



Remsenburg-Speonk Elementary School Science Fair Rubrics



About the Rubrics

4th Grade Remsenburg-Speonk Rubric

Fourth grade is the first time students are invited to submit an individual science fair display board for practice. As such, the rubric is a simplified version of our scoring rubric. Its primary purpose is self-evaluation.

5th and 6th Grade Remsenburg-Speonk Rubric

This is the rubric that our guest judges use to determine the science fair winners. In the case of a numerical tie, the judges will make a determination through discussion of which project best meets the Brookhaven National Lab's requirements. Their decision is based on their professional judgment. It is independent of the faculty and staff of the Remsenburg-Speonk Union Free School District. The judges' decision is final. While we can only have a limited number of "winning" entries, each child that does his or her own personal best should feel proud. We ask families to support all of our students, the decision of the judges, and to display the qualities found in our school's Character Standards and Coach Wooden's Pyramid of Success.

If you would like to improve your chances of placing and reaching the Brookhaven National Lab's Elementary Science Fair, we recommend using the rubric for self-evaluation.

Brookhaven National Lab (BNL) Rubric

You will notice differences between the Remsenburg-Speonk Rubric and BNL rubric. The main difference is in the oral presentation. Students do *not* have an opportunity to talk with judges at BNL. Instead, BNL requires that students be "interviewed" by teachers prior to submitting science fair projects. This is to ensure that the student *thoroughly* knows the subject matter and that it is indeed the student's own work. Assessing the oral presentation here at the Remsenburg-Speonk school via rubric is our way of complying with BNL's rule.

Another difference between Remsenburg-Speonk and BNL is the scope of the rubric. At BNL, judges have hundreds of student entries to score and very limited time in which to accomplish this task. As such, they have a much more streamlined rubric. At Remsenburg-Speonk, judges have more time for depth of evaluation. This compliments our Common Core curriculum, which promotes deeper exploration as part of college and career readiness.

Remsenburg-Speonk Elementary School Science Fair 4th Grade Self-Evaluation Rubric

Score

Area of Assessment	Advanced Level 4	Proficient Level 3	Competent 2	Developing 1	
Purpose	There is a definite purpose/benefit for society; timely and relevant; offers solutions to real problems	The project has a purpose/benefit for society	The purpose/benefit is vague	There is no real world problem-solving connection made	
Testable Question	Sophisticated question can be answered through comprehensive scientific method	Question can be answered with student's application of scientific method	Partially developed; does not address variables	The question is too broad to lend itself to investigation with scientific method; it is better suited for a research report; or is a demonstration	
Hypothesis	Thoroughly developed with "I think...because...."	Sufficiently developed	Partially developed	Major flaws	
Materials	Complete list that details how others could replicate the results with exact measurements in metric units	Complete list	Partial list or does not use metric units	Incomplete list; unable to replicate project as written	
Procedure	Easy to follow sequence of the Scientific Method. Language is clear and correct.	Easy to follow sequence of the Scientific Method. Some language errors.	Somewhat difficult to follow because of lapses of the sequence of Scientific Method.	Difficult to follow; no sequence of the Scientific Method.	
Results	Data is clearly presented and directly relates to hypothesis/question.	Data is reasonably presented and shows good relationship to hypothesis/question.	Data is minimally presented and shows some relationship to hypothesis/question.	Data is not presented and no relationship to hypothesis/question is evident.	
Conclusion	A logical conclusion has been drawn from the data collected, and answers the hypothesis/question and/or raises a new hypothesis/question. Has real world application.	A logical conclusion has been drawn from the data collected.	A fairly reasonable conclusion has been drawn from the data collected.	The conclusion drawn is not shown to relate to the data collected.	
Scientific Method 1. Question & Purpose 2. Hypothesis 3. Materials 4. Procedure 5. Results 6. Conclusion	Uses scientific method; uses variables and can make use of comparison data; applies information to previous knowledge and can make predictions	Uses scientific method in a skillful manner; controls variables	Adequately addresses scientific method; exhibits a weakness with controlling variable(s)	Minimally address the scientific method, may leave out a step; does not control any variables	
Display Board	Meets all proficiency level criteria; In addition, shows special use of appropriate technology or special artistic talents	Project is visually appealing (labeled, organized, near, colorful, concise, easy to see from a distance, and contains major information and supporting detail)	Project is visually appealing, but lacks consistency in at least on area mentioned at the proficient level	Project is complete by lacks consistency in several areas mentioned at proficiency level	

