Science Project Worksheet

Name: **School:**

Teacher: **Grade:**

Category Energy & Engineering

Energy & Engineering – Energy encompasses the study of renewable energy sources, energy efficiency and alternative fuels. *Includes: aerospace and aeronautical engineering, aerodynamics, alternative fuels, fossil fuel energy and renewable energies.* **Engineering** studies the design, manufacture and operation of machines, structures, processes and systems. *Includes: robotics, material science, electrical, mechanical, computer, civil, construction, industrial, processing and solar engineering.*

Technology – Subjects including electricity, electronics, mathematics and computers.

Physical Science – Subjects including chemistry and physics.

Earth & Space Science – The study of sciences related to the planet earth and anything in the universe beyond it. *Includes: astronomy, weather and meteorology, solar and planetary systems, geology, mineralogy, oceanography, climatology, speleology, seismology, paleontology, geography and atmospheric sciences.*

Biological Science – Subjects including animal husbandry, agriculture, biochemistry, biology, botany, environmental sciences, home economics, medicine and health, microbiology and zoology.

High School – Categories for grades 9 through 12 are the same as those offered at the International Science and Engineering Fair (ISEF). Individual and team projects compete for awards, with the grand prize being an all-expenses-paid trip to the ISEF.

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KEEP A JOURNAL TO MAKE OBSERVATIONS AND COLLECT DATA

A. Project Title:

B. Project Ideas:

C. <u>Purpose:</u> *An introductory statement providing background, namely the reason, for investigating the project topic. A statement of the problem the research is looking to solve, or the questions being tested.*

D. <u>Research:</u> *List books, websites, etc.…*

E. <u>Question:</u> *Example - Does the temperature of a basketball influence the height of bounce?*

F. <u>Hypothesis:</u> *Example - If basketballs are left out in cold weather, they will bounce less because the air inside of them will contract.*

G. <u>Procedures:</u> *A brief overview of how the investigation was conducted, highlighting key points, and including methods and resources used. Do not provide details about materials used in the research unless they greatly influenced the procedure or were needed to conduct the investigation. An abstract should only include procedures done by the Finalist. Do not include work done by a mentor (such as surgical procedures) or work done prior to the Finalist's involvement. Include a detailed explanation describing the process to carry out your experiment i.e., a step-by-step recipe.*

H. <u>Project Materials:</u> *List of material needed for the project, be a specific as possible. Include units of measurement i.e., one cup = 8 oz.*

I. <u>Safety Measures and Equipment:</u> *Explain and list safety measure taken during the science project; list safety equipment on hand and/or used during the experiment as well as who provided supervision.*

<u>Requires Supervision:</u> Yes ☒ No ☐

J. <u>Experiment Set Up:</u> *Pictures and/or Explanation.*

K. <u>Experiment:</u> *What is the purpose of the experiment? What happened during the experiment? Record observations. Add any notes or details that occurred during the experiment.*

L. Results: *This is the raw data from the experiment, often in the form of a table or graph. Include the dates you recorded the data.* ***Insert charts and diagrams!***

M. <u>Conclusion:</u> *This is the interpretation of the data. What does the data mean? Did the data prove your hypothesis?*

N. <u>Abstract:</u> *Abstract (250 words or less) should include the purpose of the experiment, procedures used, any observations, data, results and your conclusion.*

O. Journal: Insert pictures and/or documents.