How to Start

- When discussing an assignment, ask for the prompt. Is this a lab report? A research paper? An abstract? A Literature Review? A Poster?
- Remind students that when doing lit research, they should read titles. Titles of articles published in science journals are important because they communicate the gist of the entire research; titles are “hooks” that should make readers want to read more.
- When doing lit research, read the abstract. The abstract should summarize the entire paper, including information from the introduction, methods, results and discussion. Abstracts should be around 200 words. Reading the abstracts of published articles with students can help them understand what needs to go in their abstract.

Guide to Research Papers

Introductions

- The scientific introduction should give a background/literature review to the topic under study.
- The introduction should resemble a funnel that starts with general background and ends with the hypothesis.
- The hypothesis is the thesis of a scientific research article, the rest of the paper is working to support the hypothesis with data.

Methods and Results

- For chem/bio, make sure that in the methods section there are no directive sentences like “put the water in a beaker.” The convention is third person passive, so the correct phrasing would be “the water was put into a beaker.”
- Both the methods and the results section should be statements of what you did, how it was done, and what happened. For psych, there are specific APA headings needed for each section: Participants, Design, and Materials.
- Results should be a statement of all findings, with no analysis or commentary.

Discussion

- The discussion is where the author interprets the findings of the study. Did the experiments work? What sort of explanation can be offered for its’ success or failure?
- It is considered the inverse funnel, beginning with the aim of the study, going on to limitations of the study, then suggestions for future research and suggestions for future work.
- Some papers feature a conclusion, but that may or may not be warranted depending on report guidelines.
- The conclusion would simply be a re-iteration of the hypothesis, whether it was confirmed or denied, and the importance of work.

Other Conventions of Scientific Writing

- Be sure that the writer is specific with everything they say. For example, if the writer says “Water was put into the beaker,” they should specify what kind of water. Or if the writer is discussing their participants, they should specify the race and age of the individuals and how they were recruited.
- Scientific writing shouldn’t be “flowery” or “fluffy”. (A.K.A. no metaphor or idiom. Science writing has to be translated and understood around the globe, and any language that could be misinterpreted can lead to a lack of understanding of the paper.)
- NO first person.
- Past tense should be used throughout.
ACS Citation

Article in a Scientific Journal:


Book with a Single Author:


APA Citation

Article in a Scientific Journal:


Book with a Single Author:


Additional resources


Giuliano, T. (2010). Dr. G’s RM guide to writing, grammar, and APA style [Class Handbook]. Department of Psychology, Southwestern University, Georgetown, TX.