Remsenburg-Speonk Elementary School Science Fair Scoring Rubric for 5th and 6th Grade

Eval.
#1 Eval.
#2

Area of Assessment	Advanced Level 4	Proficient Level 3	Competent 2	Developing 1		
Originality of Question *	Original research	Unique perspective on a traditional project	Embellish an existing idea	No originality (canned project)		
Purpose	There is a definite purpose/benefit for society; timely and relevant; offers solutions to real problems	The project has a purpose/benefit for society	The purpose/benefit is vague	There is no real world problem-solving connection made		
Testable Question	Sophisticated question can be answered through comprehensive scientific method	Question can be answered with student's application of scientific method	Partially developed; does not address variables	The question is too broad to lend itself to investigation with scientific method; it is better suited for a research report; or is a demonstration		
Hypothesis *	Thoroughly developed with "I think...because..."	Sufficiently developed	Partially developed	Major flaws		
Materials	Complete list that details how others could replicate the results with exact measurements in metric units	Complete list	Partial list or does not use metric units	Incomplete list; unable to replicate project as written		
Procedures/ Organization *	Easy to follow sequence of the Scientific Method. Language is clear and correct.	Easy to follow sequence of the Scientific Method. Some language errors.	Somewhat difficult to follow because of lapses of the sequence of Scientific Method.	Difficult to follow; no sequence of the Scientific Method.		
Investigation Trials * / Sample Size	Experiment was performed more than 2 times or if survey data was used, data was collected from 50+ people.	Experiment was performed 2 times or if survey data was used, data was collected from 30-49 people.	Experiment was performed 1 time or if survey data was used, data was collected from 10-29 people.	Experiment was performed incompletely or if survey data was used, data was collected from fewer than 10 people.		
Analysis *	Data is clearly presented and directly relates to hypothesis/question.	Data is reasonably presented and shows good relationship to hypothesis/question.	Data is minimally presented and shows some relationship to hypothesis/question.	Data is not presented and no relationship to hypothesis/question is evident.		
Evaluation */ Conclusion *	A logical conclusion has been drawn from the data collected, and answers the hypothesis/question and/or raises a new hypothesis/question. Has real world application.	A logical conclusion has been drawn from the data collected.	A fairly reasonable conclusion has been drawn from the data collected.	The conclusion drawn is not shown to relate to the data collected.		
Display Board; Physical and/or Visual Presentation *	Meets all proficiency level criteria; In addition, shows special use of appropriate technology or special artistic talents	Project is visually appealing (labeled, organized, near, colorful, concise, easy to see from a distance, and contains major information and supporting detail)	Project is visually appealing, but lacks consistency in at least on area mentioned at the proficient level	Project is complete by lacks consistency in several areas mentioned at proficiency level		

