

Lab Procedures

How to Write a Laboratory Report

I. PURPOSE

The purpose explains what the student should learn from doing the investigation. It should be written as a statement, not as a question.

II. MATERIALS

This list includes the materials needed to do the investigation. If more than six (6) items are used, make two columns listing materials.

III. PROCEDURES

This should be a step-by-step explanation of the procedures necessary for the student to do the investigation. The PROCEDURES section should only include information actually required to do the investigation.

IV. PRE-LAB QUESTIONS

The Pre-Lab Questions should get the student thinking about the safety issues and/or learning objectives of the lab. Questions should be written and answers should appear on a separate line below the question and preceded by "A:" to mark the beginning of the answer. Answers to these questions must be complete sentences.

V. DATA & CALCULATIONS

A. DATA – This is information collected as a direct result of instructions listed in the procedures. Drawings should be clearly titled, with appropriate labels and observational details. *Drawings may be done in pencil.* Numerical data should be recorded in appropriate tables with a clear title and labels (including units of measurement if appropriate). Data tables or written observations are to be written in pen and should be recorded as complete sentences. A straight-edge must be used in drawing all data tables.

B. CALCULATIONS – Calculations should include any mathematical operations required to change raw collected data into meaningful data that may be analyzed. When graphs are required, axis lines and labels should be in pen. Data points and connecting lines should be in pencil.

VI. POST-LAB QUESTIONS

Questions and answers listed for the lab should be written in this section. Answers should appear on a separate line below the question, should be preceded by "A:" to denote the beginning of the answer, and must be written in complete sentences.

VII. CONCLUSION

The conclusion should demonstrate the student's mastery of the subject covered in the lab. The focus should be on the goals listed in the PURPOSE, but is not limited to those stated goals. Do not simply list learning outcomes but demonstrate knowledge. The conclusion must be written in the third person context. Do not use words such as "I", "my", "we", "our", "your", etc. in the conclusion.

