

Elementary Science Research Fair: Comparative Judging Rubric



| Project Number | | | | | | |
|--------------------------------------|---|--|--|---|--|-------------------------------|
| CATEGORY | 4 | 3 | 2 | 1 | 0 | Comments: |
| Question or Problem | Original or innovative question or problem is stated which clearly describes what the student is attempting to investigate. <input type="checkbox"/> | Question or problem is stated that reasonably describes what the student is attempting to investigate. <input type="checkbox"/> | Question or problem is stated. However, what the student is attempting to investigate is somewhat confusing. <input type="checkbox"/> | Question or problem is stated. However it is not clear what the student is attempting to investigate. <input type="checkbox"/> | Question or problem is not stated. <input type="checkbox"/> | |
| Prediction or Hypothesis | The prediction or hypothesis is clearly stated, is testable, and identifies the variables. It is well-supported by reasoning statements based on reliable research or student prior knowledge. <input type="checkbox"/> | The prediction or hypothesis is stated, is testable, and identifies the variables. It is somewhat supported by reasoning statements based on research or student prior knowledge. <input type="checkbox"/> | The prediction or hypothesis is stated, however it is not testable, does not identify the variables, or it is not supported by some reasoning statements. <input type="checkbox"/> | The prediction or hypothesis is stated, however it is not testable; or it is stated but does not identify the variables, and it is not supported by some reasoning statements. <input type="checkbox"/> | The prediction or hypothesis is not stated. <input type="checkbox"/> | |
| Variables | The independent (tested) variable and its manipulations are clearly stated. The dependent (responding) variable is clearly stated. <input type="checkbox"/> | The independent (tested) variable and its manipulations are stated, and the dependent (responding) variable is stated, but some clarification is needed. <input type="checkbox"/> | The independent (tested) variable is stated but manipulations are not clear, or the dependent (responding) variable is stated but not clear. <input type="checkbox"/> | The independent (tested) variable and dependent (responding) variables are both stated but unclear; or one is not stated. <input type="checkbox"/> | The independent and dependent variables are not stated. <input type="checkbox"/> | |
| Procedure | The procedure clearly describes all of the steps, equipment, and tools, with enough detail that another scientist could easily repeat the investigation. <input type="checkbox"/> | The procedure clearly describes most of the steps, equipment, and tools, with enough detail that another scientist could repeat the investigation with some clarification. <input type="checkbox"/> | The procedure describes some of the steps, equipment, and tools, however another scientist would have difficulty repeating the investigation. <input type="checkbox"/> | The procedure is lacking significant steps, equipment, and tools, and another scientist would have great difficulty repeating the investigation. <input type="checkbox"/> | The procedure is not present. <input type="checkbox"/> | |
| Controlled Investigation | The controlled investigation tests one variable. How the investigation was controlled is clearly evident in the procedure. <input type="checkbox"/> | The investigation tests one variable. How the investigation was controlled is evident, however some clarification is needed. <input type="checkbox"/> | The investigation tests one variable, however much clarification is needed as to how the investigation was controlled. <input type="checkbox"/> | The investigation does not test one variable; or one variable is tested, but there is no evidence as to how the investigation was controlled. <input type="checkbox"/> | The investigation does not test one variable, and there is no evidence of how the investigation was controlled. <input type="checkbox"/> | |
| Pg. 1 Subtotal of Each Column | 4 x <input type="checkbox"/> = _____ | 3 x <input type="checkbox"/> = _____ | 2 x <input type="checkbox"/> = _____ | 1 x <input type="checkbox"/> = _____ | 0 | Page 1 Subtotal: _____ |

| CATEGORY | 4 | 3 | 2 | 1 | 0 | Comments: |
|--------------------------------------|---|--|---|--|---|-------------------------------|
| Repeated Trials | Repeated trials (3-5) are performed, and data are recorded and displayed for each indicating good reliability of results. <input type="checkbox"/> | Repeated trials (3-5) are performed, and some are recorded and displayed indicating good reliability of results. <input type="checkbox"/> | At least one repeated trial is performed, and data are recorded and/or displayed. <input type="checkbox"/> | At least one repeated trial is performed, however these data are not recorded and/or displayed. <input type="checkbox"/> | There is no evidence of repeated trials. <input type="checkbox"/> | |
| Data Collection | Student(s) used accurate and appropriate measurements for quantitative and qualitative data collection. <input type="checkbox"/> | Student(s) used reasonably appropriate measurements for quantitative and qualitative data collection. <input type="checkbox"/> | Student(s) used somewhat appropriate measurements for quantitative and/or qualitative data collection. <input type="checkbox"/> | Student(s) attempted appropriate measurements for quantitative and/or qualitative data collection. <input type="checkbox"/> | There is no evidence of qualitative or quantitative data collection. <input type="checkbox"/> | |
| Data Analysis and Results | Data are well-displayed in tables, charts, graphs or other appropriate technologically created graphics to organize, examine, evaluate and communicate results. <input type="checkbox"/> | Data are reasonably displayed in tables, charts, graphs or other appropriate technologically created graphics to organize, examine, evaluate and communicate results. <input type="checkbox"/> | Data are somewhat displayed in tables, charts, graphs or other appropriate technologically created graphics to organize, examine, but clarification is needed. <input type="checkbox"/> | Data are attempted to be displayed in tables, charts, graphs or other appropriate technologically created graphics, but much clarification is needed. <input type="checkbox"/> | Data are not displayed. <input type="checkbox"/> | |
| Conclusion | Well-crafted conclusion contains three parts: 1) a claim that supports or repudiates the prediction, 2) supporting evidence from data, 3) reasoning connecting the two. Includes new questions based on observation, and connections to real world applications. <input type="checkbox"/> | Conclusion contains three parts: 1) a claim that supports or repudiates the prediction, 2) supporting evidence from data, 3) reasoning connecting the two. Some clarification is needed. Includes new questions based on observation, and connections to real world applications. <input type="checkbox"/> | Conclusion contains only two of the three parts: 1) a claim that supports or repudiates the prediction, 2) supporting evidence from data, 3) reasoning connecting the two. New questions based on observation, or connections to real world applications are not included. <input type="checkbox"/> | Conclusion contains only one of the three parts: 1) a claim that supports or repudiates the prediction, 2) supporting evidence from data, 3) reasoning connecting the two. New questions based on observation, and connections to real world applications are not included. <input type="checkbox"/> | Conclusion is not present. <input type="checkbox"/> | |
| Student Journal | Presence of a well-organized student journal provides a window into student thinking, and gives indication of pattern recognition, interpretation, and analysis. <input type="checkbox"/> | Presence of a student journal provides a reasonable window into student thinking, and gives indication of pattern recognition, interpretation, and/or analysis. <input type="checkbox"/> | Presence of a somewhat organized student journal that provides some insight to student thinking. <input type="checkbox"/> | Presence of a disorganized student journal, and/or little to no insight to student thinking. <input type="checkbox"/> | Student journal is not present. <input type="checkbox"/> | |
| Pg. 2 Subtotal of Each Column | 4 x <input type="checkbox"/> = _____ | 3 x <input type="checkbox"/> = _____ | 2 x <input type="checkbox"/> = _____ | 1 x <input type="checkbox"/> = _____ | 0 | Page 2 Subtotal: _____ |

Page 1 Subtotal _____ + **Page 2 Subtotal** _____ = **Final Sum** _____ /40 = _____