Written Presentation (Journals, Logs, Formal Reports, etc.)	Meets all criteria of proficiency level; age-appropriate computer technology evident; students uses own terms and writing abilities and demonstrates advanced writing skills	Written work is clear, well-organized, and neat; explains major points with supporting detail; writing skills at proficient level; included neat and labeled tables, charts, graphs, and other visuals as appropriate	Written work is clear and neat; some lapses of organization; has major points with little supporting detail; writing skills at satisfactory level; included tables, charts, graphs and other visuals, but may not be well labeled or especially neat	Written work shows disorganization and lack of focus; writing skills (sentence structure, punctuation, and/or grammar) need work; major points not clear with no supporting detail; does not include appropriate visuals			
Scientific Method 1. Question & Purpose 2. Hypothesis 3. Materials 4. Procedure 5. Results 6. Conclusion	Uses scientific method; uses variables and can make use of comparison data; applies information to previous knowledge and can make predictions	Uses scientific method in a skillful manner; controls variables	Adequately addresses scientific method; exhibits a weakness with controlling variable(s)	Minimally address the scientific method, may leave out a step; does not control any variables			
Advanced Sci. Method 1. Abstract 2. Background & Works Cited 3. Purpose 4. Problem Statement 5. Testable Question 6. Hypothesis 7. Materials Procedure 8. Data Collection 9. Data Analysis 10. Conclusion	Goes above and beyond using the steps in advanced scientific method; Science Fair project meets high school expectations	Applies all areas of advanced scientific method with mastery	Applies some areas of the advanced scientific method or does not demonstrate mastery of all steps	Minimally addresses areas of advanced scientific method			
Oral Presentation	Meets all proficiency level criteria; in addition, adds a unique dimension to oral presentation	Explains topic in a clear, concise, well-organized manner; reviews major points and give supporting detail; voice is clear and can be heard throughout the room; Maintains eye contact with audience; uses a visual aid; allows for audience participation	Explains topic in a somewhat clear and organized manner; reviews major points and gives some detail with supportive direction from teacher or notes; voice volume and clarity erratic; visual aid difficult to see	Explains topic in a somewhat disorganized or unclear manner; very little eye contact; reads exclusively from notes; voice cannot be heard clearly; visual aid difficult to see or understand			
Content Area Knowledge	Precise use of content area vocabulary; responds appropriately and knowledgably to questions asked and elaborates on information presented	Precise use of content area vocabulary; responds appropriately and knowledgeable to questions asked	Adequate use of content area vocabulary; responds appropriately and knowledgeable to most questions asked	Minimal use of content specific vocabulary; obvious difficulty responding appropriately or knowledgably to questions asked			
Name: _____ Date: _____ Project Title: _____			Judge's Comments/Notes (Optional)				
* Indicates requirement from Brookhaven National Lab Elementary School Science Fair Judges' Rubric				Totals			
					Total Score		

JUDGES' RUBRIC
BNL Elementary School Science Fair

Criteria	4	3	2	1
Originality of Question	Original research.	Unique perspective on a traditional project.	Embellish an existing idea.	No originality.
Hypothesis	Thoroughly developed with "I think...because...."	Sufficiently developed.	Partially developed.	Major flaws.
Procedures/ Organization	Easy to follow sequence of the Scientific Method. Dated sequence of entire process captured by the student in a log or journal. This includes all observations, data collection, and changes to project.	Easy to follow sequence of the Scientific Method. Dated sequence of entire process captured by the student in a log or journal with moderate detail.	Somewhat difficult to follow because of lapses of the sequence of the Scientific Method. Minimal documentation included in a log or journal.	Difficult to follow; no sequence of the Scientific Method. No data collection shown.
Investigation Trials	Experiment was performed more than 2 times and/or sample size was exceptional.	Experiment was performed 2 times and/or sample size was adequate.	Experiment was performed 1 time and/or sample size was minimal.	Experiment was performed incompletely.
Analysis	Data is clearly presented and directly relates to hypothesis/question.	Data is reasonably presented and shows good relationship to hypothesis/question.	Data is minimally presented and shows some relationship to hypothesis/question.	Data is not presented and no relationship to hypothesis/question is evident.
Evaluation/ Conclusion	A logical conclusion has been drawn from the data collected, and answers the hypothesis/question and/or raises a new hypothesis/question. Has real world application.	A logical conclusion has been drawn from the data collected.	A fairly reasonable conclusion has been drawn from the data collected.	The conclusion drawn is not shown to relate to the data collected.
Presentation (Overall Impression)				

*Scientific Method: question, hypothesis, investigation/testing, analysis, and evaluation/conclusion.