

Formal Lab Write-up

- I. Title: Descriptive and relevant to the experiment
- II. Abstract: Summary of the entire experiment including problem and conclusions. See “Successful Abstracts” below
- III. Introduction:
 - a. Purpose/Problem: statement defining the experimental variables and/or the problem in the form of a question
 - b. Background Information: identification of key scientific terms, motivation, and theory (look to your lab manual for examples)
- IV. Hypothesis: Framed as a testable statement of the outcome or “if...then” statement using experimental and controlled variables.
- V. Procedure
 - a. Control of variables and appropriate testing of the hypothesis
 - b. Clear and concise experimental design (not copied from text)
 - c. Methods and materials
 - d. Risks involved and suggested appropriate safety precautions
- VI. Results
 - a. Data Tables with variables, units, and values clearly displayed
 - b. Graphs with clearly labeled variables on correct axes, appropriate range on axes, proper use of lines (i.e. best fit)
 - c. Calculations
 - d. Observations
- VII. Conclusions
 - a. Statement of rejection or support of hypothesis based on a logical argument supported by data, calculations and observations
 - b. Explanation of results based on sound scientific principles
 - c. Error analysis
 - d. Alternative explanations evaluated
 - e. Concluding statement related to known scientific models or theories
 - f. Further refinement in methods, analysis, etc. are suggested
- VIII. References
 - a. References with appropriate bibliography
 - b. No plagiarized ideas or words

How to Write a Successful Abstract

Six main ingredients:

1. The Problem
2. The Subjects or Objects
3. The Methods
4. The Findings
5. The Conclusions
6. The Implications

Six Secrets:

1. Clear
2. Accurate
3. Self-contained
4. Concise
5. Specific
6. Objective