

Sample Lab Report (post lab):

Nancy Student
A&P 1A
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I. (Proper Title): Amylase Lab

II. The Introduction (A Brief description of technique and purpose)

- * Amylase is an enzyme that breaks down starch into a reducing sugar, maltose.
- * Enzymes need to be in a specific environment to work properly. Excessive heat, change in pH, etc. can change an enzyme's shape, called "denatured"
- * We tested the enzyme under different conditions to determine which conditions are best for an enzyme. One tube was boiled, one tube had vinegar added, and one was just starch and amylase. We used Benedict's solution to test for the presence of the product, maltose.

III. Data Analysis (If no Q's are assigned)

1. **CLAIM:** The amylase enzyme worked best at room temperature with a close to neutral pH.

EVIDENCE: The enzyme that was boiled produced no reaction once the substrate was added. The trial with added vinegar reacted for only 20 seconds and gave a negative test result for maltose. The room temp. / neutral pH trial reacted completely for 45 seconds and showed a positive result for maltose.

REASONING: The amylase did not react with the substrate in trial one **BECAUSE** at such a high temperature, the enzyme was probably denatured. The same can be said for the second trial which produce very little maltose. The addition of vinegar may have denatured the protein **BECAUSE** vinegar is highly acidic. The third trial showed a positive test for maltose, indicating a strong reaction by the amylase enzyme. This occurred **BECAUSE** enzymes work best under specific conditions of temperature and pH.

Include and inference.....many options.....here is ONE:

"In the human body, if conditions such as pH or body temp. change dramatically.... enzymes and proteins might be denatured causing health concerns."

IV. Conclusion Answer the question: "Was the lab conclusive?"

Refer to a couple of reasons why the lab **WAS OR WAS NOT CONCLUSIVE:**
Use the following to guide you...

1. Were results what were expected?...**if yes, conclusive...if no, inconclusive**
2. Was data consistent throughout the class? how many trials?
3. Was hypothesis supported by data or not?

