

Title – Look at handouts from proposals

Abstract – Like executive summary w/o error analysis or hypothesis

It is a summary of the whole paper

About 150 – 500 words

One paragraph

Introduction

- It tells where and when, e.g. ...at the Macomb Academy of Arts and Sciences, Armada, MI (MA²S) – Write this as if some of your readers are not affiliated with the Academy. **This part in parentheses is all you would need to write any time you reference the Academy in another part of your paper.**
- It has the background of what got you interested.
- You should talk about and reference past studies
- Provide a justification for where your research fits into the big scheme of research done on this topic in scientific history
- Near the end of the section you will put the hypothesis (You can see how to write a good one of these on the sheets you were given in the beginning of the year on how to write a good proposal)
- Do a brief one-sentence lead-in to the Methods and Materials section

Methods and Materials

- This is like the Procedure section of a MA²S Lab Report
- It is in paragraph form. It is basically telling the story of what you did in the order it occurred.
- If you have pictures, figures, or diagrams try to include them in the paper, but if there is not enough room, put it in an appendix on a full page at the back of the paper.
- What you write should be detailed enough so that an independent reader could replicate what you did
- It should be clear, concise, correct
- When writing about equipment, put the city and state in which it was made in parentheses after you mention it, only if it was very key equipment and/or expensive equipment. For example, the city and state would be mentioned when Pasco GLX meters are used, but not when beakers or flasks or very common equipment is used.

Results – the key thing to remember is a result is a result and belongs in the Results section. So, all stats belong in the results section. You discuss your stats, among other things, in the Discussion section

- Summarize your data in this section – NO RAW DATA
 - Means with standard deviations
 - Medians if they differ noticeably from the means
 - Put these in tables and graphs
- This is a written section and you should have writing that introduces and describes the tables, diagrams, figures, and graphs you have in your results section.
- You should have sentences that give information about how many data points there were for each condition you tested, but you do not give the raw data.
- It will have your observations
- It will have your statistical test results. You should tell the name of the test used, like Two-sample t test, and the p-value.

Discussion

- Talk about your major trends and findings
 - Refer to your line graphs and predictor equations
 - You may add new graphs as long as they do not introduce new statistics that you don't already have in the Results section

- Give your scientific argument, making sure to use your statistics to support
- You can repeat your significance test values, like t-test probabilities, but you really need to discuss them in this section.
- Give a substantial error analysis

Conclusion

- Summary of your major findings
- Ideas for future substantive research

Bibliography

- Must be in MLA format
- Only include things that you have referenced in your paper

Appendix

- Sometimes you will want to include diagrams or other information that are too large to put in the body of your paper. You can include them as an appendix that goes at the end of the paper