

Brassica lab report
unit 13

(25 points)

1) Abstract (10 points)

The abstract is a one-paragraph summary that falls at the beginning of the lab report but is written last. To write a good abstract, follow the directions below **explicitly**. A sample abstract is provided using the enzyme lab as a model.

- a. **Title: Indicates the question investigated.**
Example: The effect of amylase concentration on starch breakdown
- b. **Author, Year, Address**
Example: T. Denise Clark, 2005. Biology 181. Mesa Community College.
- c. **Give the general topic investigated. Explain why it is important.**
Example: In living cells, enzymes regulate which chemical reactions occur.
- d. **Give the specific question that is being addressed.**
Example: We investigated the effect of different enzyme concentrations on starch breakdown.
- e. **Give an overview (a few sentences) describing how this was done.**
Example: Amylase concentrations ranging from 0 to 10% were added to a 1% starch solution. The starch solution was complexed to iodine giving a black color. As the amylase broke down the starch, the rate of reaction was measured as color change by a spectrophotometer set to 500 nm.
- f. **What did you find out about the specific question? (see d)**
Example: The rate of starch breakdown increased in a linear fashion as the amylase concentration increased. For example, with 10% amylase, the rate of starch breakdown was twice as great as with 5% amylase.
- g. **What did you find out about the general question? (see c)**
Example: As the amount of an enzyme increases, the reaction occurs at a faster rate.

The finished abstract from the previous page is shown below.

The effect of amylase concentration on starch breakdown

T. Denise Clark, 2005. Biology 181. Mesa Community College.

In living cells, enzymes regulate which chemical reactions occur. We investigated the effect of different enzyme concentrations on starch breakdown. Amylase concentrations ranging from 0 to 10% were added to a 1% starch solution. The starch solution was complexed to iodine giving a black color. As the amylase broke down the starch, the rate of reaction was measured as a color change by a spectrophotometer set to 500 nm. The rate of starch breakdown increased in a linear fashion as the amylase concentration increased. For example, with 10% amylase, the rate of starch breakdown was twice as great as with 5% amylase. As the amount of an enzyme increases, the reaction it catalyzes occurs at a faster rate.

2) Results and Discussion (15 points)

- a. Results should include **2 Punnett squares**, the AxB cross and the CxC cross.
- b. Results should include **the Chi square table** of the offspring from the CxC cross.
- c. Discussion: Refer to the Punnett squares and Chi square table explicitly as you present your data. Do the results answer the question you have posed in the title? How do your results compare with experiments by other scientists? You may wish to read about the work of Gregor Mendel in your textbook.

Brassica Lab Report Check sheet

Students often do not know how to begin their final lab report assignment. Here is a check sheet that should help you.

- _____ 1. Read the assignment handed out.
- _____ 2. Review your notes on this lab including previous worksheets and observations.
- _____ 3. Read the section from your textbook on Mendel's pea experiments.
- _____ 4. Do your Punnett squares of the AxB cross and CxC cross.
- _____ 5. Do your Chi square table.
- _____ 6. Write your "Results and Discussion" explaining what each of your Punnett squares means and what your Chi square table means. Explain how this experiment relates to the work of Mendel.
- _____ 7. Write your "Abstract". Be specific so that a reader knows exactly what part of the experiment provides support for your ideas.