

WRITING A FORMAL LABORATORY REPORT

- 1. TITLE/TITLE PAGE (5 POINTS)** --The title should consist of a few well-chosen words that summarize the purpose of the lab activity. The effect of the independent variable on the dependent variable is always a good place to start. The title of the lab report is centered in the middle of the page, with name, date, and class period in the lower right hand corner.
- 2. HYPOTHESIS (10 POINTS)** -- This statement is a prediction of the results of a series of tests. It should usually be in the form of an if/then statement or some variation of that form. It should be testable, logical, and based on common knowledge.
- 3. EXPERIMENTAL DESIGN (15 POINTS)** -- Describe what you physically did in the lab. Details would include an explanation of procedure/techniques, materials needed, etc. Be sure to list what the dependent and independent variables, the controls, and the constants which were in the experiment.
Consists of the following parts in the following order:
 - List of materials needed for the experiment
 - Procedure or protocol in a list of steps
 - Identification of dependent and independent variable , control and constants
- 4. DATA COLLECTION (20 POINTS)** -- State the observations, data obtained, and the overall results from your lab. In this portion of your lab report you will include sketches of the experimental set-up, apparatus, or equipment and data tables including both qualitative and quantitative data collected. These items should be clear, neat, and labeled. Tables and charts should be accurate, organized and include clearly- labeled column names, units of measurement, and proper significant digits. Each chart or data table must have a title. Please visit <http://www.ncsu.edu/labwrite/res/res-homepage.htm> for more information about collecting data and visually reporting qualitative or quantitative data.
- 5. RESULTS OR DATA ANALYSIS (20 POINTS)** -- Analyze your lab results by explaining what they mean. Graphs (i.e. line, bar, or pie) should be neat and clear with title, axis labels, units, and appropriate scaling. Point out and explain similarities and differences between your results and others in the class or standard values. Answer all analysis questions and be sure to include the question along with your fully developed response. Please visit <http://www.ncsu.edu/labwrite/res/res-homepage.htm> for more information about creating graphs.
- 6. CONCLUSION (20 POINTS)** -- How did the results of your experiment compare to your prediction? Was the hypothesis supported? Evaluate your experimental procedure/ technique. Did you notice any flaws in your technique that may account for any problems you may have experienced? Explain possible sources of error or problems that may have influenced your results. Connect lab investigation with other outside research you conduct.

7. STYLE AND MECHANICS (10 POINTS)

Consider the following when composing your lab report:

- Write in the past tense and use passive voice. (“I” or “we” do not belong in lab reports.)
- Use **metric** units ONLY. Please ask for assistance if you need help in this area.
- If you start a sentence with a number, write out the number.
- Refer to animals and plants by their scientific names. Underline or italicize the Latin name (i.e. *Homo sapiens* or Homo sapiens).
- Use plain white paper for the title page. Type or print in **black ink** only.
- All other pages should be typed if possible or written neatly in black ink on white-lined paper. Results such as data tables and sketches may be created with the help of a computer **BUT ALL GRAPHS MUST BE CREATED BY HAND.**
- Each report should be unique to your group. Do not copy other groups’ data, answers, or any other parts of the lab write-up. Often times you will be asked to include class data which will be the class average(s) for particular measurements and compare them with your group’s data.
- Always include a works cited page or bibliography for any resources or references that you use when writing your lab report. You will most likely refer to or include additional research information in the final two sections of your lab (results/data analysis and/or conclusion).

Sample References – MLA Citation Style

Book

Okuda, Michael, and Denise Okuda. Star Trek Chronology: The History of the Future. New York: Pocket, 1993.

Journal Article

Wilcox, Rhonda V. "Shifting Roles and Synthetic Women in Star Trek: The Next Generation." Studies in Popular Culture 13.2 (1991): 53-65.

Newspaper or Magazine Article

Di Rado, Alicia. "Trekking through College: Classes Explore Modern Society Using the World of Star Trek." Los Angeles Times 15 Mar. 1995: A3.

Book Article or Chapter

James, Nancy E. "Two Sides of Paradise: The Eden Myth According to Kirk and Spock." Spectrum of the Fantastic. Ed. Donald Palumbo. Westport: Greenwood, 1988. 219-223.

Encyclopedia Article (well known reference books)

Sturgeon, Theodore. "Science Fiction." The Encyclopedia Americana. International ed. 1995.

Encyclopedia Article (less familiar reference books)

Horn, Maurice. "Flash Gordon." The World Encyclopedia of Comics. Ed. Maurice Horn. 2 vols. New York: Chelsea, 1976.

Website

Lynch, Tim. "DSN Trials and Tribble-ations Review." Psi Phi: Bradley's Science Fiction Club. 1996. Bradley University. 8 Oct. 1997 <<http://www.bradley.edu/campusorg/psiphi/DS9/ep/503r.html>>.