

Generic Chemistry Lab Report Guidelines – Specifics given in class supersede these generic guidelines! Please Note: Labs grades are based on quality not just completion! Articulating ideas clearly is key to science!																											
REQUIREMENTS	AREAS TO IMPROVE UPON																										
Format ☐ 10pt Times New Roman or Arial font ONLY ☐ 1.5 spaced ☐ Bold section headings for everything ☐ 8.5"x11" white paper ☐ 0.5" margins on all sides ☐ Abstract has 2" margins on each side and is single-spaced. ☐ Stapled in following order: - o Title page - o Lab report - o Carbon Copy pages used during lab (Must have HEADER filled out on every page) - o Carbon Copy pages used for lab report and post lab Q's ☐ THIRD PERSON, PAST TENSE, PASSIVE VOICE!!!! - o We know you wrote it...your name is on the front...use third person - o You already finished the lab before you did your report! Use past tense! - o I know your English teachers don't like passive voice... but it is appropriate for lab reports! • Active voice: The hot plate stirred the reaction for three minutes. • Passive voice: The reaction was stirred by the hot plate for three minutes	Formatting 1 ☐ 2 ☐ 3 ☐ 4 ☐ 10pt correct font ☐ Yes ☐ No 0.5-in margins ☐ Yes ☐ No 1.5-in spacing ☐ Yes ☐ No Stapled In Order ☐ Yes ☐ No 3 rd Person ☐ Yes ☐ No Past Tense ☐ Yes ☐ No Section Headings ☐ Yes ☐ No Abstract Format Justified both sides ☐ Yes ☐ No 2-in margins ☐ Yes ☐ No Single Spaced ☐ Yes ☐ No																										
Title Page ☐ It gets its own page! ☐ Title of lab ☐ Abstract (see below) ☐ Group members and how they contributed (Name, section worked on) ☐ Date of lab experiment ☐ Class and period	Title Page 1 ☐ 2 ☐ 3 ☐ 4 ☐ Own page ☐ Yes ☐ No Title ☐ Yes ☐ No Abstract present ☐ Yes ☐ No Group members ☐ Yes ☐ No Date ☐ Yes ☐ No Class and period ☐ Yes ☐ No																										
Abstract ☐ On Title Page (2-in margins) ☐ Justified on both sides, do not center on page! ☐ The following is to be articulated concisely in no more than 3-5 sentence sin the order below • Sentence 1: What was the purpose of the experiment? The question or statement. Do not copy from lab handout. • Sentence 2: What you found out (the results – the silver alloy beads were found to contain X% of silver) • Sentence 3: How the results were determined (Brief! Specific names of lab techniques if applicable) • Sentence 4: Report accepted value (if applicable) and percent error. • Sentence 5: Conclusions made (if applicable), what you drew from the experiment	Abstract 1 ☐ 2 ☐ 3 ☐ 4 ☐ <table border="0"> <tr> <td><u>Purpose</u></td> <td><u>Percent error*</u></td> </tr> <tr> <td>☐ Yes ☐ No</td> <td>☐ Yes</td> </tr> <tr> <td></td> <td>☐ No</td> </tr> <tr> <td><u>Results</u></td> <td></td> </tr> <tr> <td>☐ Yes ☐ No</td> <td><u>Conclusions made</u></td> </tr> <tr> <td></td> <td>☐ Yes</td> </tr> <tr> <td><u>How results were found</u></td> <td>☐ No</td> </tr> <tr> <td>☐ Yes ☐ No</td> <td></td> </tr> <tr> <td><u>Named techniques*</u></td> <td><u>Short, concise and clear</u></td> </tr> <tr> <td>☐ Yes ☐ No</td> <td>☐ Yes</td> </tr> <tr> <td></td> <td>☐ No</td> </tr> <tr> <td><u>Accepted value*</u></td> <td></td> </tr> <tr> <td>☐ Yes ☐ No</td> <td><i>*if applicable</i></td> </tr> </table>	<u>Purpose</u>	<u>Percent error*</u>	☐ Yes ☐ No	☐ Yes		☐ No	<u>Results</u>		☐ Yes ☐ No	<u>Conclusions made</u>		☐ Yes	<u>How results were found</u>	☐ No	☐ Yes ☐ No		<u>Named techniques*</u>	<u>Short, concise and clear</u>	☐ Yes ☐ No	☐ Yes		☐ No	<u>Accepted value*</u>		☐ Yes ☐ No	<i>*if applicable</i>