GENERAL LAB REPORT GUIDELINES

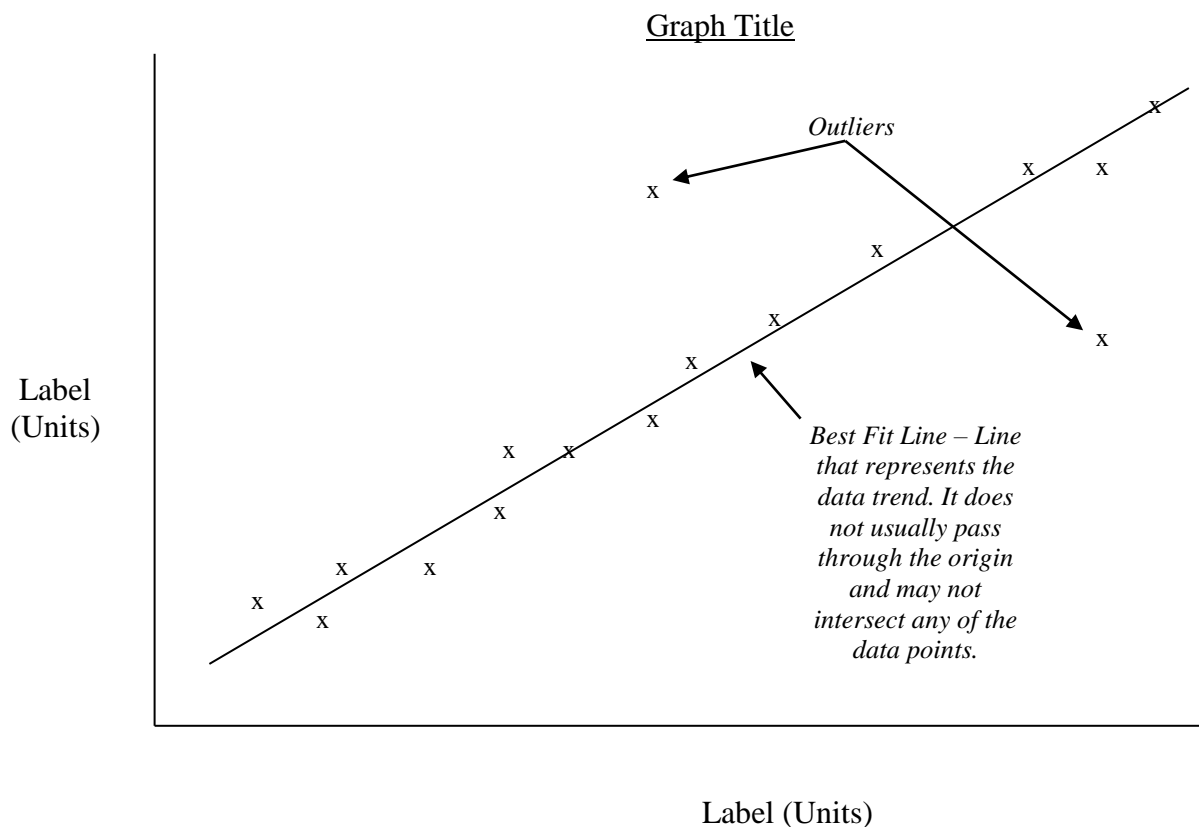
1. All lab reports must be handwritten on 8.5" x 11" graph paper. *No other paper sizes will be allowed.*
2. All entries must be in black ink and must be original. No felt tip pens will be allowed.
3. All writing must be printed. No cursive writing will be accepted.
4. The lab title must appear at the top, center of the first page of the lab.
5. A 0.75" margin must be maintained.
6. The back of pages must never be used.
7. Always use a minimum of 1/2 page for drawing all graphs.
8. All drawings, tables, and graphs must be titled with appropriate labels.
9. Units of measurement must be clearly indicated. All measures must be in SI units unless otherwise specified.
10. All lines should be drawn with the use of a straight-edge.
11. If you make an error in recording the data, draw one line through the mistake and record the correct data above the error. If, however, it is a large error, make an "X" through the entire section and reenter it.
12. Do not leave blank lines in your lab. Any portion of a page not used for the lab write-up should be 'X'ed out.
13. Neatness is a key factor in evaluating labs. Take your time and do the best quality work possible.
14. All returned lab reports must be placed in the Chemistry notebook and will become a part of the overall notebook grade.

Lab Procedures

Graphing Guidelines

Guidelines:

1. Graphs should always be at least one-half page in size. This allows for a greater level of precision.
2. The independent variable will always be plotted on the x -axis and the dependent variable on the y -axis.
3. The axes must be labeled describing the variable, (e.g., Time, Temperature, Distance, etc.)
4. The axes must be labeled with the units used to make the observations, (e.g., (seconds), ($^{\circ}$ Celsius), (meters), etc.). The units should be in parentheses next to the label for the axis.
5. Axis lines, labels, unit notations, etc. must be drawn using black ink.
6. The scales selected for each axis should result in data being plotted near the terminus of the axis.
7. Data points may be drawn in pencil and must always be (x)'s rather than dots.
8. Where a line is drawn to show the data trend, the line should always be 'best fit' – never 'connect the dots'.



Lab Grading Symbols

Ø = no 1st, 2nd personal pronouns.

↳ = indent text

A: = answers must be noted by 'A:'

BFL = use best fit line

Є = improper correction technique

CALC = missing calculations

CONC = missing conclusion

CS = answers must be complete sentences

DATA = data incomplete or missing

DATE = date missing

DE = missing discussion of error

DL = must demonstrate learning

DP = incorrect number of decimal places

IC = must be in black ink

INK = must be in black ink

L = missing column, section, or axis label

M = leave margin

N = neatness

OO = lab sections out of order

PLQ = missing pre-lab questions

Q = missing questions

SCALE = graph inconsistently scaled

SE = must use straight edge

SP = incorrect spelling

TITLE = missing lab, table, or graph title

U = missing units

WC = write out calculations

WQ = write out questions