Project name:_____School:_____Group members' names:_____

Paterson Public Schools STEM Expo
Scientific Inquiry (Gr. 2-3)

	Attempted 1 point	Proficient 2 points	Advanced Proficient 3 points	Score (0 if missing)
Problem	States the problem as a question that is vague, or as a statement, or addresses an issue to which the student already knows the answer.	States problem as a question, and while there is no evidence of connection to a specific interest or experience of the student, it appears to represent a genuine learning opportunity for the student.	States problem as a question, provides evidence that it comes from the student's personal interests or experiences, and represents a genuine learning opportunity for the student.	
Preliminary Research	Cites only one source. Or, the description of the research is incomplete, or has little or no connection to the problem, or is not written in the student's own words.	Cites two or more sources from one or more types of resources (e.g., text, encyclopedia, businesses, magazines, catalogs, internet, or interviews). The student generally connects the research to their problem in their own words.	Cites two or more sources. Different types of sources are cited. The student clearly connects the research to their problem in their own words.	
Hypothesis	Hypothesis is either not testable or does not connect to the stated problem, or shows no connection to the research.	Hypothesis is brief and complete, testable, addresses the stated problem, and shows some connection to the research.	Hypothesis is brief and complete, testable, and clearly addresses the stated problem. Student shows a direct connection to their research.	
Procedure & Materials	Experimental design is not relevant to the hypothesis or the procedures outlined are seriously incomplete or not sequential, or materials list is missing or incomplete.	Experimental design is adequate to test the hypothesis, but may leave some unanswered questions. Procedures are outlined in a step- by-step fashion, but there may be 1 or 2 gaps that require explanation. Major materials are listed.	Experimental design is a well-constructed test of the stated hypothesis. Procedures are outlined in a step-by-step fashion that could be followed by anyone without additional explanations. All relevant materials are listed.	
Results	Performed experiment only once and data are not summarized clearly. Or, does not discuss any relationship between variables or note any pattern or trend.	Performed experiment one or more times. Summarizes the data in a way that describes what was discovered using graphs and charts with few errors or omissions. Mentions at least on relationship between variables or points out a pattern.	Performed experiment several times. Summarizes the data in a way that describes what was discovered using graphs and charts with no errors or omissions. Discusses connections between variables or points out any patterns.	
Conclusions	Conclusion does not answer the problem, or does not refer back to the hypothesis, or contradicts the evidence collected.	Conclusion answers the problem, states if the hypothesis was supported or rejected, and attempts to explain why.	Conclusion completely answers all aspects of the problem, states if the hypothesis was supported or rejected, and clearly cites evidence to explain why.	
Visual Quality of Display	Project has limited eye appeal or is not easily readable at approximately two feet distance. The project has limited organization, or contains confusing visuals, or contains major language or spelling errors.	Project is appealing and readable at approximately 2 feet distance. It is organized and clear, uses understandable visuals and/or models, and contains few language and spelling errors.	Project is appealing and neat, and is readable at approximately 2 feet distance. It is well organized and clear, makes striking use of inventive or amusing visuals and/or models, and uses language and spelling flawlessly.	

Scientific Inquiry (Grade 2-3)

Project name:_____School:_____Group members' names:_____

Paterson Public Schools STEM Expo
Inventions: Engineering Innovations (Gr. 2-3)

	Attempted 1	Proficient 2	Well Done 3	Score (0 if missing)
Problem (Double Points) (x2)	Addresses a practical need to which there is already a common solution, or addresses an issue of little practical value.	Addresses a somewhat practical need some people have, which may have an expensive or uncommon solution.	Creatively addresses a practical need some people have, which may have an expensive or uncommon solution.	
Research	Cites one or no information resource (e.g., text, encyclopedia, businesses, magazines, catalogs, internet, or interviews). Fails to mention a known similar idea in common use or material is copied rather than written in the student's own words.	Cites few information resources. Mentions known similar ideas with some elaboration. Makes a general connection to a similar idea in the student's own words.	Cites at least four types of resources. Makes a clear and well-elaborated connection with a known similar idea in the student's own words.	
How Invention Works	Provides few details, leaving the reader unclear about ho w the invention works.	Provides adequate details, giving the reader a general understanding of how the invention works.	Explains the invention, addressing all details, giving the reader a clear understanding of how the invention works.	
Obstacles	Fails to analyze obstacles related to the practical design and function of the invention (i.e., may list obstacles that refer only to shopping for materials or cosmetic issues).	Provides adequate analysis of the obstacles related to the practical design and function of the invention (i.e., may discuss durability, strength, ease of use, cost/benefit for potential customers, etc.)	Demonstrates in-depth analysis of the obstacles related to the practical design and function of the invention.	
Revised Solutions	Revised solutions do not address the obstacles mentioned, or are not practical.	Revised solutions practically address the obstacles mentioned.	Revised solutions practically address the obstacles mentioned and consider durability or other future issues.	
Science Concepts	Provides limited or no explanation of science concepts. Explanation may not apply to the project.	Provides an adequate explanation of at least one science concept, which has some application to the project.	Provides in-depth explanation of at least one science concept directly applying to the project.	
Display Presentation	Project has limited eye appeal or is not easily readable at approximately t wo feet distance. The project has limited organization, or contains confusing visuals, or contains major language or spelling errors.	Project is appealing and readable at approximately 2 feet distance. It is organized and clear, uses understandable visuals and/or models, and contains few language and spelling errors.	Project is appealing and neat, and is readable at approximately 2 feet distance. It is well organized and clear, makes striking use of inventive or amusing visuals and/or models, and uses language and spelling flawlessly.	

Inventions: Engineering Innovations (Grade 2-3)