**BIOLOGY 2020 -21 LAB REPORT**

**Preparing Laboratory Reports**

Ordinarily, the reports you write for the experiments will be simple summaries of your work. In the future, you may be called upon to write more formal reports for other science courses. There is an accepted procedure for writing these reports. The procedure is outlined below.

Sections to be included in a formal laboratory report include the following: Introduction, Data, Results/Analysis, Graphs, Sample Calculations, Discussion, Conclusions.

1. **Introduction**

A. Heading

This includes the experiment number and title, date, name, and your partner’s name if you do a joint experiment. When two students work together using the same apparatus/activity, they are partners for data collection purposes.

B. Diagrams

1. Make sketches of mechanical apparatus or experimental design set up (if called for).

2. Include any relevant photos or illustrations to help illuminate this experiment/activity.

C. Provide a brief explanation or title for each diagram.

D. Include an elaboration or a summary of the concept, purpose, procedure, theory, or the history of the experiment.

1. **Data**
2. Use only the original record of the measurements made during the experiment. Never jot the data down on scrap paper for future use. Prepare a data table and use it.
3. Include a column of “Percent of Change”, as appropriate.
4. **Results/Analysis**

A. The result section consists of a tabulation of all intermediate calculated values and final results. B. Whenever there are several results, the numerical values should be recorded in a table.

C. Tables must have titles. Headings and extra notes may be required to make the analysis or significance of the results clear to the reader.

1. **Graphs**

A. Use adequate labels (title, legend, names of quantities and units)

B. Draw the best, smooth curve possible; do not draw curves dot-to-dot.

1. **Sample Calculations**

A. Each sample calculation should include the following items:

1. an equation in a familiar form

2. an algebraic solution of the equation for the desired quantity

3. substitution of known values with units

4. numerical answer with units

For example, if d = 10 m and t = 2 s, to solve for a:

Using d = vi t + 1/2 at2, where vi = 0,

a = 2d/t2 = (2)(10 m)/(2 s)2 = 5 m/s2

1. **Discussion**

In some cases, the conclusions of an experiment are so obvious that the discussion section may be omitted. However, in these instances a short statement is appropriately included. More often, some discussion of the results will be required to make their significance clear. You may also wish to comment upon possible sources of error and to suggest improvements in the procedure or apparatus.

1. **Conclusions**

The conclusion is an important part of every report. The conclusion must be the individual work of the student who writes the report and should be completed without the assistance of anyone, unless it is the teacher.

The conclusions consist of one or more well-written paragraphs summarizing and drawing together only the main results and indicating their significance in relationship to the observed data.

A. Conclusions must cover each point of the subject.

B. Conclusions must be based upon the results of the experiment and the data.

C. If conclusions are based upon graphs, reference must be made to the graph by its full title.

D. Clarity and conciseness are particularly important in conclusions. The personal form should be avoided except, perhaps, in the discussion. Therefore, do not use the words I or we unless there is a special reason for doing so.