

Outline for a normal scientific paper

Most scientific papers published in professional journals follow this basic outline:

Title
Introduction
Methods
Results
Discussion
Conclusions
References

Can this type of outline be modified for use in preparation of tutorial position papers (nominally 8 pages long)? The answer is yes. Here are some of the considerations:

Introduction: What is the problem? This is perhaps the most critical part of any paper. A crisp, one-paragraph statement of conflicting issues and their significance should be the goal.

Methods: Normally, space is devoted to a short description of laboratory or field methods used in the study to reach a conclusion. In the case of the tutorial paper, at least one paragraph should be reserved for settling out the operational definitions of key concepts.

Results: Instead of a presentation of lab or field data, several pages may be used to summarize how opponents marshal their data on the conflicting issues. How did they set out to solve a problem? Did they start out with a bias or did they use the method of “multiple working hypothesis”?

Discussion: What are the ramifications of the particular study (or in this case, the conflict) under treatment? Are there any operational errors in the methodological assumptions taken by the opponents? Have they done “good” or “bad” science? Are there any possible sociological reasons why one side may appear to have the upper hand over the other at a particular point in time?

Conclusions: What is your opinion? Is there a middle ground for agreement by participants in a given debate? Or is one party clearly right and the other clearly wrong?

References: Standard scientific notation should be used (no need for footnotes).
Example:

Jones, S.T. 1989 The terminal Cretaceous extinction was catastrophic. *Journal of Geology* 94:302-318