Elementary Science Research Fair: Experimental Judging Rubric

Fort Worth INDEPENDENT SCHOOL DISTRICT

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. ☐	Question or problem is stated that reasonably describes what the student is attempting to investigate. ☐	Question or problem is stated. However, what the student is attempting to investigate is somewhat confusing. ☐	Question or problem is stated. However it is not clear what the student is attempting to investigate. ☐	Question or problem is not stated. ☐	
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. ☐	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. ☐	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. ☐	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. ☐	The prediction or hypothesis is not stated. ☐	
Variables	The independent (tested) variable and its manipulations are clearly stated. The dependent (responding) variable is clearly stated. ☐	The independent (tested) variable and its manipulations are stated, and the dependent (responding) variable is stated, but some clarification is needed. ☐	The independent (tested) variable is stated but manipulations are not clear, or the dependent (responding) variable is stated but not clear. ☐	The independent (tested) variable and dependent (responding) variables are both stated but unclear; or one is not stated. ☐	The independent and dependent variables are not stated. ☐	
Control Group	A control group is present and clearly identified. All factors, except the independent variable, are kept constant between the experimental and control group. ☐	A control group is present and identified. Most factors, except the independent variable, are kept constant between the experimental and control group. ☐	A control group is identified, however few factors are kept constant between the experimental and control group. ☐	A control group is not identified; or little to no factors are kept constant between the experimental and control group. ☐	A control group is not identified. ☐	
Procedure	The procedure clearly describes all of the steps, equipment, and tools, with enough detail that another scientist could easily repeat the investigation. ☐	The procedure clearly describes most of the steps, equipment, and tools, with enough detail that another scientist could repeat the investigation with some clarification. ☐	The procedure describes some of the steps, equipment, and tools, however another scientist would have difficulty repeating the investigation. ☐	The procedure is lacking significant steps, equipment, and tools, and another scientist would have great difficulty repeating the investigation. ☐	The procedure is not present. ☐	
Controlled Investigation	The controlled investigation tests one variable. How the investigation was controlled is clearly evident in the procedure. ☐	The investigation tests one variable. How the investigation was controlled is evident, however some clarification is needed. ☐	The investigation tests one variable, however much clarification is needed as to how the investigation was controlled. ☐	The investigation does not test one variable; or one variable is tested, but there is no evidence as to how the investigation was controlled. ☐	The investigation does not test one variable, and there is no evidence of how the investigation was controlled. ☐	
Pg. 1 Subtotal of Each Column	4 x ☐ = _____	3 x ☐ = _____	2 x ☐ = _____	1 x ☐ = _____	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. ☐	Repeated trials (3-5) are performed, and some are recorded and displayed indicating good reliability of results. ☐	At least one repeated trial is performed, and data are recorded and/or displayed. ☐	At least one repeated trial is performed, however these data are not recorded and/or displayed. ☐	There is no evidence of repeated trials. ☐	
Data Collection	Student(s) used accurate and appropriate measurements for quantitative and qualitative data collection. ☐	Student(s) used reasonably appropriate measurements for quantitative and qualitative data collection. ☐	Student(s) used somewhat appropriate measurements for quantitative and/or qualitative data collection. ☐	Student(s) attempted appropriate measurements for quantitative and/or qualitative data collection. ☐	There is no evidence of qualitative or quantitative data collection. ☐	
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. ☐	Data are reasonably displayed in tables, charts, graphs or other appropriate technologically created graphics to organize, examine, evaluate and communicate results. ☐	Data are somewhat displayed in tables, charts, graphs or other appropriate technologically created graphics to organize, examine, but clarification is needed. ☐	Data are attempted to be displayed in tables, charts, graphs or other appropriate technologically created graphics, but much clarification is needed. ☐	Data are not displayed. ☐	
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. ☐	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. ☐	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. ☐	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. ☐	Conclusion is not present. ☐	
Student Journal	Presence of a well-organized student journal provides a window into student thinking, and gives indication of pattern recognition, interpretation, and analysis. ☐	Presence of a student journal provides a reasonable window into student thinking, and gives indication of pattern recognition, interpretation, and/or analysis. ☐	Presence of a somewhat organized student journal that provides some insight to student thinking. ☐	Presence of a disorganized student journal, and/or little to no insight to student thinking. ☐	Student journal is not present. ☐	
Pg. 2 Subtotal of Each Column	4 x ☐ = _____	3 x ☐ = _____	2 x ☐ = _____	1 x ☐ = _____	0	**Page 2 Subtotal: _____**

Page 1 Subtotal _____ + Page 2 Subtotal _____ = Final Sum _____ /44 = _____