Name: _____ Idea Due Date: _____ Work Day: _____ Project Due Date: _____

Scientific Method Report

For this project you will design your own experiment to show your understanding of the scientific method and scientific research. Your project must include balls in some way. They can be any size or type of ball. Be creative, but keep in mind the requirements of this project as you plan. The rubric for this project is below. Since your report will be counted as a test grade, be sure to work on this ahead of time and not leave it until the night before. A work day is set aside so you can do your experiment or a portion of it in class. If you do not plan to do your experimentation in class, you may need to bring extra work to do that day.

Project Idea

On the lines below write down your idea for your project so that it can be approved by your instructor.

_____

_____

_____

_____

Instructor Approval: _____

Project Rubric

_____ Follows Project Directions and Quality (5 points)
You should complete your project on time and include everything as described on this piece of paper. You should have a complete idea ready for instructor approval on or before the idea due date. Your project should be a good example of freshman level writing with a minimum of spelling, grammar, or punctuation errors.

_____ Observations and Hypothesis (5 points)
The observations that apply to your experiment should be stated. Your hypothesis should be clearly written and be directly tested by your experiment.

_____ Experiment Design (10 points)
Your experiment outline should clearly label the following: independent variable, dependent variables, control, and constant(s). The experiment description should clearly state all steps so that another student would be able to recreate your experiment.

_____ Graph and Data Table (5 points)
Your graph and data table should follow all of the conventions as described in class and in your textbook.

_____ Conclusion (5 points)
Your conclusion paragraph should describe the results of your experiment and reference how well the hypothesis was tested. You should include suggestions for improving your experiment or further testing your hypothesis.

_____ Total Points (out of 30)

A description of your report:

1. It should be double-spaced with one inch margins and use a 12-point Times New Roman font.
2. The first line should be Left Justified and include your first and last name. The second line should state Physical Science and your section number (i.e. Physical Science, 3rd Hour). The third line should be centered and contain the title of your project.
3. The remainder of your report should be left justified.
    a. Part 1: Observations (a paragraph that describes both the item(s) to be studied and its environment)
    b. Part 2: Hypothesis (a sentence that makes a statement that will be tested)
    c. Part 3: Experimentation (a numbered outline of the steps you did to test your hypothesis. Each point in your outline should be in sentence form. Clearly identify the independent variable, dependent variable, control, and constant(s) of your experiment.)
    d. Part 4: Data Table and Graph (may be hand-written, but computer generated is vastly preferred)
    e. Part 5: Analysis/Conclusion (a paragraph or two that describes the results of your experiment and suggests what follow-up experiments could be made or how your experiment could be improved.)
4. Staple this piece of paper to your typed report so that the rubric side is on the front.

Some guidelines:

1. You must not put yourself or any other life form in danger. While it might be interesting to see how bowling balls of various masses roll down Center Street hill, it is not worth it.
2. If you experiment at home, parental approval must be obtained. While it might be interesting to see how deep of a divot a golf ball makes in drywall at different velocities and angles, your mother will most likely not approve.
3. If you experiment at school, you must supply any materials that the school does not already own. While it might be interesting to test the flight dynamics of balls made of different precious metals, the MVL Science Department likes to save its pennies for explosive chemicals and things that go boom. (Although if you do purchase the equipment and then donate it to the school, the department would have no qualms.)
4. Keep the directions and rubric in mind as you dream up your project. Although many things sound cool, it may be difficult to determine independent/dependent variables, control groups, and constants when your experiment includes ping pong balls, peanut butter, and the family dog.

Benjamin L. Sisko
Physical Science Hour 1
Mr. Dobberpuhl
September 30, 2009

Scientific Method Project

Part 1: Observations

The observations portion of your report should be done in a complete paragraph. The paragraph should describe the item(s) that is being studied as well as the environment it will be studied in. In general, the paragraph should be written in a way that leads to the hypothesis and gives the reader an understanding of why your topic was chosen.

Part 2: Hypothesis

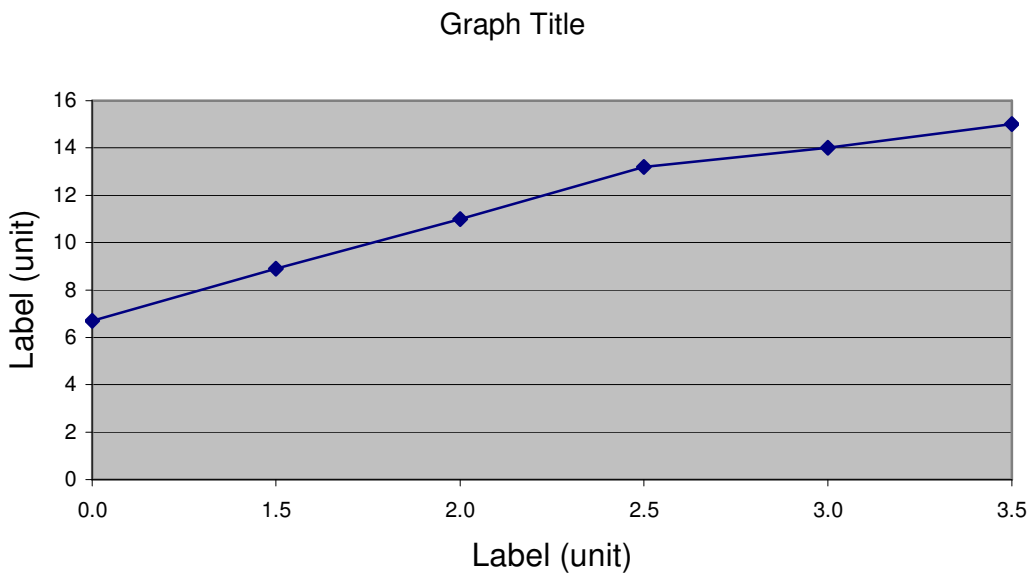
The hypothesis is a single sentence, not a question, which is tested by your experiment.

Part 3: Experimentation

1. The experimentation part of your report should be in numbered outline form.
2. It will describe all of the steps of your experiment in enough detail that any reader would be able to produce the same results that you received.
3. Within the experimentation outline you must clearly identify the *independent variable*, *dependent variable*, *control* and *constant(s)* of your experiment. (The vocabulary should be italicized as in the preceding sentence.

Part 4: Data Table and Graph *(Appropriate table and graph to your project, may differ from example.)*

	Label (unit)	Label (unit)
Trial 1		
Trial 2		
Trial 3		



Part 5: Analysis/Conclusion

The first paragraph should describe the results of your experiment in normal/everyday English. The hypothesis that was stated earlier should be rewritten in a positive or negative fashion to show that it was either proven or disproven.

The second paragraph should identify how this experiment could be improved and suggest follow-up experiments that could be made to further explore your topic.