Laboratory Investigation Write- Up Format

Name Date
Partner

Title of your Investigation

Purpose: The purpose of this _____ was to . . .

Focus Question: [should be somewhat complex and incorporate the scientific principles you are investigating. It is not a simple yes or no. It should not be "answerable with one word or sentence]

Hypothesis: It was hypothesized that . . . . . If, Then, Because

Materials Materials should be written in a 3 column list like below

Micropipetter - MP2	pipette tips	Dye samples
Waste container	1X Tae Running buffer	Electrophoresis Chamber – 03

Procedure write the procedure out using Step 1, step two. Identify Cautions and safety cautions

Step 1: gather all materials. Safety glasses must be worn at all times
Step 2: Make 1X running buffer from the 50X stock buffer Caution – clean up spills immediately
Step 3: pipette 35 microliters of sample into the appropriate well. Caution- make sure to change Tip after each use.
Step 4:

Data Data must always be organized into a data Table. Table must be titled and contain headings. Data must in a table – Boxed in. Units must be identified and data must be readable.

Data Table 1: Electrophoresis dye migration distances of unknown substances.

Lane	Substance	Band color(s)	Migration distance (cm)

Data may include:

- Diagrams
- Images: pictures
- Specimens (preserved)
- Data readouts (printout strips)

Data Analysis / Discussion

The data analysis is where you discuss your results. It is where you sort of "brainstorm" on paper. You look at the data you collected and try to determine what it is telling you about the problem you were investigating. You need to look at and discuss all the possibilities then determine which one seems the most logical based on your previous knowledge, observations and the data you collected.

In this section you also need to identify and discuss any problems you had, how you handled the problems and any changes in the procedure you may have made – purposely or accidental. If this is applicable, you will need to discuss the effect of these issue on your experimental results. ***The Data analysis section is not a repeat of your data table in paragraph form.***

The data analysis section may include:

- Calculations
- Graphs
- Other representations of your data

Conclusion:

Your conclusion paragraph is one of the most important parts of your lab report. The conclusion paragraph contains:

- A brief description of the purpose of your experiment
- A reporting of your major findings
- A statement about the acceptance of your hypothesis; was it supported or rejected according to your data
- A statement on the validity of your experiment – are you confidence in your results
- A reporting of the experimental error is applicable
- A recommendation for further study

Another way to look at it . . .

Your conclusion paragraph should answer these questions:

- What was the purpose of your experiment?
- What were your major findings?
- Was your hypothesis supported by the data?
- What were your errors and how could this experiment be improved?
- What could be studied to learn more from this experiment? What equipment could be used to continue this investigation?

***NEVER** use the word **PROVE** in your conclusion. If your hypothesis was correct then your data supports your hypothesis it **DOES NOT PROVE** your hypothesis.*