**Enzyme Lab Write-up**

**Shared in Drive by 9AM on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**85 points**

Must include:

1. Background (15 pts.)
2. General enzyme information. Could include but is not limited to: definition, diagrams, examples.
3. Factors that are known to affect enzyme activity.
4. Lab specific equation with substrate and products labeled. Make sure to write the enzyme over the arrow as it catalyzes the reaction 😊
5. Description of guaiacol and the purpose of this reactant in the lab.
6. Hypothesis for Procedure #2: Use an if…then statement. The hypothesis should include how you predict the results of your enzyme reaction will compare to the baseline results. For an appropriate hypothesis, the variable must be included in the statement. (5 pts.)
7. Procedure #2: Include your group's procedure 2 (the variable test). Be as specific as possible. Remember the goal of this portion of the report is to allow others to recreate your experiment. Identify all constants between the variable test and the baseline test. (12 pts.)
8. Data: Tables from your lab procedures. Graph of the sets of data. These should be labeled and titled appropriately with a key. (15 pts.)
9. Data Analysis: Describe what each line “means” on your graph. According to your graph how does the rate of the baseline compare to your variable test? (8 pts.)
10. Conclusion PARAGRAPH: (25 pts.)
    1. Did your data support your hypothesis? Explain.
    2. What were the independent and dependent variables in your group’s experiment?
    3. Discuss possible sources of error in your lab. How would each alter your results?
    4. If the oxygen is in the form of a gas, explain why there were no bubbles in this version of the reaction.
    5. Assuming the enzyme is not denatured or inhibited in any way, what makes the rate of an enzymatic reaction level off? This was demonstrated in our baseline test.
    6. An active preparation of peroxidase was exposed to the proteolytic enzyme trypsin. The peroxidase preparation was found to be inactive when it was re-assayed. Why?
    7. The velocity of a peroxidase reaction was found to increase with increasing hydrogen peroxide. However, at high peroxide concentrations, the reaction rate decreased and eventually went to zero what could explain this observation?
    8. Research the effect of hydrogen peroxide on cells. Relate the production of peroxidase and different catalase enzymes to the survival of organisms. Citations in MLA format.

**Please label the document or attach a list of group members and their contributions to the lab and report.**