

Chemistry Lab Report Guidelines
Updated as of 10/09/17

• Format

- 10pt Times New Roman 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 NAME on every page)
 - o Carbon Copy pages used for discussion questions
- 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 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| 10-pt Font | Y <input type="checkbox"/> | N <input type="checkbox"/> | Stapled Or. | Y <input type="checkbox"/> N <input type="checkbox"/> |
| 0.5 Margins | Y <input type="checkbox"/> | N <input type="checkbox"/> | 3 rd Person | Y <input type="checkbox"/> N <input type="checkbox"/> |
| 1.5 Spacing | Y <input type="checkbox"/> | N <input type="checkbox"/> | Past Tense | Y <input type="checkbox"/> N <input type="checkbox"/> |
| | | | Sec. Heading | Y <input type="checkbox"/> N <input type="checkbox"/> |

Abstract Format

- Justified both sides Y N
- 2-in Margins Y N
- Single-spaced Y N

• Title Page

- It gets its own page!
- Title of lab
- Abstract (see below)
- Group members and how they contributed (Name, section worked on)
- Date
- Class and period

• Abstract

- On Title page (2" margins). Do not center on the page. Justified on both sides
- The following is to be articulated concisely in no more than 3-4 sentences in the order below* (see rubric)
- Sentence 1: What was the purpose of the experiment? The question or statement. Do not copy from lab handout
- Sentence 2: What you found (results...The silver alloy beads were found to contain X% of silver)
- Sentence 3: How your 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 and instructed by teacher/lab), what you draw from the experiment

Abstract

- | | | | | |
|------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|
| | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |
| <u>Purpose</u> | <u>Results</u> | <u>How (Lab Tech)</u> | | |
| <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | | |
| <input type="checkbox"/> No | <input type="checkbox"/> No | <input type="checkbox"/> No | | |
| If applicable: | | <u>Too Long/☉Clr</u> | | |
| <u>Acc. Val / %Err</u> | <u>Conclusion(s)</u> | <input type="checkbox"/> Yes | | |
| <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | <input type="checkbox"/> No | | |
| <input type="checkbox"/> No | <input type="checkbox"/> No | | | |

