DELETE ALL INSTRUCTIONS HIGHLIGHTED IN YELLOW BEFORE SUBMITTING

Student Name(s):
School Name:
Category:
Science Fair Teacher's Name:

Question or Problem being addressed – Title

Hypothesis/Engineering Goals

Rationale

Brief synopsis of the background research that supports your research problem and explains **why** this research is important scientifically. **(1-3 Paragraphs long)**

Material List

Bulleted list of all items used in research. **Make sure to include concentration of all chemicals, brand and item number for any purchased chemicals or cultures, amount of all living organisms, and all equipment used including safety gear.**

1.

Subject Specific Items

Delete any of these sections if you do not need them

Items 1–4 below are subject-specific guidelines for additional information to be included in your research plan/project ONLY if you are doing any of the following types of projects. Delete the items you do not use. For those you do use, write your answer below the question but still delete the instructions/questions highlighted in yellow. **See the subject specific rules in the ISEF rule book BEFORE beginning this section.**

1. Human participants research:
a. Participants: Describe age range of participants. If you are targeting specific genders or racial/ethnic groups, say so. Identify vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged) if you are specifically attempting to recruit any of them.
b. Recruitment: Where will you find your participants? How will they be invited to participate? If you are planning to go to a physical location other than your school or your home, how will you request permission to survey/experiment there?
c. Methods: What will participants be asked to do? Will you use any surveys, questionnaires or tests? 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? Based on federal law, all signed consent forms and data should be stored in a secure location (locked drawer/cabinet/safe or password-protected file) by the researcher or teacher for 3 years then destroyed (shredded/incinerated or deleting digital file and emptying trash folder).
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. Specify how consent language will be delivered (printed form or online) and who will sign. Our rules for traditional informed consent (hard-copy forms) are: Adult participants will sign to give written consent; minor participants and their parent/guardian will both sign to give assent + parent permission.

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. You MUST include a plan to monitor weight and BCS at least weekly as well as a statement that if at any point weight changes by more than 15% from start you will stop the study and consult with a vet.
f. Discuss disposition of the animals at the termination of the study.

3. Potentially hazardous biological agents research:
a. Give brand name and item # of the organism (or specific source information if not purchased) and its published BSL for the species.
b. Describe BSL of procedure. HINT: To stay BSL-1 per Florida rules, you must state that plates will be sealed after inoculation and not reopened by the researcher.
c. State the final BSL determination. It is the ***HIGHER*** of the two (species vs procedure).
d. Detail safety precautions, including washing hands before/after, how you're disinfecting work surfaces before/after, and listing the type of Biosafety cabinet if one will be used (required for BSL-2).

e. Describe method(s) of disposal. HINT: For BSL-1, soaking in 10% bleach for 30 minutes then trash/sink is fine, but for BSL-2 you must plan to autoclave at 121 deg C and 15 PSI for 20 minutes then seal in biohazard bag for trash.

4. Hazardous chemicals, activities & devices:
a. Describe the risks of your project.
b. Describe the safety precautions you will take, including supervision.
c. Describe method(s) of disposal for any hazardous chemicals used.

Procedure
Describe in detail the method or procedure required to complete your project, **including safety steps**, proper disposal of materials if needed. Your procedure should be detailed enough that someone can replicate your experiment. HINT: This means you will repeat information from subject-specific items above, if your project is in one of those categories.

1.

Data Analysis
Describe the procedure you will use to analyze the data that will answer the research question, hypothesis, or engineering goal. Usually this means: What calculations will you make or what numbers you will compare? If using statistical tests, what statistical tests will you use and how?

1.

Bibliography
List at least **SIX** major references (e.g. science journal articles, book, credible internet sites) from your literature review. **See pages 23-25 of the rule book to see references for subject specific projects.**

- If you plan on using **human subjects**, one of these references must be a relevant source chosen from the list in ISEF rulebook on Page 23.
- If you plan to use **vertebrate animals**, one of these references must be a relevant source chosen from the list in ISEF rulebook on Page 23 or 24. **AND** another must be the Body Condition Scoring system for that species.
- If you plan on using **potentially hazardous biological agents,** one of the references must include aseptic technique. Choose the most relevant from the list in ISEF rulebook on Page 24 or 25. **AND** another should be the product information sheet for that species (sometimes called MSDS/SDS, other times not).
- If you plan on using **hazardous activities or devices**, each hazard should have a safety source listed (for most devices, this is the product manual).
- If you plan on using **chemicals,** each chemical should include a reference for a MSDS/SDS. (Chemicals includes anything besides water and ambient air, even if it is nonhazardous!)

1. International Rules for Pre-college Science Research. Society for Science and the Public. Accessed DATE from: https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2023/Rules/Book.pdf .

2. State Science and Engineering Fair of Florida 2021-22 Rules Supplement. Accessed DATE from: https://drive.google.com/file/d/1ZgLX6e9scnY39BAlzJLVP3eWwC3q6oWX/view?usp=sharing
3. Required reference(s) for special project types, as described above. Must choose appropriate source from list given in ISEF rulebook or safety sources that match Form 3.
4. Normal source from your project.
5. Normal source from your project.
6. Normal source from your project.

MSDS/SDS Citations (keep these separate from other sources and alphabetize by chemical name)

7. Chemical name. (Material) Safety and Data Sheet. Accessed DATE from: paste URL here.
8. Chemical name. (Material) Safety and Data Sheet. Accessed DATE from: paste URL here.