How to Write a Laboratory Report

The Parts

- Cover Sheet
- Abstract- not included in ours
- Introduction (Objective/Purpose/ Hypothesis)
- Materials
- Methods
- Results (data, tables graphs)
- Discussion/Analysis
- Conclusion

Cover Sheet

- This is the first page of your lab.
- It should contain
  - lab title
  - your name, and lab partner's name
  - the date due,
  - your class period
  - Teacher name
  - Picture relevant to lab

Université Mohamed Khider Biskra 31/1/2021

Département des Science de la nature et de vie

Module enzymologie

2,75/5

TP N° 2

extraction des enzymes amylolytique

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Faculté de Science de la nature et la vie

Département de science de la nature et de la vie

Module = Enzymologie

3,75/5

Rapport TP N° 1 :

Effet de la concentration d'une enzyme sur la

Taux de la réaction

Etudiante :
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G4

Professeur :
Deghima A.

Année universitaire 2020-2021.

Introduction (Objective/Purpose)

- Intro: Brief summary of experiment (purpose, what you found, conclusion)
  - Objective:
    - Usually given to you..
    - What are you doing in this lab… why are you doing it?

Example :

The purpose of the "All About Me" lab was to demonstrate understanding of the parts of the microscope by observing/illustrating human tissue samples.

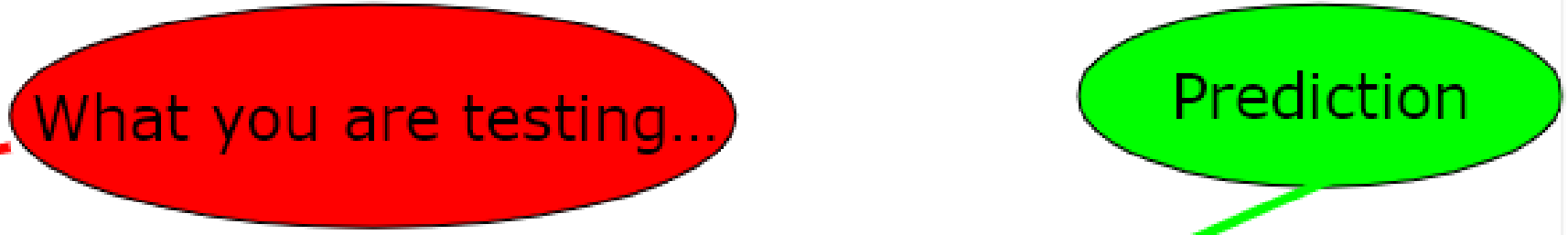
What are you doing...

How are you doing it...

Hypothesis (in your introduction)

- What you "predict" will happen based on fact

Example:



If the application of how to use the microscope is understood then the illustrations will be accurately drawn.

NOT→ I will be able to draw the slides well because I know how to use the microscope.

Intro

- Also contains research about the topics… use citations to support what you are saying
- This is textbook information not narrative!
- What was the experiment about?
- Why was it done and what did you find?

Format of Intro

- Paragraph 1- purpose and objectives
- Next few paragraphs: background info on sensory information and how the body transmits and processes it
- Next paragraph: briefly what you did in part A and hypothesis
- Next para: briefly what you did in part B and hypothesis
- Next Para: briefly what you did in part C and hypothesis
- Second to last para: tell me the what you found for each part (meaning which was most sensitive for each part)
- Last para: restate purpose and objective.

Materials

- Usually given to you on lab sheet
  - What you needed for the lab
  - In list formation

Example:

- Materials:
- Human tissue slides (bone, skin, squamous, muscle, blood, hair)
- Compound microscope
- Lab sheet
- Colored Pencils

MATERIALS)

- Make sure that materials are very specific
- Poor Example : Roses, soil, water, fertilizer
- Good Example:

1. 150 red rose plants (same species) each 2 feet tall
2. 150 identical 5 gal buckets with 3 holes in the bottom
3. 10 bags of Home Depot brand potting soil (20 lbs.)
4. Miracle Grow fertilizer
5. VitaGrow fertilizer
6. Water
7. Graduated cylinder to measure water
8. Grow lights or green house
9. Yard stick

Graduated Cylinder

- used to accurately measure the volume of an object
- more accurate and precise for this purpose than flasks and beakers

