SARSEF SCIENCE
Judging Guidelines for Middle School Gr. 6-8

The following evaluation criteria will be used for judging at SARSEF. This may assist you in evaluating each of these categories, however, the points are provided as guidelines only. Students are encouraged to design their posters in a clear and informative manner to allow thorough evaluation. Examine the student notebook.

I. Research Question (15 pts.)

___ project has a clear and focused purpose
___ idea is a question/problem that needs solving in student's life, school, community, world
___ idea is testable using a scientific process, can be retested
___ the answer is not already obvious or out there if a simple search is conducted
___ is reasonable, follows safety rules, asks for and receives appropriate permission

II. Design and Methodology (25 pts.)
___ well-designed plan and data collection methods that will ensure consistent recording or results
___ control group and variables are identified
___ identification of variables that cannot be controlled but might affect the results
___ reproducibility of results, i.e. clearly written, step by step plan to implement
___ considered what would be the appropriate # of subjects, adequate # of planned trials and retrials

III. Execution: Data Collection, Analysis and Interpretation (25 pts.)

___ systematic data collection and analysis - same procedure each time, little variation conditions of testing
___ sufficient data collected to support interpretation and conclusions - several trials, many subjects in the study
___ appropriate application of mathematical methods for comparison - averaging, percentages, etc.
___ understanding limitations of results and conclusions, constraints
___ makes conclusions based on the data and evidence, refers to data
___ implications for larger community are thought about, ideas for further research, links to other studies
___ states whether question was answered, or if not, what challenges faced

IV. Creativity (20 pts.)

A creative project demonstrates imagination and inventiveness. Such projects are ones that the student personally cares about, have not been done hundreds of times before or frequently listed in Science Fair idea books or web. Creative projects offer different perspectives that open up new possibilities or new alternatives.

_____ project demonstrates significant creativity in one or more Criteria I, II, III or V
_____ idea appears novel – at least to the student (not copied or seen repeatedly)
_____ idea appears to be something that student genuinely cares about, passion or enthusiasm is communicated

V. Poster Board/*Interviews* (15 pts.) ***New in 2019****: If a student is present, interviews MAY be counted as a part of a student's score. If not present, judge the board, alone (do not penalize the score.)*

___ clear communication and evidence of understanding basic science concepts relevant to project
___ colorful, creative and logical organization of display facilitate communication of project
___ clarity of graphs, legends & graphics – at this level more than one graph or chart is expected
___ supporting documentation displayed – multiple references listed on board or in notebook

SARSEF ENGINEERING
Judging Guidelines Middle School Gr. 6-8

The following evaluation criteria will be used for judging at SARSEF. This may assist you in evaluating each of these categories, however, the points are provided as guidelines only. Students are encouraged to design their posters in a clear and informative manner to allow thorough evaluation. Examine the student notebook.

I. Research Problem (15 pts.)
___ project has a clear and focused purpose
___ problem is one that needs solving in student's life, school, community, world
___ the answer is not already obvious or out there if a simple search is conducted
___ is reasonable, follows rules, asks for and receives appropriate safety precautions
___ definition of criteria for proposed solution
___ explanation of constraints

II. Design and Methodology (25 pts.)
___ exploration of several alternatives to answer an actual need/problem
___ identification of a possible solution that is practical, reasonable, doable
___ well-designed plan and data collection methods that are as consistently implemented
___ realistic plan for development of an actual prototype/model
___ recognition that there are variables that may NOT have been anticipated but could affect the results
___ reproducibility of results i.e. clearly written step by step plan to construct or implement
___ plans appropriate # of models, adequate # of planned trials and retrials

III. Execution: Construction and Testing (25 pts.)
___ prototype actually demonstrates the proposed design
___ prototype was tested in multiple conditions, and in multiple trials
___ prototype demonstrates an engineering skill
___ systematic data collection and analysis - same procedure each time, little variation in conditions of testing
___ appropriate application of mathematical methods for comparison – averaging, ideally percentages
___ understanding limitations of results - mentions constraints
___ forms conclusions based on the data, refers to results
___ implications for broader community are thought about, ideas for further research explored
___ answers what problem was solved, or if not, what challenges faced

IV. Creativity (20 pts.)
A creative project demonstrates imagination and inventiveness. Such projects are ones that the student personally cares about, have not been done hundreds of times before or frequently listed in Science Fair idea books or web. Creative projects offer different perspectives that open up new possibilities or new alternatives.

___ project demonstrates significant creativity in one or more Criteria I, II, III or V
_____ idea appears novel – at least to the student (not copied or seen repeatedly)
_____ idea appears to be something that student cares about, passion or enthusiasm is communicated

V. Poster Board/*Interviews* (15 pts.) ***New in 2019****: If a student is present, interviews MAY be counted as a part of a student's score. If not present, judge the board, alone (do not penalize the score.)*
___ clear communication and evidence of understanding basic engineering relevant to project
___ colorful, creative and logical organization of display facilitate communication of project
___ clarity of graphs, legends & graphics – at this level more than one graph or chart is expected
___ supporting documentation displayed – multiple references listed on board or in notebook