm
3	cm
4	cm
5	cm

Questions

1. Of the materials given in the activity, which material is the independent variable? Explain your reasoning.

2. Of the materials given in the activity, which material is the dependent variable? Explain your reasoning.

3. How long did the rubber band stretch after the addition of 1 washer? (SHOW YOUR WORK AND UNITS)

4. How long did the rubber band stretch after the addition of 2 washers? (SHOW YOUR WORK AND UNITS)

5. How long did the rubber band stretch after the addition of 3 washers? (SHOW YOUR WORK AND UNITS)

6. How long did the rubber band stretch after the addition of 4 washers? (SHOW YOUR WORK AND UNITS)

7. How long did the rubber band stretch after the addition of 5 washers? (SHOW YOUR WORK AND UNITS)

8. Based on the collection of data, was your hypothesis testable? Explain your reasoning.

Conclusion