

# CHICAGO PUBLIC SCHOOLS STUDENT SCIENCE FAIR JUDGING RUBRIC FOR DESIGN PROJECTS

## (A-H) Design Category Overall Impression of Project (61 point maximum)

<b>A</b>	----- 8 or 7 or 6 -----	----- 5 or 4 or 3 -----	----- 2 or 1 or 0 -----	<b>Points Awarded</b>
<b>Design Processing Skills</b>	Exhibits a thorough understanding and the application of the design process. The student has acquired design skills	Exhibits a lesser understanding of the design process. Demonstrates minimal acquired design skills.	Demonstrates little to no understanding or/ application of design skills.	
<b>B</b>	----- 8 or 7 or 6 -----	----- 5 or 4 or 3 -----	----- 2 or 1 or 0 -----	<b>Points Awarded</b>
<b>Design Approach: Overall</b>	Has identified a need or real world problem. Uses a logical, orderly method for addressing the problem or need. Method was appropriate and effective.	Has an adequately defined problem and or real world need AND/OR method was appropriate, but not both.	Little to no evidence of a design problem or real world need.	
<b>C</b>	----- 8 or 7 or 6 -----	----- 5 or 4 or 3 -----	----- 2 or 1 or 0 -----	<b>Points Awarded</b>
<b>Design Approach: Performance Criteria</b>	Clear performance criteria have been developed to address the features of the product, algorithm, proof, model, etc.	Performance criteria have been developed but are not fully developed or sufficient.	Performance criteria are poorly developed or absent.	
<b>D</b>	----- 8 or 7 or 6 -----	----- 5 or 4 or 3 -----	----- 2 or 1 or 0 -----	<b>Points Awarded</b>
<b>Design Approach: Preliminary Design Plan</b>	A clear plan had been presented using a block diagram, flowchart or sketch. The design plan shows all of the parts and/or subsystems of the design and how all parts of the design work together.	A plan was presented but did not include a block diagram, flowchart or sketch OR did not include all parts or subsystems OR doesn't describe how all of the parts work together.	An inadequate plan was presented or no plan was presented.	
<b>E</b>	-----8 or 7 or 6 -----	----- 5 or 4 or 3 -----	----- 2 or 1 -----	<b>Points Awarded</b>
<b>Constructing and Testing the Design Prototype</b>	Have constructed and tested a prototype of their best design. This may involve targeted users and/or analysis of data sets. (This may or may not include traditional data).	The construction was not precise OR testing was not thorough..	Construction and testing were inadequate.	
<b>F</b>	----- 8 or 7 or 6 -----	----- 5 or 4 or 3 -----	----- 2 or 1 or 0 -----	<b>Points Awarded</b>
<b>Redesign and Retest</b>	Shows evidence that changes in design were made to better meet the performance criteria established at the beginning of the project.. Test results may be included in tables, if applicable. Data analysis/validation may be present.	The data has been analyzed but not discussed OR the discussion did not demonstrate adequate analysis. The inferences made were illogical.	No data analysis was made or the inferences were illogical..	
<b>G</b>	----- 8 or 7 or 6 -----	----- 5 or 4 or 3 -----	----- 2 or 1 or 0 -----	<b>Points Awarded</b>
<b>Validity of Evaluation/Conclusion</b>	The conclusion accurately reports the successes and failures of the preliminary design, what changes were made, and how the redesign more closely met the performance criteria.	The conclusion was not thorough in addressing successes, failures OR how the redesign met the performance criteria.	No conclusion or no valid conclusion was present..	
<b>H</b>	----- 5 or 4 -----	----- 3 or 2 -----	----- 1 or 0 -----	<b>Points Awarded</b>
<b>Originality</b>	Demonstrates a novel approach and/or idea. Exhibits a creative approach to design. Shows evidence that other designs were investigated that addressed the same need or real world problem.	Some creativity and/or originality demonstrated. OR did not investigate other designs that addressed the same need or real world problems.	No originality or creativity demonstrated.	

### (I & J) Display: (6 point maximum)

<b>I</b>	----- 3 -----	----- 2 -----	----- 1 or 0 -----	<b>Points Awarded</b>
<b>Information: Experimental</b>	Gives complete explanation of the project. Display includes graphics, charts, and/or pictures.	Adequate information if present, but not thorough.	Missing pertinent information.	
<b>J</b>	----- 3 -----	----- 2 -----	----- 1 or 0 -----	<b>Points Awarded</b>
<b>Artistic Qualities</b>	Display board is neat, organized, and appealing. No spelling errors are present	Display board is neat, but not well organized. Spelling errors are present.	Display board was carelessly prepared, sloppy.	