<u>Purpose</u>	<u>Percent error*</u>																										
☐ Yes ☐ No	☐ Yes																										
	☐ No																										
<u>Results</u>																											
☐ Yes ☐ No	<u>Conclusions made</u>																										
	☐ Yes																										
<u>How results were found</u>	☐ No																										
☐ Yes ☐ No																											
<u>Named techniques*</u>	<u>Short, concise and clear</u>																										
☐ Yes ☐ No	☐ Yes																										
	☐ No																										
<u>Accepted value*</u>																											
☐ Yes ☐ No	<i>*if applicable</i>																										

Background – part of prelab if required ☐ Do NOT copy info from lab worksheet! ☐ Summary/explanation of the important chemistry topics covered in lab ☐ Explain how the topics relate directly to the lab ☐ What will your lab be discovering/testing related to the topics ☐ What is your experimental question/variables ☐ Include relevant chemistry vocabulary ☐ Include relevant chemical equations ☐ Include balancing and states for chemical equations ☐ Number each equation to make referencing easier ☐ Hypothesis if applicable - If _____, then _____, BECAUSE _____. Everyone forgets the BECAUSE portion! - Relate it back to the topics covered ☐ Be sure to site any references used including textbook, website, lab manual, etc. Below is a good explanation of ACS formatting. https://libguides.williams.edu/citing/acs	Background 1 ☐ 2 ☐ 3 ☐ 4 ☐ <u>In Own Words</u> ☐ Yes ☐ No <u>Chem Topics Explained</u> ☐ All ☐ Some ☐ None or incorrect <u>Connection to Lab</u> ☐ All ☐ Some ☐ None or incorrect <u>Exp. Q/Variables</u> ☐ All identified ☐ Some identified ☐ None <i>*if applicable</i> <u>Defined Vocab</u> ☐ All ☐ Some ☐ None <u>Chem Rxns*</u> ☐ All balanced w/ states ☐ Some or not bal/states ☐ None or wrong <u>Hypothesis*</u> ☐ Yes and correct format ☐ Yes but lacking ☐ Not included <u>References*</u> ☐ Yes and ACS format ☐ Yes but lacking ☐ Not included
Observations/Data ☐ Qualitative and quantitative! Must have both! ☐ Lab notebook paper only, with data tables and graphs made/collected DURING the lab ☐ Professional appearance - Clear, large, not squished! - Black or blue ink ONLY ☐ Descriptive titles ☐ Sig figs for measurements and calculations ☐ Label graphs/tables with name of measurement and units	Data Table 1 ☐ 2 ☐ 3 ☐ 4 ☐ <u>Observations</u> ☐ Significant, detailed, thorough ☐ Sufficient ☐ Lacking <u>Professionalism</u> ☐ Total pro, ruler used, readable, etc ☐ Good ☐ Lacking <u>Titles</u> ☐ Strong, descriptive, clear ☐ Good, attempt at being descriptive ☐ Unclear, not descriptive
Calculations ☐ Work shown completely ☐ Flow of work is clear ☐ Work set up correctly to solve actual problem ☐ Correct numbers used in work ☐ Units provided everywhere ☐ Correct answer	Calculations 1 ☐ 2 ☐ 3 ☐ 4 ☐ <u>Work Shown</u> ☐ Significant, detailed, thorough ☐ Sufficient ☐ Lacking <u>Units</u> ☐ All ☐ Some ☐ None or wrong <u>Organization of Work</u> ☐ Clear ☐ Hazy ☐ Cloudy <u>Correct Answers</u> ☐ All ☐ Most ☐ Some <u>Correctly Set Up</u> ☐ All ☐ Most ☐ Some ☐ None

