**VT STEM Fair Engineering Rubric March 25, 2023**

**10% - Abstract**

Abstract

Appropriate summary of research problem, methodology, and execution. Abstract is coherent, error free and 150-300 words.

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

**20% - Research Problem**

Criteria

Definition of criteria for proposed solution

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

Practical Need/Problem

Description of a practical need or problem to be solved, including background information.

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

**20%- Design and Methodology**

Development of Prototype

Methods for development of a prototype/model are ordered logically, provide repeatable instructions and makes use of appropriate graphics

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

Testing of Prototype

Methods for testing the prototype are appropriate and include multiple trials

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10% - Results**

Data Summary

Results from trials are represented appropriately in figures, tables, etc. with a quantitative summary, and correct terminology, titles, labels, units and scale.

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

**(turn over to continue scoring)**

**20% - Technical**

Complete and Organized

All required elements were included and presentation was logical and organized: (a) Title (b) Abstract (c) 1-page Quad Chart and (d) Project Presentation with Research Question, Methods, Results, Interpretation/Discussion and Conclusion sections.

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

Student Level

Technical level of project was appropriate for age/grade

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

**20% - Interpretation and Conclusions**

Complete/Creative

Prototype demonstrates completeness and creativity.

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

Intended Design

Prototype demonstrates intended design, and the possible applications of the work are discussed.

Range: 1 – 5 Score: **\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Total: \_\_\_\_\_\_\_\_\_\_\_\_\_**