Advanced Placement Chemistry
Laboratory Information

Formal Lab Reports:
All Formal lab reports should be typed and will include more detailed analysis and summary then your lab notebook. Formal lab reports must include the following components:

- **Title** – The title should be descriptive. Experiment 5 is not a descriptive title.

- **Partners** – Who did you work with?

- **Date** – This is the date (or dates) you performed the experiment

- **Introduction**
  Write brief statement of purpose explaining what you are attempting to do. Do not use proper nouns. In this section you should also demonstrate your understanding of WHAT concepts were demonstrated in this experiment as well as WHY the experiment is being done. Refer back to the purpose. This section is essential in conveying your conceptual understanding of the experiments and concepts and must receive a thorough analysis. You may use whatever (legitimate) format you prefer to **reference** any ideas that are not your own.

- **Procedure Outline, Materials and Safety**
  Write an outline of the procedure. Use bulleted statements or similar outline to make it easy to read. If the lab is guided inquiry, a detailed procedure will be developed. List materials and important safety information.

- **Data and Observations**
  Organize your data in a neat, orderly form. Label all data very clearly. Use correct significant digits, and always include proper units (g, ml, etc.).

- **Analysis of Results**
  You should explain how calculations are carried out. Give the equation used and show how your values are substituted into it. Give the calculated values using significant figures. Results may be summarized in a table. If graphs are included, make the graphs an appropriate size. Label all axes and give each graph a title. A spreadsheet program may be used to produce graphs. If experiments are not quantitative, this section may be omitted. If you can calculate a percent error or percent deviation, do so and include it in this section.

- **Conclusion**
  Discuss and summarize the **pertinent** results obtained in the experiment. What does the data and calculations show? Make a statement concerning what you can conclude from the experiment. How was the purpose of the experiment fulfilled? Why does (or doesn't) the experiment work?

- **Experimental Sources of Error, Discussion of Theory, and Revisions**
  What concepts are demonstrated by the results of the lab? What are some specific sources of error, and HOW do they influence the data? Are there any chemistry concepts the errors might be related to? Do the errors make the values obtained larger or smaller than they should be? Which measurement was the least precise? Human error and experimental sources of error exist in every experiment, and should not be mentioned as a source unless they cause a significant fault. Significant digits and mistakes in calculations are NOT a valid source of error. In writing this section, it is sometimes helpful to ask yourself what you would do differently if you were to repeat the experiment and wanted to obtain better precision.

- **Bibliography**
  List any reference materials used in the lab report