Data Analysis ☐ Include table and graph of anything you calculated, manipulated or plotted AFTER the lab. Make sure tables and graphs are labeled correctly ☐ Explain data that you collected ☐ Include a few sentences explaining what the graphs/tables show or indicate ☐ Mention any errors and how they affect your data analysis. Remember "human error" is not an acceptable phrase. ☐ Include percent errors if applicable ☐ Include one sample calculation for each type of calculation performed ☐ Include equations, reactions, units, work, etc. ☐ Define symbols/variables used ☐ You may be graded on the accuracy of your lab data and/or whether your calculations are correct or not	Data Analysis 1 ☐ 2 ☐ 3 ☐ 4 ☐ <table border="0"> <tr> <td><u>Data/Graphs</u></td> <td><u>% Error</u></td> </tr> <tr> <td>☐ All included</td> <td>☐ Yes</td> </tr> <tr> <td>☐ Missing some</td> <td>☐ No</td> </tr> <tr> <td>☐ Not included</td> <td>☐ Wrong</td> </tr> <tr> <td><u>Labels</u></td> <td><u>Sample Calculations</u></td> </tr> <tr> <td>☐ All</td> <td>☐ All</td> </tr> <tr> <td>☐ Some</td> <td>☐ Some</td> </tr> <tr> <td>☐ None or wrong</td> <td>☐ None or wrong</td> </tr> <tr> <td><u>Explain Data/Graphs</u></td> <td><u>Eq's, Rxns, Units, etc</u></td> </tr> <tr> <td>☐ All</td> <td>☐ All</td> </tr> <tr> <td>☐ Some</td> <td>☐ Some</td> </tr> <tr> <td>☐ None</td> <td>☐ None or wrong</td> </tr> <tr> <td><u>Errors</u></td> <td><u>Accuracy</u></td> </tr> <tr> <td>☐ Significant errors</td> <td>☐ Great</td> </tr> <tr> <td>☐ Not significant ones</td> <td>☐ Ok</td> </tr> <tr> <td>☐ Did not explain impact</td> <td>☐ Poor</td> </tr> <tr> <td>☐ Not included</td> <td></td> </tr> </table>	<u>Data/Graphs</u>	<u>% Error</u>	☐ All included	☐ Yes	☐ Missing some	☐ No	☐ Not included	☐ Wrong	<u>Labels</u>	<u>Sample Calculations</u>	☐ All	☐ All	☐ Some	☐ Some	☐ None or wrong	☐ None or wrong	<u>Explain Data/Graphs</u>	<u>Eq's, Rxns, Units, etc</u>	☐ All	☐ All	☐ Some	☐ Some	☐ None	☐ None or wrong	<u>Errors</u>	<u>Accuracy</u>	☐ Significant errors	☐ Great	☐ Not significant ones	☐ Ok	☐ Did not explain impact	☐ Poor	☐ Not included	
<u>Data/Graphs</u>	<u>% Error</u>																																		
☐ All included	☐ Yes																																		
☐ Missing some	☐ No																																		
☐ Not included	☐ Wrong																																		
<u>Labels</u>	<u>Sample Calculations</u>																																		
☐ All	☐ All																																		
☐ Some	☐ Some																																		
☐ None or wrong	☐ None or wrong																																		
<u>Explain Data/Graphs</u>	<u>Eq's, Rxns, Units, etc</u>																																		
☐ All	☐ All																																		
☐ Some	☐ Some																																		
☐ None	☐ None or wrong																																		
<u>Errors</u>	<u>Accuracy</u>																																		
☐ Significant errors	☐ Great																																		
☐ Not significant ones	☐ Ok																																		
☐ Did not explain impact	☐ Poor																																		
☐ Not included																																			
Discussion Questions ☐ Answers to provided lab questions, statements, or calculations with work shown and units when appropriate. ☐ Each Q is numbered and answered in complete sentences. ☐ Restate the question in your answer, do not just copy the Q! ☐ Will sometimes be done as part of a formal report as a group, or done individually on the carbon copy paper in your notebook. If done on carbon copy paper but a formal lab report is also typed up, then you must include this section heading in the report but simply say "refer to carbon copy pages at the end of the report." ☐ Will sometimes be graded for completion, and sometimes will be graded for accuracy.	