

# Scientific Writing Tutorial

1. Structure of **lab report**
2. Recipe for Science Writing

# Standard Structure

0.a Title ... name

0.b Abstract

## 1. Introduction/Motivation

- Big picture motivation, e.g. historic/future significance
- Specific objectives
- Briefly describe your results ... structure of text

## 2. Theory overview

- Introduce the main theory.

## 3. Experimental setup and procedures

- Diagram of setup, description of method.

## 4. Experimental data and analysis

- Plots (eventually) tables of relevant data
- Analysis of data (error analysis, function fits, etc)

## 5. Discussion

## 6. Conclusion/Outlook

- Summarize main results ... outlook.

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## variable structure

Structure is report-specific  
(content is required)



# Additional Guidance

## Length

- The lab report is intended to be a **summary** of all of the work that you did on the experiment.
- Your **lab book** has all of the details of your experiment and measurements. The **lab report summarizes** your most important findings and the key aspects of the experiment.
- The lab report should be **3-4 pages** long.

## Appendices

Appendices can be used for complex details that you feel will be helpful to the reader, but that distract from the main findings and report.

## Abstract

- The abstract is a **summary** of the lab report.
- It is NOT an introduction.

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- b. Abstract & Title: Write 1<sup>st</sup> versions of abstract and title.

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- a. Construct outline for paper/thesis (chapters, sections, subsections, etc ...)
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Note: at this point a reader should be able to more or less figure what you are reporting.

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## 4. Construct the visuals (official versions).

## 5. Add in the text

The text's main job is to explain the figures, i.e. repeat in words what the visuals explain/show. Often the conclusion is written first and the introduction last.



# Recipe ... *final steps*

6. Add in references

7. Re-write the abstract & title if necessary.

8. Proofread/Revise ...get colleague to proofread ... revise where necessary.

a. Proof read for structure and content (i.e. visuals, ideas, data).

b. Proof read for style, wording, language.

(On average, scientific papers go through roughly a dozen-ish drafts.)

9. Submit