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| CATEGORY | **4** | **3** | **2** | **1** |
| **Introduction / Purpose**   * History of the penny. * Historical Percentages of elements in penny * Purpose of the lab * Describe reaction of how the cu will be isolated from the penny | Excellent background information about the lab.  . | Good amount of background information. Almost all information in category 4 is covered. | Sufficient amount of background information. Some information from category 4 is missing. | Limited background information provided. Most information stated in category 4 is missing. |
| **Methods and Materials**   * **Past Tense** * **No Pronouns** * **Lab Equipment / Measuring** * **Chemicals Used** * **Quantities** | All requirements listed at the side are met. Written in paragraph format. Instructions are clear and written so that it is easily replicated. All lab equipment, measuring instrumentation, chemical materials and quantities used in the experiment are accurately described. | Most requirements for this section are met and or most instructions are written so that it can be replicated will little ambiguity. | Some requirements for this section are met. A few instructions may lead to a bit of confusion. More specific detail is needed in order to obtain accurate lab results and to carry out the lab safely. | Few requirements for this section are met. A lot of instruction is missing. This lab can mot be easily replicated as written and will result in inaccurate lab results. |
| **Safety**   * **WHMIS symbol for Hydrochloric acid** * **WHMIS symbol for Acetone** | Includes detailed information about **safety precautions**, including WHMIS symbols where applicable and proper **disposal** of material. | Includes most information about safety precautions, including WHMIS symbols where applicable and proper disposal of material. | Includes some information about safety precautions, and disposal. | Includes limited information about safety precautions, and disposal. |
| **Data Table**   * **Table #** * **Title** * **Masses with units** * **Qualitative observations** | Professional looking and accurate representation of the data in **table format**. Qualitative observations are thorough. Data tables are numbered with appropriate titles. | Accurate representation of the data in tables. Qualitative observations are good. | Observations are in table format. Information is sufficient. More detailed information is needed or some information is missing. | Observations are not in distinctive tables. Qualitative observations are lacking significant points. |
| **Calculations**  **% Cu and % Zn in penny**  **% error Cu and % error Zn based on year of penny** | Answered questions reflect a thorough understanding of scientific concepts underlying the lab. | Answered questions are mostly accurate reflecting a good understanding of most scientific concepts underlying the lab. | Answered questions are mostly complete reflecting some understanding of scientific concepts underlying the lab. | Answered question reflect a limited or inaccurate understanding of scientific concepts underlying the lab. |
| **Discussion Section** | * Restate purpose of the lab * State your findings that address the purpose * State 2 sources of error * Suggestion for improvement | Almost all information in category 4 is covered. | Sufficient amount of background information. Some information from category 4 is missing | Limited background information provided. Most information stated in category 4 is missing. |
| **Format / Appearance**  **Organization / Spelling and Grammar** | * Lab report is typed and uses headings and subheadings to visually organize the material. * Data tables and figures are numbered with appropriate titles. * Lab has been thoroughly proof read for spelling and grammatical errors. | Almost all information in category 4 is covered. | Sufficient amount of background information. Some information from category 4 is missing | Limited background information provided. Most information stated in category 4 is missing |
| **References**  **APA format**  **http://www.citationmachine.net** | States 2 sources used in this lab for background information and images. Uses proper citation.  Properly formatted and complete | Bibliography/works cited list is complete, but not properly formatted  (e.g. bulleted list). | Bibliography/works cited list is  incomplete (e.g. no citations for images) or improperly formatted | Student only lists URL’s does not list sources  used for research |