

Newtonian Physics Lab Report Guidelines

Note: These are intended to help you organize your report. By NO means must you include all the topics listed below. Your report should reflect you, how and what you've learned and how you present your knowledge.

Title:

Your own original, unique heading in bold print or in banner format

Introduction:

Start with a "catchy hook." Introduce physics, Isaac Newton, Newtonian physics, Thinker Tools software, and "real world" experiments versus computer simulation. Use scientific vocabulary from chapters 5 & 6. Use your Newton biography for background information. You may want to bring in a quote from Newton, a descriptive image or photo, or a thought-provoking question for your reader. To find out more about Thinker Tools you can visit Cal's web site (thinkertools.soe.berkeley.edu). Focus on Newton's Second Law. What have you found particularly interesting about physics? Briefly describe your experiment and state your hypothesis. Use a separate line or double space between the paragraph and the hypothesis. You may want to use a separate font for your hypothesis.

Materials:

A list or table

Procedure:

A numbered list of what you did for your experiment

Results and Observations:

At least one, labeled Data Table of your "real world" experiment. Include a heading and description of your data. Graph of your data with header and description. "Grab" shot of a Thinker Tools simulation with header, properly labeled or described.

Analysis:

This is the area of the report that you bring in the science that you have learned to describe what your experiment revealed or didn't reveal. Be as specific as possible when you discuss your experimental results. Refer back to your data table and graph and use "for example" or "as you can see from" to support your assumptions. Explain why you think something occurred and use physics laws to support it.

Now refer to the Thinker Tools "grab" shot. Explain what it illustrates. Compare your results to the "controlled, simulation environment." Explain the labeled balls, dot prints, the datacross and the timer. Compare this experiment to your "real world" experiment.

Conclusion:

Restate your hypothesis. Was your hypothesis proven correct or incorrect? Why? What problems did you encounter that made your experiment difficult or faulty? How could have the experiment be improved. Where could you go from here to further your study of Newtonian physics. What questions do you have now? Your final sentence should bring your report back to the beginning. Answer that thought-provoking question or refer back to your Newton quote. Ask your reader another question or leave them with the feeling that you know more than what this report reveals alone. Make them, laugh, smile, cry or cringe (HA!).