<p>• Background – part of your PRELAB Assignment (AP Chemistry)</p> <input type="checkbox"/> DO NOT copy info from lab worksheet! <input type="checkbox"/> Summary/explanation of the important chemistry topics covered in lab <input type="checkbox"/> Explain how the topics relate directly to the lab <input type="checkbox"/> What will your lab be discovering/testing related to the topics <input type="checkbox"/> What is your experimental question/variables <input type="checkbox"/> Include relevant chemistry vocabulary <input type="checkbox"/> Relevant Chemical equation(s) <input type="checkbox"/> Including balancing and states <input type="checkbox"/> Each Equation should be numbered to make referencing easier <input type="checkbox"/> Hypothesis if applicable <input type="checkbox"/> If _____, then _____, BECAUSE _____. Everyone forgets the BECAUSE part! <input type="checkbox"/> Relate it back to the topics covered	<p>Background 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/></p> <table border="0"> <tr> <td><u>Chem Topics</u></td> <td><u>Topics Related to Lab</u></td> </tr> <tr> <td><input type="checkbox"/> Sum./Explained</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td><input type="checkbox"/> No Sum/Explained</td> <td><u>Chem Rx's (Bal/St's)</u></td> </tr> <tr> <td><u>Defined Vocab</u></td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><u>Hypothesis (if app)</u></td> </tr> <tr> <td><u>Exp. Q/Variables</u></td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><u>References (ACS)</u></td> </tr> <tr> <td></td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> </table>	<u>Chem Topics</u>	<u>Topics Related to Lab</u>	<input type="checkbox"/> Sum./Explained	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No Sum/Explained	<u>Chem Rx's (Bal/St's)</u>	<u>Defined Vocab</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Hypothesis (if app)</u>	<u>Exp. Q/Variables</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>References (ACS)</u>		<input type="checkbox"/> Yes <input type="checkbox"/> No
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<p>• Observations/Data</p> <input type="checkbox"/> Qualitative and quantitative! Must have both <input type="checkbox"/> Lab notebook paper only with data tables graphs made/collected DURING the lab <input type="checkbox"/> Professional appearing (boxes outlined, title – not “Data Table”) <input type="checkbox"/> Title: Must include the reaction in name or formula, cannot use “Qual or Quant” of... <input type="checkbox"/> Clear, large, not squished! – use one whole page <input type="checkbox"/> Sig figs for calculations and measurements <input type="checkbox"/> Label graphs and tables <input type="checkbox"/> Give everything a <i>descriptive</i> title <input type="checkbox"/> Units <input type="checkbox"/> Black or blue INK ONLY	<p>Data Table 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> Quant <input type="checkbox"/> Qual <input type="checkbox"/></p> <table border="0"> <tr> <td><u>Observations</u></td> <td><u>Title</u></td> </tr> <tr> <td><input type="checkbox"/> Significant</td> <td><input type="checkbox"/> Strong / Clear</td> </tr> <tr> <td><input type="checkbox"/> Sufficient</td> <td><input type="checkbox"/> Good / No Rxn</td> </tr> <tr> <td><input type="checkbox"/> Lacking</td> <td><input type="checkbox"/> Unclear / What?</td> </tr> <tr> <td></td> <td>Used ink on C_{copy}: <input type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> <tr> <td colspan="2"><u>Mistakes Cor. w/ 1-line strike:</u> <input type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> <tr> <td colspan="2"><u>Table Appearance</u></td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Pro w/ Ruler <input type="checkbox"/> Good <input type="checkbox"/> Lacking / No Table</td> </tr> </table>	<u>Observations</u>	<u>Title</u>	<input type="checkbox"/> Significant	<input type="checkbox"/> Strong / Clear	<input type="checkbox"/> Sufficient	<input type="checkbox"/> Good / No Rxn	<input type="checkbox"/> Lacking	<input type="checkbox"/> Unclear / What?		Used ink on C _{copy} : <input type="checkbox"/> Y <input type="checkbox"/> N	<u>Mistakes Cor. w/ 1-line strike:</u> <input type="checkbox"/> Y <input type="checkbox"/> N		<u>Table Appearance</u>		<input type="checkbox"/> Pro w/ Ruler <input type="checkbox"/> Good <input type="checkbox"/> Lacking / No Table	
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<p>Calculations</p> <input type="checkbox"/> Work shown completely <input type="checkbox"/> Flow of work clear <input type="checkbox"/> Work set up correctly to solve actual problem <input type="checkbox"/> Correct numbers used in work <input type="checkbox"/> Units provided <input type="checkbox"/> Correct answers	<p>Calculations 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/></p> <table border="0"> <tr> <td><u>Work Shown</u></td> <td><u>Correctly set up</u></td> </tr> <tr> <td><input type="checkbox"/> Significant</td> <td><input type="checkbox"/> All</td> </tr> <tr> <td><input type="checkbox"/> Sufficient</td> <td><input type="checkbox"/> Most</td> </tr> <tr> <td><input type="checkbox"/> Lacking</td> <td><input type="checkbox"/> Some</td> </tr> <tr> <td colspan="2"><u>Organization of work / flow</u></td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Clear <input type="checkbox"/> Hazy <input type="checkbox"/> Clouded</td> </tr> <tr> <td colspan="2"><u>Units:</u> <input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td colspan="2"><u>Correct:</u> <input type="checkbox"/> All <input type="checkbox"/> Most <input type="checkbox"/> Some</td> </tr> </table>	<u>Work Shown</u>	<u>Correctly set up</u>	<input type="checkbox"/> Significant	<input type="checkbox"/> All	<input type="checkbox"/> Sufficient	<input type="checkbox"/> Most	<input type="checkbox"/> Lacking	<input type="checkbox"/> Some	<u>Organization of work / flow</u>		<input type="checkbox"/> Clear <input type="checkbox"/> Hazy <input type="checkbox"/> Clouded		<u>Units:</u> <input type="checkbox"/> Yes <input type="checkbox"/> No		<u>Correct:</u> <input type="checkbox"/> All <input type="checkbox"/> Most <input type="checkbox"/> Some	
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<p>• Data Analysis</p> <input type="checkbox"/> Include table and graph (labeled correctly) of anything you calculated, manipulated or plotted AFTER lab <input type="checkbox"/> Explain data that you collected <input type="checkbox"/> Mention any errors and how they affect your data analysis <input type="checkbox"/> Include percent errors if applicable <input type="checkbox"/> Include one sample calculation for each type of calculation performed <input type="checkbox"/> Include equations, reactions, units, work, etc. <input type="checkbox"/> Define symbols/variables <input type="checkbox"/> Include a couple sentences explaining what graphs/tables show <input type="checkbox"/> You may be graded on the accuracy of your lab data and whether your calculations are correct or not.	<p>Data Analysis 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/></p> <table border="0"> <tr> <td><u>Data/Graphs</u></td> <td><u>Explain Data</u></td> <td><u>Errors (3+)</u></td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td><input type="checkbox"/> All</td> <td><input type="checkbox"/> Yes</td> </tr> <tr> <td><input type="checkbox"/> No</td> <td><input type="checkbox"/> Most</td> <td><input type="checkbox"/> No</td> </tr> <tr> <td><u>Labels</u> Y <input type="checkbox"/> N <input type="checkbox"/></td> <td><input type="checkbox"/> Some</td> <td></td> </tr> <tr> <td><u>%Error</u></td> <td><u>Calc's</u></td> <td><u>How Errors Affect Analysis</u></td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td><input type="checkbox"/> Yes</td> <td><input type="checkbox"/> Yes</td> </tr> <tr> <td><input type="checkbox"/> No</td> <td><input type="checkbox"/> No</td> <td><input type="checkbox"/> No</td> </tr> </table>	<u>Data/Graphs</u>	<u>Explain Data</u>	<u>Errors (3+)</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> All	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Most	<input type="checkbox"/> No	<u>Labels</u> Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/> Some		<u>%Error</u>	<u>Calc's</u>	<u>How Errors Affect Analysis</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
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<p>• Discussion Questions</p> <input type="checkbox"/> Answers to the lab questions or statements or calculation with work. <input type="checkbox"/> Each question should be numbered and answered in complete sentences <input type="checkbox"/> Restate the question in your answer, don't copy the question! <input type="checkbox"/> Will sometimes be done on Carbon Copy paper individually. <i>Still include this section in the report, but simply say "Refer to Carbon Copy pages at the end of the report"</i>	<p>DISCUSSION 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/></p> <p><u>Questions</u></p> <input type="checkbox"/> All <input type="checkbox"/> Most <input type="checkbox"/> Few	<p><u>Complete Sent.</u></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <u>Questions Copied</u> <input type="checkbox"/> Yes <input type="checkbox"/> No
	<p><u>Correct Answers</u></p> <input type="checkbox"/> All <input type="checkbox"/> Most <input type="checkbox"/> Few	<p><u>Calculations w/ work</u></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Accurate

