

**Lab #2**  
**Biological Literature and**  
**Guide to Writing a Scientific Report**

I. Exercise 2 – BIOLOGICAL LITERATURE

A. **Primary** literature

1. \*Peer-reviewed
2. Technical language
3. \*Labeled sections
  - a) Abstract (sometimes not labeled)
  - b) Introduction
  - c) Methods
  - d) Results
  - e) Discussion section
  - f) Usually has a long list of citations at the end - Literature cited section
4. Charts and graphs
5. Black and white text and pictures
6. \*The authors carried out the experimentation
7. (Note: items marked with an asterisk \* are aspects of primary literature that are always present)

B. **Secondary** literature

1. Note: some of these forms of secondary literature can be found in scientific journals
  - a) Review articles
    - a. Can also be very technical
    - b. Example: *The Quarterly Review of Biology*
  - b) Short notes, observations, letters, etc.
2. Popular magazines written to the level of the general public
  - a) Color photographs
  - b) Casual, essay-style
  - c) Author was usually paid for his submission
  - d) *National Geographic, Time Magazine*
3. Remember! Primary articles are very well defined. Therefore, anything that is not primary is secondary.

## II. LAB REPORT WRITING GUIDELINES

### A. General rules

1. Double spaced, 12pt Times New Roman
2. Figures, tables and text should be computer generated
3. Proper grammar and spelling
4. Make sure that elements of the paper are in the proper sections
5. Attach the first page of the primary articles you cited at the end of your lab report

### B. Title

1. Should be detailed and descriptive

### C. Introduction

1. Properly cite your secondary source
2. Clearly stated hypothesis
3. Background information on pertinent subjects

### D. Methods

1. Detailed account of the experimental procedure
2. Past tense
3. Don't create lists; use essay format
4. Do not include non-important details

### E. Results

1. Includes both essay-style text and figures/tables
2. Written portion:
  - a) Detailed results that agree with the figures
  - b) Do not discuss the results, just state the results in a matter-of-fact manner
3. Figure/Tables:
  - a) Figure caption below the figure
  - b) Table captions above the table
  - c) Does the figure agree with the text part of the results?
  - d) Axis/scaling set correctly

### F. Discussion and Conclusions

1. Interpret the results
  - a) What do your results mean?
  - b) What happened?
  - c) Why?
  - d) How do the results fit with the concepts you mentioned in the introduction?
2. Explain weaknesses and errors in the experiment

3. Did your results support your hypothesis?
4. How did your results compare with the rest of the lab and published research?
5. Future research ideas?
6. Summarize the findings of your work?
7. Cite at least one primary source

G. Literature Cited

1. List alphabetically by the last name of the authors
2. Include a full citation for every source including all of the authors
3. Hanging indent