Format for Laboratory Reports (TC3 BIOL 104 & 105)

Date: Title & Lab number:

Purpose:

1. What question(s) is this lab asking or what is the goal of performing the lab?
2. Hypothesis – A predicted solution to the problem posed in the lab. What do you think will occur? What answers will you get?
    a. Use the "If……, then ……." Format when appropriate.

Procedure:

Write a succinct summary of the produce. In the event that your own procedure is created, you must write a detailed procedure. There are a few labs where you can simply state "refer to procedure on lab handout". I will let you know for which labs this can be done.

Observations & Data:

Contains any detailed observations or information you collect from the lab as well as data tables. Observations should be clear and detailed. All data and observations must be written by hand in your lab notebook during the lab. You will also put data tables in this section - copy these from the lab handouts. It may be helpful and time saving to set these up ahead of time (a.k.a. the night before when you read through the lab).

Analysis & Results:

Include any mathematical calculations, graphs, or other manipulation of data. If graphs are completed on separate paper such as graph paper or computer paper, leave enough space in your lab notebook to tape in those results. Make sure all loose paper is taped in and that no edges appear beyond the lab book page ends.

Analysis questions are included in every lab handout and should be answered in this section. Please use the same numbering in your lab notebook and answer in complete sentences.

Discussion:

There are two main parts to the discussion section. The first part answers the question, "was the purpose of the experiment achieved?" You should restate your purpose and answer it. If a hypothesis was made at the beginning of the experiment, explain in this section whether or not the hypothesis was supported or unsupported by the results. In answering the above question, you must provide EVIDENCE from the experiment to support your answer. **You should also explain the phenomenon you observed in the experiment – state the big ideas or main points discovered during the lab. Again these main ideas must be supported by data & evidence.** Usually this will require bringing in concepts learned from class. Much of your lab grade depends on how clearly you use your evidence to support your conclusions.

The second part of the discussion should note the sources of error. There are two types of error that should be included: human error (what mistakes did you make?)

and experimental errors (what is inheritably wrong in the experiment?). When addressing human error, state how the error may have affected your results. When addressing experimental error, state how changing the experimental design may help to avoid this source of error.

Additional Information:

- Name on front cover
- All reports in blue or black ink
- Keep the notebook neat! – single line cross outs for mistakes & write legibly
- Leave first few pages for a table of contents. This will contain each lab title on the left side and the page number on which the lab starts to the right. Number each page front side only in the lower right corner.
- Write ONLY on the RIGHT hand side of the page. The left hand side of the page is to be used neatly for scratch.
- DO NOT tear pages out of the notebook. If you mess up really bad, put an X through the page and go on to the next.
- You will be working in groups but, all answers and hand writing need to be your own work. Plagiarism or copying is will not be tolerated!

Grading:

Each lab will be graded out of 20 points as follows:

Section	**Content Description**	**Standards**	**Pts**
Title	Short and descriptive	Meets expectation Approaches expectation Not appropriate/none	1 0.5 0
Purpose	States the goal(s) of the laboratory investigation. A testable hypothesis predicting the experimental outcome is also stated.	Meets expectation Approaches expectation Does not meet expectation	2 1 0
Procedure	A succinct summary (or detailed if created by the student) of what was done to test the hypothesis. Includes references to procedures and materials.	Meets expectation Approaches expectation Does not meet expectation	2 1 0
Observations & Data	Contains any detailed observations or information collected from the lab as well as data tables.	Exceeds expectations Meets expectation Approaches expectation Does not meet expectation	4 3 1.5 0

Analysis & Results	Includes any mathematical calculations, graphs, or other manipulation of data. Analysis questions also answered in this section.	Exceeds expectations Meets expectation Approaches expectation Does not meet expectation	4 3 1.5 0
Discussion	Discuss whether or not the results support the hypothesis. If so, why so? If not, why not? **Also explain phenomenon observed in the experiment – state the big ideas or main points and support those ideas with data & evidence.** State relationship of concepts covered in class to the experiment. Clearly use evidence to support your conclusions. Note sources of error, areas of improvement, and possible next steps.	Exceeds expectations Meets expectation Approaches expectation Does not meet expectation	4 3 1.5 0
Overall	Spelling, sentence structure, neatness and format. Does the lab report reflect a solid understanding of the experiment and proper research notebook keeping?	Exceeds expectations Meets expectation Approaches expectation Does not meet expectation	3 2 1 0