<p>• Conclusion</p> <input type="checkbox"/> Complete sentences and paragraph form. <input type="checkbox"/> Report your final results <input type="checkbox"/> Include accepted value and percent error if applicable <input type="checkbox"/> Explain why it turned out the way it did <input type="checkbox"/> 3+ different Errors? – How those errors affect the result <input type="checkbox"/> Limits in lab design? <input type="checkbox"/> Relate findings back to basic principles of chemistry <input type="checkbox"/> What further experiments might you do to continue studying this? <input type="checkbox"/> How does it relate to real life (if applicable)? <input type="checkbox"/> How could you make improvements to the lab?	<p>Conclusion 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/></p> <p><u>Results</u></p> <input type="checkbox"/> Yes <input type="checkbox"/> No	<p><u>Acct Val/%Err</u></p> <input type="checkbox"/> Yes <input type="checkbox"/> No	<p><u>Why (errors)</u></p> <input type="checkbox"/> Yes <input type="checkbox"/> No
	<p>Detail: Significant <input type="checkbox"/> Sufficient <input type="checkbox"/> Enough <input type="checkbox"/></p> <p><u>Relate to Chem</u> <u>Further Exp.</u> <u>Rel. 2 Real Life</u></p> <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<p><u>Improvements:</u> <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	

• References

- List all sources, e.g. lab manual, textbook, course packet, etc. using ACS Notation (found on chemistryrocks.net)