Writing a Conclusion Paragraph - [BALTIMORE COUNTY PUBLIC SCHOOLS](https://www.bcps.org/)

A conclusion paragraph is one of the most important parts of a lab report. The conclusion paragraph contains a description of the purpose of the experiment, a discussion of your major findings with a brief explanation, a statement about the acceptance of your hypothesis, a discussion of errors in your experiment, and recommendations for further study.

Address the following ideas using paragraph form. Be concise while answering the following questions and use transitions to connect the ideas.

1. Restate the purpose of the experiment (include independent (IV) and dependent (DV) variables.)

**One format:** The purpose of the experiment was to investigate the effect of the \_\_\_\_(IV)\_\_\_\_\_\_\_\_\_\_ on the \_\_\_\_\_(DV)\_\_\_\_\_\_\_\_\_\_

**Example:** The purpose of the experiment was to investigate the effect of nitrogen fertilizer concentration on the growth of corn plants by comparing the growth of corn plants subjected to varying concentrations of nitrogen based fertilizer.

2. What were the major findings? (Summarize your data and graph results)

**Example:** A significant difference existed between the height of fertilized plants and non-fertilized plants. Plants receiving 2% to 5% nitrogen fertilizer concentrations showed an increase in the average height by10% over plants with <2% and >5% nitrogen fertilizer concentrations. The average height of the corn exposed to nitrogenous fertilizer concentrations between 2% and 5% was 22 cm and the average height of the plants exposed to nitrogenous fertilizer concentrations <2% and >5% was 20cm.

3. Was the hypothesis supported by the data?

**One format:** The hypothesis that (insert your hypothesis) was (supported, partially supported, or not supported.) Do not use the word “prove” – we do NOT prove hypotheses true in science.

**Example:** The hypothesis that nitrogenous fertilizer concentration has no effect on plant height was not supported.

4. What were your errors & how could this experiment be improved?

**Example:** This experiment was performed inside of a classroom where the temperature was not constant. Some plants were closer to the heat vent and may have been exposed to a different temperature than other plants. Perhaps this experiment could be improved by placing all plants equal distance from the heat vent. The experiment also relied on premixed fertilizer mixes. The mixes could have had incorrect concentrations. This experiment could be improved by testing the premade solutions to confirm the accuracy of the mix concentrations..

**NOT acceptable:** This experiment would have been better if we had done it correctly – we did sloppy work and made careless measurements.

**NOT acceptable:** This experiment would have been better if we had more time to do more trials.

5. What could be studied next after this experiment? What new experiment could continue study of this topic?

**Example:** Additional investigations using additional concentrations would be a good additional experiment. Also, other crops could be subjected to the same experiment, such as beans and cucumbers. Perhaps scientists could use additional fertilizer mixes with different nutrients (e.g. phosphorous, potassium, etc).

**Sample Conclusions -** [**http://www.sciencebuddies.org/science-fair-projects/project\_sample\_conclusions.shtml**](http://www.sciencebuddies.org/science-fair-projects/project_sample_conclusions.shtml)

Top of Form

Bottom of Form

**Results**

According to my experiments, the Energizer maintained its voltage (dependent variable) for approximately a 3% longer period of time (independent variable) than Duracell in a low current drain device. For a medium drain device, the Energizer maintained its voltage for approximately 10% longer than Duracell. For a high drain device, the Energizer maintained its voltage for approximately 29% longer than Duracell. Basically, the Energizer performs with increasing superiority, the higher the current drain of the device.

The heavy-duty non-alkaline batteries do not maintain their voltage as long as either alkaline battery at any level of current drain.

**Conclusions**

My hypothesis was that Energizer would last the longest in all of the devices tested. My results do support my hypothesis.

I think the tests I did went smoothly and I had no problems, except for the fact that the batteries recover some of their voltage if they are not running in something. Therefore, I had to take the measurements quickly.

An interesting future study might involve testing the batteries at different temperatures to simulate actual usage in very cold or very hot conditions.

## Key Info

Your **conclusions** summarize how your results support or contradict your original hypothesis:

* Summarize your science fair project results in a few sentences and use this summary to support your conclusion. Include key facts from your background research to help explain your results as needed.
* State whether your results support or contradict your hypothesis. (Engineering & programming projects should state whether they met their design criteria.)
* If appropriate, state the relationship between the independent and dependent variable.
* Summarize and evaluate your experimental procedure, making comments about its success and effectiveness.
* Suggest changes in the experimental procedure (or design) and/or possibilities for further study.



