

Writing Your Report

Once you collect your data and analyze it, you can begin to compile your report. Not including the title, scientific reports are usually divided into five major sections: (Introduction, Methods, Results, Discussion, and References) and two smaller sections (Abstract and Acknowledgements). A list of these sections, in the order in which they appear in the report, is outlined below. The content and purpose of each is described. The final order of the different sections of a report is not usually the order in which they are written. It is a good idea to write either the methods or the results sections first, followed by the discussion. Curiously, the introduction should be one of the last sections of your report that you write, because writing the other sections enables you to better be able to make clear statements about the topic you investigated.

Section	Content	Purpose
Title	An accurate, concise description of the project. It should include your name.	Defines the project and provides the reader with an idea about what the project involved.
Abstract	A short summary (usually not more than ten lines or so) outlining the nature of the project and summarizing the main results.	Provides a summary of the project and its results. Important if others are searching for further work in an area of their interest.
Introduction	A theoretical and descriptive introduction to the project. It should outline the background and the aims of the project.	Provides the reader with background to the topic and provides a rationale for why the study was done.
Materials and Methods	An accurate description of materials used and experimental procedure.	Important because it allows the experiment to be repeated and confirmed.
Results	A full description of the results including statistical tests, with use of tables and figures (graphs, drawings, and photographs) to summarize data and present the findings.	Provides the reader with the findings of the project and allows them to evaluate them for themselves.
Discussion	The place to describe the relevance of the results, any limitations of your approach and what further studies might be appropriate. IT IS NOT a place to introduce new results.	Provides the reader with an interpretation of the results and places the work in the context of other related work. Points the reader to what further work is indicated.
Acknowledgements	Acknowledgement of any assistance from friends and colleagues during the project.	Politeness. Based on acknowledging help and recognizing the input of others.
References	Sources cited (referred to) in the text should be listed in full in this section.	Allows readers to locate original references and verify the statements made by the author.

Your Project Checklist

The following exercise provides a checklist of points to consider when writing each section of your project. Review the list before you write your project and then, on completion of your write-up, use the list to check that you have included all of the components.

1. Title
 - a. Gives a clear indication of what the study is about.
 - b. Includes species name, and a common name if this is appropriate.
2. Abstract
 - a. The background to the study is clearly outlined in one or more sentences.
 - b. The abstract summarizes the methods used in the study in no more than three or four sentences.
 - c. The major findings (results) are summarized in no more than two or three sentences.
 - d. Someone who reads the abstract could fully understand the important features of your study without reading the entire report.
3. Introduction
 - a. Gives a clear statement of the aims of the study (the specific question (hypothesis) being investigated).
 - b. Provides a logical rationale for why the study was being undertaken (why the hypothesis was a reasonable one).
 - c. Provides background relevant to the study as a whole, supported by references to the previous work of others.
 - d. Explains specialized terminology.
 - e. Gives the reader a clear idea as to why the study was carried out and what it aimed to investigate.
4. Materials and Methods
 - a. Written in the past tense and not as a set of instructions
 - b. The design of the study or experiment is complete and clearly outlined.
 - c. The reason for each step in the methodology is self-evident or explained.
 - d. All factors likely to have influenced the outcome of the study are mentioned and explained if necessary (eg. Species, age, sex, specialist equipment, study site).
 - e. Includes details of data collection and analysis (replication, pre-treatment of materials, controls, sample sizes, methods of measurement, calculations made, statistical tests used).
5. Results
 - a. Written in the past tense.
 - b. Clearly presents the findings of the study or experiment (preferably as summary rather than raw data).
 - c. General statements are supported with reference to the data.
 - d. The major results arising from the data presented in tables and graphs is briefly described in words but the significance of the results to the aims of the study is NOT discussed.
 - e. Each table or figure is important to the reader's final understanding and evaluation of the study.
 - f. Each figure or table has an informative caption.
 - g. Each figure or table is self-sufficient and includes explanation of numbers used, replicates, units of measurement, etc. The results are evident without reference to the rest of the report.

- h. Figures and tables are each numbered sequentially through the texts as they appear.

6. Discussion

- a. Results are discussed in relation to the hypothesis outlined in the introduction.
- b. Facts are clearly distinguished from speculation and opinion.
- c. Unusual or unexpected findings are discussed logically, with attempted explanations based on the biology involved.
- d. All statements are supported with reference to the related literature (cited sources), data, or an example.
- e. There is a discussion of further studies that could be conducted, ways in which the study could be modified in the future and additional questions that could be posted.

7. References

- a. Full citations are provided for every reference cited in the report.
- b. There are no references included that are not cited in the report.
- c. Each citation is correctly and (more importantly) consistently formatted.

8. General

- a. Any assistance is fully acknowledged in an acknowledgements section
- b. The text of the report is double spaced (teacher option) and pages are numbered.
- c. Report has been thoroughly proof read.