### (K & L) Oral Presentation: (6 point maximum)

<b>K</b>	----- 3 -----	----- 2 -----	----- 1 or 0 -----	<b>Points Awarded</b>
<b>Presentation Quality</b>	Clear presentation; concisely summarizes the project. Information is relevant and pertinent. Student exhibits a thorough understanding of their topic area.	Information given is adequate, but presentation is difficult to follow OR student does not exhibit a thorough understanding of their topic area.	Information jumbled, irrelevant; presentation is unclear.	
<b>L</b>	----- 3 -----	----- 2 -----	----- 1 or 0 -----	<b>Points Awarded</b>
<b>Dynamics</b>	Speaks fluently with good eye contact; polite, dynamic, and interested in their project.	Student was polite and interested in their project. Moderate eye contact, relied heavily on note cards.	No eye contact, read from note cards. Did not seem interested.	

**Student(s):** \_\_\_\_\_ **Project Number:** \_\_\_\_\_

**Total of A-L =** \_\_\_\_\_  
(Transfer total to other side, top right.)

**(M-X) Written Report: (26 point maximum)**

**POINT TOTAL FROM A-L: \_\_\_\_\_**

<b>M Abstract</b>	----- 2 ----- Abstract present; contains a concise summary of the purpose, procedure, and conclusion in 200 words or less. The proper IJAS form was used..	----- 1 ----- One or two parts of the abstract is/are missing. Or inadequate.	----- 0 ----- Abstract is missing. or is entirely inadequate.	<b>Points Awarded</b>
<b>N Safety Sheet</b>	----- 2 ----- The safety sheet identifies all of the major safety hazards, precautions taken, and any endorsement sheets (if necessary), which describe the use of human or non-human vertebrates or microorganisms, and ensures the safe use of such organisms. The proper IJAS form was used.	----- 1 ----- Safety sheet is present, but not all major hazards have been identified, precautions taken are missing, and any endorsement sheets (if necessary) do not completely describe the use of human or non-human vertebrates or microorganisms or ensures the safe use of such organisms.	----- 0 ----- Safety sheet is not present or any endorsement sheets (if necessary) are missing.	<b>Points Awarded</b>
<b>O Title Page/ Table of Contents</b>	----- 2 ----- Title page is clear and concise. The table of contents is complete and includes pagination	----- 1 ----- One or two elements is (are) missing.	----- 0 ----- The title page and table of contents are missing.	<b>Points Awarded</b>
<b>P Acknowledgements</b>	----- 1 ----- Credit has been given to those who have helped with the project.	----- 1 -----	----- 0 ----- Acknowledgements are missing.	<b>Points Awarded</b>
<b>Q Problem or Need</b>	-----2----- Described in detail a real world problem or need.	----- 1 ----- A less detailed problem or need was identified.	----- 0 ----- A real world problem or need was not identified.	<b>Points Awarded</b>
<b>R Background Research (BR)</b>	----- 4 ----- Background research is in-depth and the information is pertinent and supports the design. BR is adequately cited using APA format.	----- 3 or 2 ----- Background information is inadequate OR citations are inadequate (not sufficient in number or did not follow APA format).	----- 1 or 0 ----- Little or no use of citations and/or information is not pertinent to the experiment.	<b>Points Awarded</b>
<b>S Design Plan</b>	----- 2 ----- Design plan is complete and easily followed; all of the parts and/or subsystems of the design are included.	----- 1 ----- Plan is present, but not complete or is confusing..	----- 0 ----- Plan is missing.	<b>Points Awarded</b>
<b>T Results of Testing and Redesign</b>	----- 2 ----- Testing results have considered the parts and subsystems that required redesign in order to meet the performance criteria, and the redesign shows the changes in parts and subsystems.	----- 1 ----- Testing results were considered but redesign was not implemented OR some of the parts or subsystems that needed redesign were not identified.	----- 0 ----- Testing results/redesign are inadequate or not present.	<b>Points Awarded</b>
<b>U Evaluation/Conclusion</b>	----- 2 ----- A concise evaluation and interpretation of the design, redesign and testing were made as they are related to the performance criteria.	----- 1 ----- Evaluation/conclusion is present, but does not thoroughly address how the design, redesign and testing were related to the performance criteria.	----- 0 ----- No conclusion/evaluation is present.	<b>Points Awarded</b>
<b>V Reference List</b>	----- 2 ----- Quality, quantity and variety of sources are adequate for topic. Sources listed are cited within Background Research. Most sources are current.	----- 1 ----- Quality, quantity, and/or variety of sources is less than adequate, or sources were not all cited within BR. APA format was not followed.	----- 0 ----- No Reference List present.	<b>Points Awarded</b>
<b>W Technical Aspects</b>	----- 3 or 2 ----- Good grammar and spelling are evident. The student's last name is in the upper right-hand corner of all pages after the table of contents. Font size and type are appropriate.	----- 1 ----- Two or three of the required elements are missing.	----- 0 -----	<b>Points Awarded</b>
<b>X Neat and Orderly</b>	----- 2 ----- Is neat and follows P & P Manual order as illustrated on left side of judging sheet. (M through V)	----- 1 ----- <b>Is neat or properly ordered, but not both.</b>	----- 0 ----- <b>Is neither neat nor properly ordered.</b>	

**Student(s); \_\_\_\_\_**

**Project Number: \_\_\_\_\_**

**Please transfer total points to the Scantron sheet.**

**Total Points=\_\_\_\_\_**