

## Tip Sheet 11. Logical Steps for Writing a Scientific Journal Article

The process outlined below has helped authors smoothly manage the writing of technical reports or journal articles. Remember to write as you work: accomplish a task correctly as early as possible while it is fresh in your mind to save time and stress at the end of a project. Also remember that it is easier to revise than to begin writing too late in a project.

1. Draft the literature review or introduction during the design phase of your study to focus research and ground it solidly in the literature for both the subject area and the statistical tests you plan to use. You place your study in context in its community. Note which outlets published prior studies. **Determine authorship now.**
2. Use the literature review to research your intended publication outlets. Obtain the professional style guide or instructions for authors. If no guidelines are recommended, follow the author/date (documentation two) style as it is presented in *The Chicago Manual of Style* (current edition), a standard for many scientific outlets. **Do not invent a style no matter how tempting**—over time it becomes inconsistent and will not conform to an outlet. Revise complete citations to selected style.
3. Construct the preliminary bibliography in the style of the preferred outlet. Discriminate; select only what is needed. Run spell check against the manuscript as it develops to determine if cited names in the body correctly appear as in the reference list. Check DOI for accuracy.
4. Draft the materials and methods section as soon as the experimental work is complete.
5. After data analysis is finished, construct visuals (tables, graphs, etc.). Tables present data; the writer must notify readers of important patterns in the data by discussing such in the text. Graphics present the patterns or trends in the data without the details. Images give an example of the data. **Chose either a table or a graphic, not both, for the same data.** Check all arithmetic in tables. Check the scale on graphics, especially if comparisons between graphs will be made. Use examples of tables in the style manual recommended by the journal. **Properly prepared tables and graphics are writing tools; text will then complement the visuals and properly cite them.**
6. Obtain and set up a template or styles for the draft manuscript according to the style guidelines of the outlet.
7. Outline the writing in the template. Use phrases that can serve as headings and subheadings. Mark the text for levels of headings in the Table of Contents. Assign deadlines for submission by all authors (include yourself). Regenerate the Table of Contents weekly to check writing progress. Insert sections drafted to date; draft Results.
8. Ask contributors to submit (or review) the sections with a list of subject keywords. Save these keywords in a separate file named Concordance within the article's folder. If needed, this concordance can be used to generate an index if the manuscript needs one. Draft conclusions; tie these insights to the introduction.
9. Draft the working title and abstract. This exercise concisely describes the research results and will help confirm if you have selected correctly the target outlet.
10. If a glossary is needed to standardize vocabulary, ask each contributor to submit key terms defined by means of quoting definitions from the literature. Add these full citations to the report's references, and add the definitions in alphabetic order to a separate file named Glossary.
11. Assemble the complete draft. Edit the manuscript for usage, consistency, style. Cover the manuscript with a memo of agreement. Submit it to an internal review among contributors. Revise the title and the abstract. **Obtain approval signatures from each author and contributor on the memo.** Write the acknowledgments section and cover letter. To the outlet.
12. Make a copy of the manuscript, memo, and letter then distribute a set to each author.
13. Submit the original letter and manuscript to the outlet.

