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| **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 | **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  3rd 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 | | | |
| o Lab report |
| o Carbon Copy pages used during lab (Must have  HEADER filled out on every page) |
| * Carbon Copy pages used for lab report and post lab Q’s   THIRD PERSON, PAST TENSE, PASSIVE VOICE!!!!   * 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 |
| **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 | | | |
| Purpose  Yes No  Results  Yes No  How results were found  Yes No  Named techniques\*  Yes No  Accepted value\*  Yes No | | Percent error\*  Yes  No  Conclusions made  Yes  No  Short, concise and clear  Yes  No  \**if applicable* | |
| **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 | | | |
| In Own Words  Yes  No  Chem Topics Explained  All  Some  None or incorrect  Connection to Lab  All  Some  None or incorrect  Exp. Q/Variables  All identified  Some identified  None  \**if applicable* | | Defined Vocab  All  Some  None  Chem Rxns\*  All balanced w/ states  Some or not bal/states  None or wrong  Hypothesis\*  Yes and correct format  Yes but lacking  Not included  References\*  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 | | | |
| Observations  Significant, detailed,   thorough  Sufficient  Lacking | | | Professionalism  Total pro, ruler   used, readable, etc  Good  Lacking |
| Titles  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 | | | |
| Work Shown  Significant, detailed,   thorough  Sufficient  Lacking  Organization of Work  Clear  Hazy  Cloudy | | | Units  All  Some  None or wrong  Correct Answers  All  Most  Some |
| Correctly Set Up  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 | | | |
| Data/Graphs  All included  Missing some  Not included  Labels  All  Some  None or wrong  Explain Data/Graphs  All  Some  None  Errors  Significant errors  Not significant ones  Did not explain impact  Not included | | % Error  Yes  No  Wrong  Sample Calculations  All  Some  None or wrong  Eq’s, Rxns, Units, etc  All  Some  None or wrong  Accuracy  Great  Ok  Poor | |
| **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 | | | |
| Questions  All included  Missing some  Not included  Complete Sentences  All  Some  None | | Calculations w/ Work  All  Some  None  Correct Answer  All  Most  Few  None | |
| Questions Restated  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 | | | |
| Complete Sentences  Yes No  Results Reported  Yes No  Accepted Value / % Error  Yes No  Errors  Yes No | Relate to Chem Topics  Yes No  Further Experiments  Yes No  Relates to Real Life  Yes No  Improvements  Yes No | | |
| Level of Detail Significant Sufficient Lacking | | | |