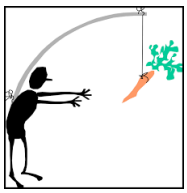
Scientific Investigation: Page 1 of 4 Name Period

Problem/Assignment _____



1. Problem and Background: Score

____a) Provide background vocabulary and scientific principles related to the question.	
____b) Describe previous observations (evidence) that help guide the investigation.	
____c) Write a clear, measureable Problem that will use numbers to compare and answer.	
____d) Give your references or sources of information.	

a) Background Vocabulary & Scientific Principles: (Look up. Read. Write Sources below.)

1.

2.

3.

b) Pre-Observations and Evidence: (What have you seen or done before this investigation?)

I have noticed

I tried

c) Measureable Problem and Hypothesis or Prediction: (Use numbers to answer.)

I will

I predict

d) Sources of Information:

1.

2.

3.

Problem/Assignment

2. Design:

	Score
____ a) Write logical (list in order) procedures to set up, collect and record data.	
____ b) List materials and resources that are needed to collect relevant (useable) data.	
____ c) Identify variables that need to be controlled and measured.	
____ d) Illustrate the setup with clear labels	

a) Procedures: (Include how to make before and after measurements.)

1.

b) Materials List:

1.

c) Variables:

1. Controlled Variables include

2. The Dependent Variable depends on the and is

3. The Independent Variable is the one being tested and is

d) Illustrations:

Problem/Assignment_____

3. Data: Organize, Collect, Re-Organize and Present your Data: Score

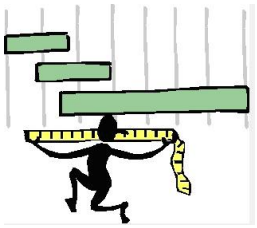
___ a) Organize a data chart for consistent recording of measureable (numbers), useful data.	
___ b) Collect and record data according to your plan that helps answer the question.	
___ c) Record accurate data in a consistent and organized way.	
___ d) Summarize and display (graph) your data to answer the problem.	

a-b-c) Data Chart:

Trial					

d) Summary of Data: Calculate Totals, Averages or Percentages.

d) Display Data:



Problem/Assignment_____

4. Analysis: Develop Conclusions from your Data. Include Errors. Score

___ a) Uses your numerical summary of data (evidence) to explain your results	
___ b) Clearly communicate your conclusions or solution/answer to the problem.	
___c) Include errors and evidence that disagrees with your conclusions.	
___d) Next: Suggest relevant revisions or further investigations.	

a - b) Conclusion including Numerical Summary Paragraph:

My evidence (data) of

shows that

After analyzing, my evidence (I think) my inferences include

When I
I expected

c) Explanation of Errors and "Disagreeable" Data:

A specific error was that

I had to (redo or leave out?) the data that

d) Next:

To do this again, the procedure(s) I would change

To continue and show more evidence, I could