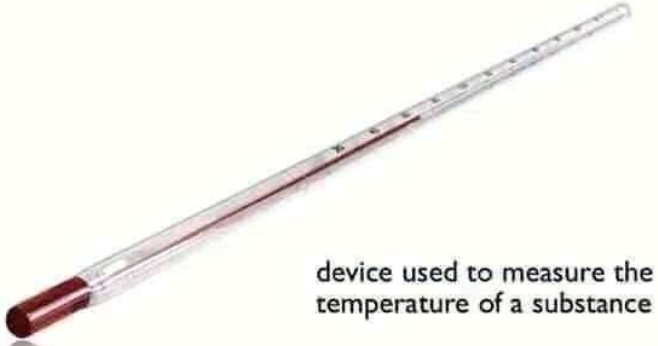
Test Tube

- common piece of glassware consisting of a finger-like length of glass or clear plastic tubing, open at the top, usually with a rounded U-shaped bottom
- available in a multitude of lengths and widths, typically from 10 to 20 mm wide and 50 to 200 mm long

Beaker

- simple container for stirring, mixing and heating liquids
- generally cylindrical in shape, with a flat bottom and a lip for pouring
- available in a wide range of sizes, from one millilitre up to several litres.

Thermometer



device used to measure the temperature of a substance

Beaker Tongs

tongs used to carry a beaker after it has been subjected to heat and/or cold temperatures

Erlenmeyer Flask

- flat, conical body, and a cylindrical neck
- allows contents to be swirled or stirred during an experiment - narrow neck keeps the contents from spilling out
- reduces evaporative losses compared to a beaker

Methods (procedure)

- Step by step, numeric
- Exactly what you did
  - Be able to copy your design with same results
- No analysis or results, just what you did
- You can list them, but in numeric order
  - What YOU did
  - Should be able to copy experiment with same results

Procedure

- STEP by STEP
- Someone can do your lab using YOUR steps and get the same results!

- GoodExample:

1. Fill 150 buckets with potting soil to within one inch of the top.
2. Plant one plant in each bucket so that all of its roots are covered with potting soil.
3. Water each plant with 1 liter of tap water.
4. Divide the plants into 3 equal groups of 50 plants each, groups A, B and C

- Poor Example:

1. Plant roses, some with fertilizer, some without
2. Water roses
3. Set plants under grow light
4. Count number of flowers

