**Zimbabwe Science Fair 2023**

**Pre-Judging Scoring Rubrics**

**FOR SCIENCE PROJECTS**

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| --- | --- | --- | --- |
| **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**

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| --- | --- | --- | --- |
| **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 |