Discussion Questions 1 ☐ 2 ☐ 3 ☐ 4 ☐ <table border="0"> <tr> <td><u>Questions</u></td> <td><u>Calculations w/ Work</u></td> </tr> <tr> <td>☐ All included</td> <td>☐ All</td> </tr> <tr> <td>☐ Missing some</td> <td>☐ Some</td> </tr> <tr> <td>☐ Not included</td> <td>☐ None</td> </tr> <tr> <td><u>Complete Sentences</u></td> <td><u>Correct Answer</u></td> </tr> <tr> <td>☐ All</td> <td>☐ All</td> </tr> <tr> <td>☐ Some</td> <td>☐ Most</td> </tr> <tr> <td>☐ None</td> <td>☐ Few</td> </tr> <tr> <td></td> <td>☐ None</td> </tr> <tr> <td><u>Questions Restated</u></td> <td></td> </tr> <tr> <td>☐ All ☐ Some ☐ None</td> <td></td> </tr> </table>	<u>Questions</u>	<u>Calculations w/ Work</u>	☐ All included	☐ All	☐ Missing some	☐ Some	☐ Not included	☐ None	<u>Complete Sentences</u>	<u>Correct Answer</u>	☐ All	☐ All	☐ Some	☐ Most	☐ None	☐ Few		☐ None	<u>Questions Restated</u>		☐ All ☐ Some ☐ None													
<u>Questions</u>	<u>Calculations w/ Work</u>																																		
☐ All included	☐ All																																		
☐ Missing some	☐ Some																																		
☐ Not included	☐ None																																		
<u>Complete Sentences</u>	<u>Correct Answer</u>																																		
☐ All	☐ All																																		
☐ Some	☐ Most																																		
☐ None	☐ Few																																		
	☐ None																																		
<u>Questions Restated</u>																																			
☐ All ☐ Some ☐ None																																			
Conclusion ☐ Complete sentences, paragraph form ☐ Report your final results ☐ Include accepted value and % error if applicable ☐ Explain why it turned out the way it did – sources of error, limits in lab design, etc. ☐ Relate findings back to basic principles of chemistry ☐ What further experiments might you do to keep studying this? ☐ How does it relate to real life if applicable? ☐ How could you make improvements to the lab?	Conclusion 1 ☐ 2 ☐ 3 ☐ 4 ☐ <table border="0"> <tr> <td><u>Complete Sentences</u></td> <td><u>Relate to Chem Topics</u></td> </tr> <tr> <td>☐ Yes ☐ No</td> <td>☐ Yes ☐ No</td> </tr> <tr> <td><u>Results Reported</u></td> <td><u>Further Experiments</u></td> </tr> <tr> <td>☐ Yes ☐ No</td> <td>☐ Yes ☐ No</td> </tr> <tr> <td><u>Accepted Value / % Error</u></td> <td><u>Relates to Real Life</u></td> </tr> <tr> <td>☐ Yes ☐ No</td> <td>☐ Yes ☐ No</td> </tr> <tr> <td><u>Errors</u></td> <td><u>Improvements</u></td> </tr> <tr> <td>☐ Yes ☐ No</td> <td>☐ Yes ☐ No</td> </tr> <tr> <td><u>Level of Detail</u> ☐ Significant ☐ Sufficient ☐ Lacking</td> <td></td> </tr> </table>	<u>Complete Sentences</u>	<u>Relate to Chem Topics</u>	☐ Yes ☐ No	☐ Yes ☐ No	<u>Results Reported</u>	<u>Further Experiments</u>	☐ Yes ☐ No	☐ Yes ☐ No	<u>Accepted Value / % Error</u>	<u>Relates to Real Life</u>	☐ Yes ☐ No	☐ Yes ☐ No	<u>Errors</u>	<u>Improvements</u>	☐ Yes ☐ No	☐ Yes ☐ No	<u>Level of Detail</u> ☐ Significant ☐ Sufficient ☐ Lacking																	
<u>Complete Sentences</u>	<u>Relate to Chem Topics</u>																																		
☐ Yes ☐ No	☐ Yes ☐ No																																		
<u>Results Reported</u>	<u>Further Experiments</u>																																		
☐ Yes ☐ No	☐ Yes ☐ No																																		
<u>Accepted Value / % Error</u>	<u>Relates to Real Life</u>																																		
☐ Yes ☐ No	☐ Yes ☐ No																																		
<u>Errors</u>	<u>Improvements</u>																																		
☐ Yes ☐ No	☐ Yes ☐ No																																		
<u>Level of Detail</u> ☐ Significant ☐ Sufficient ☐ Lacking																																			