**Science Fair Research Project: Proposal Outline Round 1**

**2022 - 23**

Answer the following questions as best you can. It will give me an idea of what you are trying to accomplish.

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| Once you find a general topic that interests you, write down the question that you want to answer. A scientific question usually starts with: How, What, When, Who, Which, Why, or Where. For example, “How much current does a robot’s arm use to lift a weight?”  **What is your project question?** |
| **Purpose:** Write 1 – 2 full sentences stating the problem. |
| **Summary**: Briefly describe the project in 2 – 4 sentences. |
| **Why** do you want to conduct the experiment? (Rationale) |
| **What** do you hope to learn about? (Research Problem) |
| **What** is your **hypothesis?** (null and alternate, if possible) If you’re unsure how to write a null/alternate hypothesis, write the hypothesis the best you can. |
| A ‘good objective test’ requires that you change only one factor (variable) and keep all other conditions the same. If you cannot design a ‘good objective test, then you should change your question.  **Can you design a fair test to answer your question? YES NO** |
| Is this the first time you have conducted a research project? If yes, please explain. |

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| Your science fair project should involve factors or traits that you can easily measure using a number. Or, factors or traits that are easily identified (like colors)  What will you measure? |
| The experiment should measure change to the important factors (variables) using a number that represents a quantity such as a count, percentage, length, width, weight, voltage, etc. Or, just as good might be an experiment that measures a factor (variable) that is simply present or not present. For example, light ON in one trial, then light OFF in another trial, or USE fertilizer in one trial, the DO NOT USE fertilizer in another trial.  What will you change? (independent variable or manipulated variable) |
| You must be able to control other factors that might influence your experiment. A ‘fair test’ occurs when you change only one factor (variable) and keep all other conditions the same.  What will you **NOT** change, only measure and observe? (dependent variable or responding variable) |
| Is your experiment **safe** to perform? **YES NO Unsure**  If unsure, go to: <https://student.societyforscience.org/international-rules-pre-college-science-research> and review the rules for all projects. Explain why you’re unsure if the experiment is not safe. |
| Do you have all the materials and equipment you need for your science fair project, or will you need assistance with the supplies? Please be as thorough as possible. |
| Will you perform your project on campus, home, or at another facility? If another facility, please include the name of the company and possible mentor. |
| Are currently working on a research project not associated with the research course here at MSMS? If so, please state where, how long, mentor, and if it is a continuation project. |
| When are you available to work on your project? For example, during school when your schedule is open, directly after school, during tutorials? |
| Do you have enough time to do your experiment before the deadline of your region’s science fair? Some regions in Mississippi have fairs as early as January.  YES NO Unsure  Visit: <https://msefair.wixsite.com/msef> |