

Name _____

Date _____

Partners _____

Mr. Romano

AP Environmental Science

Long-Term Eutrophication Study

Format for Lab Write-Up

1. **Abstract:** (10 points)

Using the rules for abstract writing, you and your group members (the classmates you have been working with during the data collection phase) will submit a group abstract. This part may be written, as it is meant to be completed together during class time. We will do a brief review of abstract writing, and you were given an outline with the correct format in September to refer to if necessary.

***The rest of the lab write-up is to be completed on your own. It is an individual effort.
You are working independently of one another. Yes ... you are flying solo. Just making it clear ...***

2. **Procedure:** (15 points)

A written procedure describing the steps taken from the beginning of this long-term study will be clearly explained so that anyone can read and understand what was accomplished. This would include a reworded version of the instructions of each nutrient testing kit. Remember: Nitrogen and phosphorus-rich Miracle Gro was added to the pond on 11/3 after the initial testing conducted on 10/28. Approximately 16 ounces (433 grams) of the plant food was added.

This is the correct format for procedure writing:

- The procedure is written in paragraph form and not numbered steps.
- It is written in the past tense.
- Never use first person pronouns ("I", "my", "we", etc ...)
- Don't use the words like "you" or make references to "the students".

3. **Data Chart:** (15 points)

A data chart must be constructed showing ALL data. This must be done on a computer, and would best be accomplished by constructing a table in a program like Microsoft Word, or similar program. Make sure to include units where appropriate and maintain consistency in your rounding of numbers. Besides the quantitative data collected, be sure to include the qualitative observations of turbidity/water clarity observed during the study.

4. **Graph:** (10 points)

A hand-drawn graph illustrating the data must be included in the lab report as per instructions already provided.

5. **Conclusion:** (10 points)

Introduce this section with the steps that lead to eutrophication that we learned earlier this year (paragraph form of course). Then, state the ultimate findings of the study conducted. Discuss the general trends of the nutrients tested and then state whether or not cultural eutrophication occurred. Always use numerical data to support conclusions made in this section. Do not just write generic phrases, such as "according to the data".

Long-Term Eutrophication Study

Lab Grading – 60 point rubric

1. Abstract: (10 points)

Written according to correct abstract format as per page 25 in notes (look back to refresh your memory)

2. Procedure: (15 points)

- a. **All** steps included that clearly describes the steps taken to complete the study
- this includes the steps in the actual water tests that you performed – (refer to page 41 in notes) – 11 points
- b. Written in paragraph form – 2 points
- c. Written in past tense and without use of pronouns - 2 points
(shouldn't even use the mention of "students" – should just describe what was done)

3. Data Chart: (15 points)

- a. **All** data has been incorporated into data chart – individual data points and averages and turbidity observations – 11 points
- b. Data chart is organized in a logical, concise format and is easy to follow – 2 points
- c. All units are included in the data chart – 1 point
- d. Uniform rounding of all data points – 1 point

4. Graph: (10 points)

- a. Graph has an appropriate title – 1 point
- b. Graph axes are labeled with appropriate units – 2 points
- c. Appropriate scales are created to spread the data out in the graph space provided – 2 points
- d. Data is plotted correctly – 4 points
- e. Key included with all information related to the plotted data – 1 point

5. Conclusion: (10 points)

- a. Explanation of all the steps that lead to eutrophication is included – 5 points
- b. Clear conclusion statement is included – 1 point
- c. Correct conclusion stated based on data collected – 2 points
- d. Support for the conclusion provided in the form of key numerical data – 2 points