**AP Chemistry Laboratory Report Grading Rubric**



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| **Lab Report Section** | **Self-Grade** | **Teacher Grade** |
| 1. **Title, Name, and Date [5 points]**    * 1. -Placed at the top of the first page, this should include the title of the experiment, the name(s) of the person(s) performing the experiment, and the date it was performed.   -The title should be descriptive. For example, “pH Titration Lab” is a descriptive title and “Experiment 5” is not a descriptive title |  |  |
| 1. **Purpose [5 points]**    1. -A purpose is a statement summarizing the “point” of the lab. What are the main reasons you are performing this experiment? Be specific...don't just restate the title or copy the generic objectives from the given lab packet. |  |  |
| 1. **Pre-Lab Questions [5 points x2]**    1. **-**Students will be given some questions to answer before the lab is done. They will need to either rewrite the question or incorporate the question in the answer. The idea here is that when someone (like a college professor) looks at a student’s lab notebook, they should be able to tell what the question was by merely looking at their lab report. It is important to produce a good record of lab work. |  |  |
| 1. **Equipment [5 points]**    1. -A bulleted list of all the equipment and chemicals you will use in this experiment. |  |  |
| 1. **Procedure [5 points x3]**    1. -Make two columns for this section. The left side is for the steps. The right side is for recording changes made to the procedure and observations at each step of the way during the lab.    2. -Students need to write an outline of the procedure in the left column. They should use bulleted statements or outline format to make it easy to read. Try to be brief, but include enough detail so you can follow this in the lab.    3. -If a student is doing a guided inquiry lab, they may be required to write a full procedure that they develop. |  |  |
| 1. **Data Tables and Recorded Data [5 points x2]**    1. **-**Students will need to create any data tables or charts necessary for data collection in the lab.    2. **-**Students need to record all their data (qualitative and quantitative) directly in their lab notebook. They are NOT to be recording data on their separate lab sheet. They need to label all data clearly and always include proper units of measurement. Students should underline, use capital letters, or use any device they choose to help organize this section well. They should space things out neatly and clearly. |  |  |
| 1. **Calculations and Graphs [5 points x3]**    1. **-**Students should show how calculations are carried out. You must show at least one sample calculation for each piece of data in your table that was not simply a measured value. For example, if you record the number of moles of NaCl, but you obtained that from measuring the mass of NaCl, you must show in the calculations section how you got the number of moles from the mass. If you did this step in five different trials, only one calculation is necessary.    2. -Graphs and charts must be computer-generated. Graphs need to be titled, axes need to be labeled, and units need to be shown on the axis.    3. -Attach any graphs and charts generated during or after the lab to display your data. |  |  |
| 1. **Data Analysis [5 points x3]**   This is the main part of the lab report where you:  a. present the data you collected  b. discuss how you obtained the data (explain calculations, but don’t  restate procedure)  c. analyze why the data is relevant  This section of the lab should contain only statements you can support with your data, NOT your opinions. Every statement should be backed up by quoting your data and/or referencing by title, relevant tables, charts or graphs within your report. For example, in your “data” section you recorded the freezing point of unknown sample #1 to be -5oC. In the “data analysis” section you will further analyze that data: "We used an electronic temperature probe and determined the freezing point of sample #1 to be -5oC as noted in Figure 2 by the flat portion of the curve. This shows that the addition of a solute (NaCl) lowered the freezing point by 5oC when compared to the curve of the pure sample shown in Figure 1." This will undoubtedly be the longest and most difficult section to write up in every lab report. |  |  |
| 1. **Conclusion [5 points x2]**   This is a brief paragraph where you:  a. restate your hypothesis/objective  b. quote data that proves you met or did not meet the objective  c. describe possible sources of error and how they affected your data  d. suggest how to improve your results if you were to repeat the  experiment  For example, "We showed that solutes lower freezing points of pure substances because when we added NaCl, the freezing point dropped by 5 degrees Celsius." Also use this section to analyze sources of error and how those errors influenced your data. Instrumental and human error exist in all experiments and should not be mentioned as a source of error. If human error ruined your data, then the experiment should be repeated before it is written up. |  |  |
| 1. **Post Lab Error Analysis Questions [5 points x2]**   -Complete and accurate responses based off of lab. |  |  |
| **Total Score [100 points]** |  |  |