Results

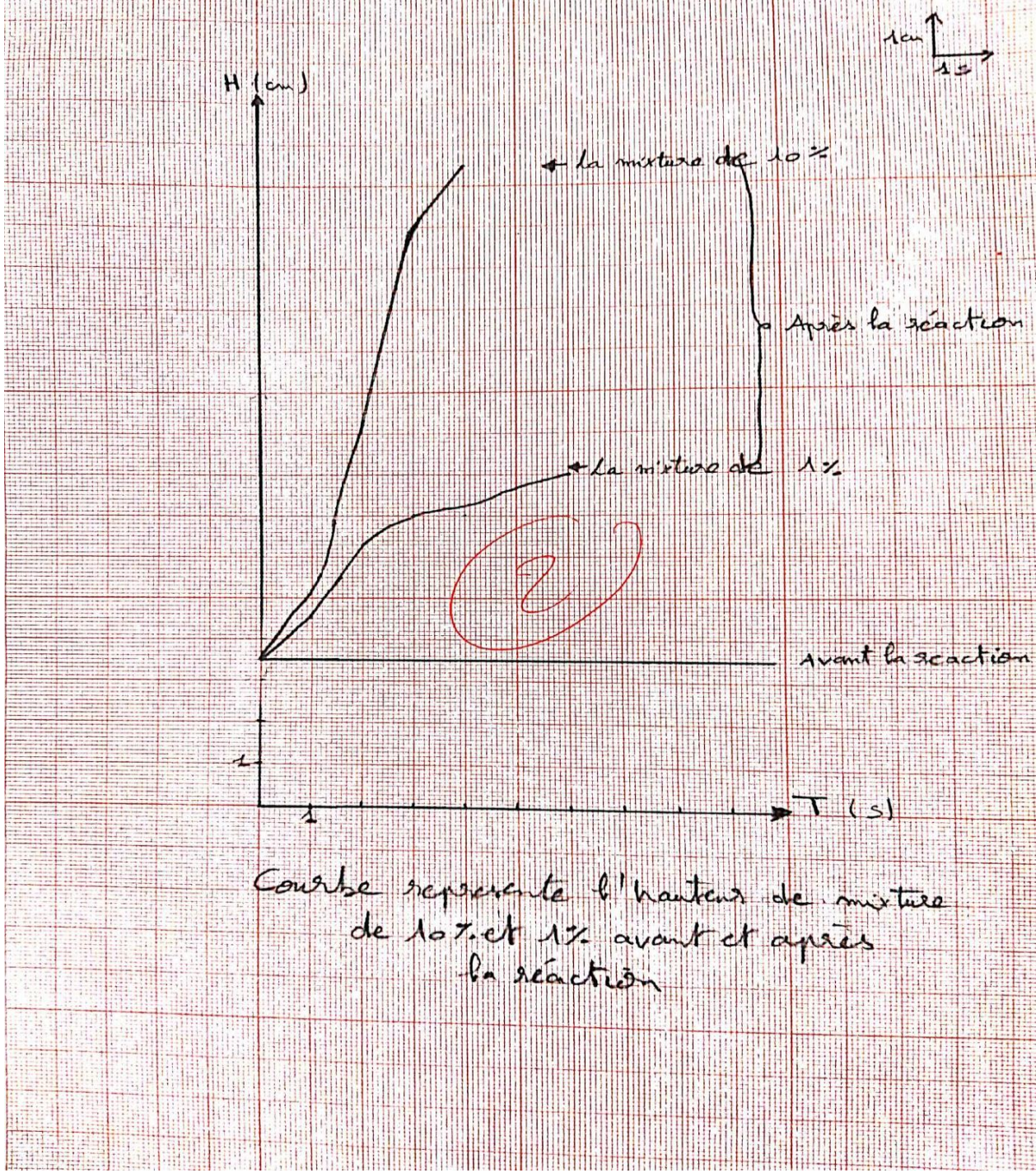
- This is your raw material
  - Do not say **why** you think something happened
- Tables, charts (refer to them and describe them)
- Calculations

Example: The bone tissue **was found** to have a purple tint and have a circular pattern with various striations.

Graphing Data

- Each graph should have a title that describes what the graph is about
- When graphing data, the independent variable always goes on the X axis, and the dependent variable always goes on the Y axis. .
- Each axis of the graph should be marked off in equal units and properly labeled.
- In general, use a line graph when both axes are the set of real numbers. Ex. Time, temperature, height, weight.
- In general, use a bar graph when one or both of the axes are not the set of real numbers. Ex. Different kinds of roach spray, people.

White Board Example



Courbe représente l'hauteur de mixture de 10% et 1% avant et après la réaction

Discussion

- **Interpret** your results
- **Reflect** back to hypothesis
  - Supported or rejected?
- Any mistakes?
- How could you have improved what you did

Conclusion

- First Paragraph
  - Contains your purpose for lab
  - Hypothesis
  - Results
  - Short and sweet

- Second Paragraph +
  - Thorough **analysis** of your collected data should be made.
  - Any comparisons should be analyzed here.
  - Discuss findings and describe any observations.
  - Answer the pre-post lab questions in paragraph form
    - Do so when explaining your results… not just answering them in sentences

Conclusion

- What went wrong?
  - Why? Mechanical? Human error?

- Do NOT restate procedures but EXPLAIN what you observed/data.

Conclusion

SOURCES OF ERROR: Every time that you do an experiment, errors may occur. It is more important that you identify errors that you think could have affected the conclusion that you drew.

Poor Example: I didn't always measure accurately. Some plants may have gotten a little more water that the others. We had a lot of cloudy days which meant less light.

Good Example: It was discovered that in the green house, some of the plants were shaded for part of the day while others got full sun. Those that got full sun produced more flowers.

Some of the plants became infested with tiny insects. These plants did not produce as many flowers as the others. Spraying with an insecticide could prevent this issue from occuring.

Important Facts

- No we, he she, they!! (pronouns)
  - Passive voice (objective tone), past tense!
- Number your pages (not cover page)
- Reference your data if needed
- DO NOT plagiarize