Enzyme Trial 2 PowerPoint INFORMAL Presentation Instructions

Below is a list of the **MINIMUM** components expected in the PowerPoint presentation for the enzyme laboratory.

IMPORTANT: Do NOT use complete sentences on your slides. Use bulleted points!

SECTION	**10**
Introduction	
Definition/explanation of what enzymes are including class of molecule and functions	
Explanation of how enzymes speed up chemical reactions	
General explanation of importance of enzymes in living organisms	
Explanation of the reaction catalyzed by trypsin	
Role of trypsin in life of organisms	
Where trypsin is active for animals and bacteria and conditions in those locations	
State question(s)	
State hypothesis	
State rationale for hypothesis	
Cite three outside sources (papers, books or .gov or .edu web sites). This does NOT include the lab manual.	
Materials and Methods	**5**
List the steps of the experiment with appropriate volumes and conditions of temperature, pH, and salt concentration, including all conditions of the experimental variable	
Explain WHY you added TCA (there is more than one reason)	
Explain why you centrifuged the reactions after adding TCA and what was in the pellet and the supernatant.	
Explain the substrate used and how the addition of sulfanilamide is correlated to the measurement of absorbance at 440nm	
Explain why you chose the control conditions you did. For example, if you tested the effect of pH, you would explain what temperature you conducted the experiment at and why you chose that temperature. Remember to include all control variables.	
Describe how negative controls were prepared and what they test or measure. Did you do one set of negative controls for the entire experiment or a set for each condition tested?	
Explain the number of replicates used and why you used replicates.	
Refer to procedures in lab manual with citation.	
Results	**5**
Present activities (averages and variability) in a summary table and bar graph. Variability should be reported as standard deviation (bars at each point if using a graph). You should only have two results figures. The figure MUST be properly labeled and explained. Do NOT present individual absorbance values.	
Present key T-test results. Ideally this should be done in the same table used to present the averages and variability.	

x-axis title

(can calculate w/o outliers)

p-values

proper dec. points

Description of key results and variability. This MUST include a description of the magnitude (fold) or percentage differences between averages, reference to specific measures of variability and T-test results	
Discussion	**5**
A clear statement addressing whether or not the experimental design and execution was adequate to test the hypothesis. If not, you must explain what the problem was with the design or execution.	
A clear statement of whether or not the results support the hypothesis with rationale. This MUST be supported by reference to specific values and fold-change or percentage differences between the conditions, and whether or not those differences are statistically significant based on the results of the T-tests (p values)	
Refer to specific results of other groups to support or contradict your own data. This must be done if even only one other group did a similar experiment. If no other group performed a similar experiment that you can compare your data to, you must state that also. (refer to data)	
Discuss whether or not your choice of control variable conditions resulted in the highest possible rate of enzyme activity. You MUST refer to the results of other groups here. For example, if you used room temperature to test the effect of pH on trypsin's activity you must discuss the results of a group that tested the effect of temperature.	
Identify sources of variability. Here, you should also comment on to what extent those potential sources were problematic. This should be supported by observations and reference to specific data. Discuss potential improvements to design between first and second attempt and/or future attempts (slides) ✓	
Total	**/25**

Explain S.D & T-tests

Explain p-values, stating significant.