**Zimbabwe Science Fair 2023**

 **Pre-Judging Scoring Rubrics**

**FOR SCIENCE PROJECTS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Criteria**  | **Low**  | **Medium**  | **High**  |
| **Research** **Question (Science** **projects)**  | * States the purpose of the research
* Testable using scientific methods
 | * States a clear and focused purpose of the research
* Testable using scientific methods
 | * States a clear and focused purpose of the research
* Testable using scientific methods
* Identifies contribution to the field of study
 |
| **Design and Methodology**  | * Proposes valid data collection methods
* Identifies suitable variables and control parameters
 | * Proposes a well-designed plan and valid data collection methods
* Identifies and defines some key variables and control parameters
 | * Proposes a well-designed plan and valid data collection methods
* Identifies and defines all key variables and all appropriate control parameters
 |
| **Execution: data collection, analysis and interpretation**  | * Identification of data to be collected and analysed
* Application of mathematical and statistical methods

  | * Systematic identification of data to be collected and analysed
* Appropriate application of mathematical and statistical methods
* Sufficient amount of data collected to support interpretation and conclusions
 | * Systematic identification of data to be collected and analysed
* Results can be reproduced
* Appropriate application of mathematical and statistical methods
* Sufficient amount of data collected to support interpretation and conclusions
 |
| **Creativity**  | . Project demonstrates some creativity in one or more of the above criteria  | . Project demonstrates significant creativity in some of the above criteria  | . Project demonstrates significant creativity in all of the above criteria  |
| **Written Report**  | * Scientific literature reviewed are relevant to project
* Displays understanding of basic science relevant to project
* Logical organization of material
* Clarity of graphics and legends

  | * Scientific literature reviewed are relevant to project
* Displays good understanding of basic science relevant to project
* Displays understanding of interpretation and, limitations of results and conclusions
* Clear and concise writing
* Logical organization of material
* Clarity of graphics and legends

  | * Scientific literature reviewed are relevant to project
* Displays good understanding of basic science relevant to project
* Displays keen 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
 |

 **Zimbabwe Science Fair 2023**

 **Pre-Judging Scoring Rubrics**

**FOR ENGINEERING PROJECTS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Criteria**  | **Low**  | **Average**  | **High**  |
| **Research** **Problem** **(Engineering** **projects)**  | * Identification of a practical need or problem to be solved
* Defines criteria for proposed solution
 | * Clear description of a practical need or problem to be solved
* Defines criteria for proposed solution
 | * Clear description of a practical need or problem to be solved
* Defines criteria for proposed solution
* Provides explanation of constraints
 |
| **Design and Methodology**  | * Identification of a solution
* Development of a prototype/model

  | * Exploration of alternatives to answer need or problem
* Identification of a solution
* Development of a viable prototype/model
 | * Exploration of alternatives to answer need or problem
* Identification of a solution
* Development of a viable prototype/model that is

innovative  |
| **Execution: data collection, analysis and interpretation**  |  Prototype demonstrates intended design   | * Prototype demonstrates intended design
* Prototype demonstrates engineering skill and completeness
 | * Prototype demonstrates intended design
* Prototype has been tested in multiple conditions/trials
* Prototype demonstrates engineering skill and completeness
 |
| **Creativity**  | . Project demonstrates some creativity in one or more of the above criteria  | . Project demonstrates significant creativity in some of the above criteria  | . Project demonstrates significant creativity in all of the above criteria  |
| **Written Report**  | * Scientific literature reviewed are relevant to project
* Displays understanding of basic science relevant to project
* Logical organization of material
* Clarity of graphics and legends

  | * Scientific literature reviewed are relevant to project
* Displays good understanding of basic science relevant to project
* Displays understanding of interpretation and, limitations of results and conclusions
* Clear and concise writing
* Logical organization of material
* Clarity of graphics and legends

  | * Scientific literature reviewed are relevant to project
* Displays good understanding of basic science relevant to project
* Displays keen 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
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