

## Biology Laboratory Report Rubric

Before coming you class, you are required to write a pre-lab in your laboratory notebook and answer all prelab questions. Pre-lab should include the title, the purpose, hypothesis, procedure and a data table if necessary. Your lab write up must be legible otherwise it will not be accepted. All parts must be included unless instructed otherwise by the teacher to receive full credit.

### **Prelab Questions (5pts)**

Answer all questions and please come in to ask questions if you do not understand the question.

#### **1. Title and Date (1pt)**

The title should be descriptive. Experiment 5 is not a descriptive title. This is the date (or dates) you performed the experiment.

#### **2. Purpose & Hypothesis (2pt)**

Purpose is a brief statement of what you are attempting to do. Hypothesis should be in the form of "if.. then.. because."

#### **3. Procedure (5pts)**

You should include a brief statement of the method. If you never perform this lab before, write it in list form. A person who understands chemistry should be able to read this section and know what you are doing. You will not be allowed to have any loose papers in the laboratory; hence, you must have enough information to perform the experiment without the handout.

#### **4. Data (5pts)**

Record all your data directly in your lab notebook on the right-hand pages. Organize your data in a neat, orderly form. Label all data very clearly. Use correct significant digits, and always include proper units (g, mL, etc.). Underline, use capital letters, or use any device you choose to help organize this section well. Space things out-don't try to cram everything on one page. Use table where appropriate. Be sure to label table. Keep your data neat and easy to follow.

#### **5. Calculations and Graphs (4pts) as needed. If not needed, the points will be added to data section.**

You should show *how* calculations are carried out. Give the equation used and show how your values are substituted into it. Give the calculated values. If graphs are included, make the graphs an appropriate size. Label all axes and give each graph a title. If experiments are not quantitative, this section may be omitted. Points from this section will be distributed to other sections.

#### **6. Conclusions (3pts).**

Make a simple statement concerning what you can conclude from the experiment. Refer back to the purpose to remind yourself what you are trying to determine! If you are looking for % composition, you need to state the quantity ascertained here.

#### **7. Experimental Sources of Error (2pts) as needed. If not needed, points will be added to conclusion section.**

What are some *specific* sources of error, and how do they influence the data? Do they make the values obtained larger or smaller than they should be? Which measurement was the least precise? Instrumental error and human error exist in all experiments, and should not be mentioned as a source of error unless they cause a significant fault. Significant digits and mistakes in calculations are NOT a valid source of error. In writing this section it is sometimes helpful to ask yourself what you would do differently if you were to repeat the experiment and wanted to obtain better precision. If you can calculate a percent error or percent deviation, do so and include it in this section.

#### **8. Questions (2pts).**

Answer any questions included in the lab directions. Answers to the questions can sometimes help you with "Conclusion" section.

#### **9. Teacher Judgment (1pt)**

**Total: 25 pts for write up and 5pts for prelab questions.**

#### **Possible point deduction:**

1. If the laboratory area is not cleaned up properly at the end of the lab session, five points will be deducted from the laboratory grade. All group members are responsible.
2. If any supplies or equipment used is not placed back in its proper storage, three points will be deducted from the laboratory grade. All group members are responsible.
3. If direction is not properly followed which results in the equipment or supply damage, the student will pay for the damage and points will be deducted from the student's laboratory grade.