Research Plan/Project Addendum

A Research Plan/Project Addendum is required for ALL projects. The plan must be written BEFORE experimentation.

1. The Research Plan is to be written prior to experimentation.
2. If changes are made during the research before competing at an affiliated fair, such changes must be added as an addendum to the original plan. Be aware that some changes may require obtaining or returning to the IRB or SRC for appropriate review and approvals before conducting that portion of the project. If there are no changes, an addendum is not required.
3. The Research Plan/Project Addendum should include the following:
   a. **RATIONALE**: Include a brief synopsis of the background that supports your research question/goal.
   b. **RESEARCH QUESTION(S), HYPOTHESIS(ES), ENGINEERING GOAL(S), EXPECTED OUTCOMES**: Include a brief synopsis of the background that supports your research question/goal.
   c. Describe the following in detail (include any required subject-specific additions to your Research Plan (listed below):
      - **List of materials:**
      - **Procedures/Methodology:** Detail all procedures and steps of the experimental design including methods for data collection, and when applicable, the source of data used. Be sure to differentiate steps to be taken by you and the steps that are to be taken by any supervising adult(s).
      - **Risk and Safety:** Identify any potential risks and describe safety precautions to be taken.
      - **Data Analysis:** Describe the procedures you will use to analyze the data/results.
   d. **ACKNOWLEDGEMENTS:** List all individuals that supported your project and the contributions that they made. If AI was used, document this support with a prompt log or an explanation of the elements of the project that involved AI support.
   e. **BIBLIOGRAPHY:** List major references (e.g. science journal articles, books, internet sites) from your literature review. Ensure that all references are properly listed and verified (The use of AI for citations is discouraged; it is known to hallucinate and produce false citations which becomes an ethical issue if you cite sources that are false or that you did not actually reference.)

Items 1–4 below are subject-specific guidelines for additional items to be included in your Research Plan/Project Addendum as applicable.

1. Human participants research:
   a. **Participants:** Describe age range, gender, racial/ethnic composition of participants. Identify vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).
   b. **Recruitment:** Where will you find your participants? How will they be invited to participate?
   c. **Methods:** What will participants be asked to do? Will you use any surveys, questionnaires or tests? If yes and not your own, how did you obtain? Did it require permissions? If so, explain. What is the frequency and length of time involved for each subject?
   d. **Risk Assessment:** What are the risks or potential discomforts (physical, psychological, time involved, social, legal, etc.) to participants? How will you minimize risks? List any benefits to society or participants.
   e. **Protection of Privacy:** Will identifiable information (e.g., names, telephone numbers, birth dates, email addresses) be collected? Will data be confidential/anonymous? If anonymous, describe how the data will be collected. If not anonymous, what procedures are in place for safeguarding confidentiality? Where will data be stored? Who will have access to the data? What will you do with the data after the study?
   f. **Informed Consent Process:** Describe how you will inform participants about the purpose of the study, what they will be asked to do, that their participation is voluntary and they have the right to stop at any time.

2. Vertebrate animal research:
   a. Discuss potential ALTERNATIVES to vertebrate animal use and present justification for use of vertebrates.
   b. Explain potential impact or contribution of this research.
   c. Detail all procedures to be used, including methods used to minimize potential discomfort, distress, pain and injury to the animals and detailed chemical concentrations and drug dosages.
   d. Detail animal numbers, species, strain, sex, age, source, etc., include justification of the numbers planned.
   e. Describe housing and oversight of daily care.
   f. Discuss disposition of the animals at the end of the study.

3. Potentially hazardous biological agents research:
   a. Give source of the organism and describe BSL assessment process and BSL determination.
   b. Detail safety precautions and discuss methods of disposal.

4. Hazardous chemicals, activities & devices:
   a. Describe Risk Assessment process, supervision, safety precautions and specific methods of disposal.
   b. Safety Data Sheets must be reviewed and should be referenced but do not need to be submitted with paperwork unless required by your fair.