LABORATORY NOTEBOOK AND REPORT

As you perform your experiment all data should be recorded in the laboratory notebook. Notebooks and reports should be complete, clear, and concise so that anyone reading about the work at any future date will understand the experiment and its results.

The Notebook

Before coming to the laboratory prepare your notebook by including a brief description of the experiment, a condensed set of directions, a compilation of constants and other data which can be obtained before the laboratory period, and any other pertinent information, including references, which may be useful in performing the experiment and in doing the calculations.

The laboratory notebook should contain all the essential data. Original data must be entered as it is obtained. Writing numbers on slips of paper first and later transferring them to the notebook is not permitted. Although transferred data is neater, original data is more important than neat data.

The following rules should be observed when recording information in the laboratory notebook.

1. Use a permanently bound notebook with numbered pages. Place a table of contents at the front.

2. Record all original data, neatly in ink in the notebook.

3. Correct mistakes not by erasing but by drawing a single line through the incorrect entry. Make an explanation if necessary.

   Do not remove a page.

4. Each day's work should be dated and signed.

5. Use the proper number of significant figures, including zeros. For example, a volume of 10.00 *ml* should be recorded as 10.00 *ml*, not 10 *ml*.

The Report

The laboratory report should be well organized and well written so that anyone can read it and know what you did. It should be typed or neatly written on 8 1/2" X 11" sheets, brief and to the point, and written in correct English.

The report should be divided into five parts.

1. Purpose. A concise statement of the objectives of the experiment.

2. Theoretical Discussion. Include theory of the experiment, chemical equations, and mathematical equations. Also include references to more detailed descriptions of the theory.

3. Experimental Procedure. Briefly describe the laboratory methods, but include enough information so that another chemist could repeat the experiment from your description. Include drawings of apparatus where necessary. Do not copy the directions in the laboratory manual, but do include the reference(s).

4. Data and Calculations. Data should be recorded in neat tabulation form. Include graphs where necessary. Include one sample calculation of each type.

5. Discussion of Results. Include an analysis of errors. Discuss the significance of your results and your conclusions. Compare your results with literature values where possible.

A sample of a laboratory notebook and report follows. The report does have to be typed.

Example Lab Report #1

Example Lab Report #2