

**Department of Chemistry
Organization of the Chemistry Laboratory Report**

- (1) All reports must be done using a word processor.
- (2) Reports are to be submitted on standard 8 1/2 by 11 inch paper. Staple the pages together in the upper left corner
- (3) Figures (line drawings and schematics) should be carefully done on separate sheets and inserted in the body of the report where appropriate. Graphs should be on graph paper or computer generated.
- (4) All reports will contain the following format.

COVER PAGE (10%)

- The title of the experiment (printed in the middle of the page)
- In the lower right hand corner,
 - Your Name
 - Your Instructor's Name
 - Your Lab Section
 - Date Experiment was performed

PURPOSE (5%)

- Provide a brief statement relating to the object of the experiment.
(Example: Purpose: To experimentally determine the value for the gas constant R)

INTRODUCTION (10%)

- A description about the theory behind the experiment and how the purpose of the experiment is achieved. (The introduction is not a procedure)
"A good introduction is a clear statement of the problem or project and why you are studying it." (The ACS Style Guide. American Chemical Society, Washington, DC, 1986.)
- Include any relevant mathematical and/or chemical equations. Each equation should be numbered and appear on a separate line.

MATERIALS AND PROCEDURE (5%)

- This section should describe what was actually done. It is a very brief exposition of the laboratory experiment, describing procedures, techniques, instrumentation, special precautions, and so on. (Depends on experiment)
- If the procedure is unchanged from that in the manual, you may cite it rather than reproduce it. In general do not list all the materials. Only include special

equipment, for example, an infra red spectrophotometer. You should describe any modifications from the printed instructions.

- You may refer to the handout for this part, and only describe any changes to the procedure.

DATA AND RESULTS (20% each)

- These are your data collected in the laboratory, and the analyses you have performed on them.
- In this section, relevant data, observations, and findings are summarized.
- Tabulation of data (use significant figures), equations, charts, and figures can be used effectively to present results clearly and concisely.
- Graphs if needed are constructed. They should be constructed by hand on good quality graph paper. Computer graphing facilities may also be used. (Include original data from lab notebook that may have been initialed by instructor)
- When including a graph observe the following:
 - Each graph must have a number and title
 - Label each axis and include the units
 - Try to scale the graph so that you use the entire graph area not just a small part
 - Draw a small circle around each data point
 - Use a sharp pencil to draw your graph
 - In general draw a “best fit” line rather than point to point
 - The axis should be ruled in ink
- Each table should have a title and a number. Each column must be labeled and the units used. The data will often be presented in the form of a table as indicated. See the example below.

Table 1. Measurement of the Density of a Solid Object

Sample Number	Mass (grams)	Volume (mL)	Density (g/mL)

- **CALCULATIONS** - Include at least one sample for each calculation you make

DISCUSSION (30%)

- The central part of the report is the analysis and interpretation of the results. What do the results mean? How do they relate to the objectives of the experiment? A good discussion will use the experimental data to support any conclusions.
- This part of the report should contain your ideas on the significance and effectiveness of the lab activity. These observations and arguments should remain

objective, but there is room for subjective opinion and discussion. Personal opinions and speculation which are closely related to the exercise may be included if sound reasoning for holding these views are given.

- The discussion sections should be uniquely different for each student Laboratory Report should also include “Prelab Assigned Questions” and “Postlab Assigned Question”. Responses to these questions should appear in the Discussion section of the lab report/

Grading depends on logic and thought content, not on length. Some details of lab report writing may vary from one activity to another because of the special nature of the activity. When a particular activity profits from a change in format your professor will inform you.

- **UNLESS OTHERWISE STATED REPORTS ARE DUE ONE WEEK AFTER THE EXPERIMENT HAS BEEN COMPLETED IN THE LABORATORY**
- **A PENALTY WILL BE ASSESSED FOR LAB REPORTS WHICH ARE LATE**