Singapore Science and Engineering Fair 2017
<u>Preliminary Judging</u> Criteria

Science Projects	**Engineering Projects**
Research Question (10%) • clear and focused purpose • identifies contribution to field of study • testable using scientific methods	**Research Problem (10%)** • description of a practical need or problem to be solved • definition of criteria for proposed solution • explanation of constraints
Design and Methodology (20%) • well-designed plan and data collection methods • variables and controls defined, appropriate and complete	**Design and Methodology (20%)** • exploration of alternatives to answer need or problem • identification of a solution • development of a prototype/model
Execution: Data Collection, Analysis and Interpretation (25%) • systematic data collection and analysis • reproducibility of results • appropriate application of mathematical and statistical methods • sufficient data collected to support interpretation and conclusions	**Execution: Construction and Testing (25%)** • prototype demonstrates intended design • prototype has been tested in multiple conditions/trials • prototype demonstrates engineering skill and completeness
Creativity (20%) • project demonstrates significant creativity in one or more of the above criteria	**Creativity (20%)** • project demonstrates significant creativity in one or more of the above criteria
Written Report (25%) • review of scientific literature relevant to project • understanding of basic science relevant to project • understanding of interpretation and limitations of results and conclusions • clear and concise writing • logical organization of material • clarity of graphics and legends • recognition of potential impact in science, society and/or economics • quality of ideas for further research	**Written Report (25%)** • review of scientific literature relevant to project • understanding of basic science relevant to project • understanding of interpretation and limitations of results and conclusions • clear and concise writing • logical organization of material • clarity of graphics and legends • recognition of potential impact in science, society and/or economics • quality of ideas for further research

Description of each criterion is adapted from Intel ISEF.
Updated as of 9 Oct 2014

Singapore Science and Engineering Fair 2017
<u>Final Judging</u> Criteria

Science Projects	Engineering Projects
Research Question (10%) • clear and focused purpose • identifies contribution to field of study • testable using scientific methods	**Research Problem (10%)** • description of a practical need or problem to be solved • definition of criteria for proposed solution • explanation of constraints
Design and Methodology (20%) • well-designed plan and data collection methods • variables and controls defined, appropriate and complete	**Design and Methodology (20%)** • exploration of alternatives to answer need or problem • identification of a solution • development of a prototype/model
Execution: Data Collection, Analysis and Interpretation (25%) • systematic data collection and analysis • reproducibility of results • appropriate application of mathematical and statistical methods • sufficient data collected to support interpretation and conclusions	**Execution: Construction and Testing (25%)** • prototype demonstrates intended design • prototype has been tested in multiple conditions/trials • prototype demonstrates engineering skill and completeness
Creativity (20%) • project demonstrates significant creativity in one or more of the above criteria	**Creativity (20%)** • project demonstrates significant creativity in one or more of the above criteria
Presentation (25%) *a. Poster (7%)* • logical organization of material • clarity of graphics and legends • supporting documentation displayed *b. Interview (18%)* • clear, concise, thoughtful responses to questions • understanding of basic science relevant to project • understanding interpretation and limitations of results and conclusions • degree of independence in conducting project • recognition of potential impact in science, society and/or economics • quality of ideas for further research • for team projects, contributions to and understanding of project by all members	**Presentation (25%)** *a. Poster (7%)* • logical organization of material • clarity of graphics and legends • supporting documentation displayed *b. Interview (18%)* • clear, concise, thoughtful responses to questions • understanding of basic science relevant to project • understanding interpretation and limitations of results and conclusions • degree of independence in conducting project • recognition of potential impact in science, society and/or economics • quality of ideas for further research • for team projects, contributions to and understanding of project by all members

Description of each criterion is adapted from Intel ISEF.
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