Science Laboratory Rubric

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|  | **Exemplary (5-4)** | **Competent (3-2)** | **Needs Work (1-0)** |
| **Materials** | Student checks that all necessary materials are present. The student is not wasteful of materials. | Student begins the procedure without all necessary materials but gathers as needed. Student is somewhat wasteful with the materials | Student is not aware of the directions given on gathering materials and asks the teacher for them periodically. Student is wasteful of the laboratory materials |
| **Procedure** | Student listens to directions at the beginning of the lab. Student reads and annotates directions on paper. Student follows all procedures on own initiative and asks clarifying questions when necessary. | Student listens to directions at the beginning of the lab. Student does not read and annotate directions on paper. Student asks for support on the procedures instead of reading the directions on the paper first. | Student does not listen to directions at the beginning of the lab. Student does not read or annotate directions on paper. Student does not initiate the laboratory procedure. |
| **Courtesy and safety** | While conducting the procedure, the student is tidy, respectful of others, mindful of safety, and leaves the area clean. | While conducting the procedure, the student is mostly tidy, sometimes respectful of others, sometimes mindful of safety, and leaves the area clean only after being reminded. | While conducting the procedure, the student is untidy, not respectful of others, not mindful of safety, and leaves the area messy even after being reminded. |
| **Purpose** | Research question and hypothesis are stated clearly, and the relationship between the two is clear. The variables are selected. | Research question and hypothesis are stated, but one or both are not as clear as they might be, or the relationship between the two is unclear. The variables are selected. | Research question and hypothesis are not stated clearly, and the relationship between the two is unclear or absent. The variables are not selected. |
| **Data collection** | Raw data, including units, are recorded in a way that is appropriate and clear. The title of the data table is included. | Raw data, including units, are recorded although not as clearly or appropriately as they might be. The title of the data table is included. | Raw data, including units, are not recorded in a way that is appropriate and clear. The title of the data table is not included. |
| **Data analysis** | Data are presented in ways (charts, tables, graphs) that best facilitate understanding and interpretation. Error analysis is included. All questions are answered in full sentences. | Data are presented in ways (charts, tables, graphs) that can be understood and interpreted, although not as clearly as they might be. Error analysis is included. Some questions are answered in full sentences. | Data are presented in ways (charts, tables, graphs) that are very unclear. Error analysis is not included. Questions are not answered in full sentences. |
| **Evaluation of experiment** | The results are fully interpreted and compared with literature values. The limitations and weaknesses are discussed and suggestions are made as to how to limit or eliminate them. | The results are interpreted and compared with literature values, but not as fully as they might be. The limitations and weaknesses are discussed, but few or no suggestions are made as to how to limit or eliminate them. | The results are not interpreted in a logical way or compared with literature values. The limitations and weaknesses are not discussed, nor are suggestions made as to how to limit or eliminate them. |