Science Fair Research Plan

Name _____ Date_____

Partner(s) _____

Research Question:

_____

_____

_____

Hypothesis:

_____

_____

_____

_____

Briefly describe your topic:

_____

_____

_____

VARIABLES

The dependent variable is _____

It will be measured with _____ in _____
(instrument) (units)

The independent variable is _____

It will be measured with _____ in _____
(instrument) (units)

CONTROLS

List the controlled variables and how they will be kept constant.

_____ _____

_____ _____

_____ _____

_____ _____

Describe the control group (if any).

_____

SAFETY PRECAUTIONS:

_____

_____

_____

_____

_____

_____

_____

MATERIALS

List all materials that you will need. Include the quantities (or estimate) for as many items as possible.

_____ _____
_____ _____
_____ _____
_____ _____

PROCEDURES

List, ***in detail***, the procedures you will follow to conduct your experimental project.

1. _____
   _____
2. _____
   _____
3. _____
   _____
4. _____
   _____
5. _____
   _____
6. _____
   _____

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15. _____
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16. _____
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17. _____
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18. _____
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DATA ANALYSIS

Describe how you will use the data you gather to answer your question and hypothesis.

_____
_____
_____
_____
_____
_____

BIBLIOGRAPHY

List at least 5 sources that you have used in your research. This includes books, articles, and internet sites. Please use APA style.

ADDITIONAL ITEMS

Items 1–4 below are subject-specific guidelines for additional items to be included in your research plan/project summary as applicable.

1. Human participants research:

Participants: Describe who will participate in your study (age range, gender, racial/ethnic composition). Identify any vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).

Recruitment: Where will you find your participants? How will they be invited to participate?

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?

Risk Assessment:

◊ **Risks:** What are the risks or potential discomforts (physical, psychological, time involved, social, legal, etc.) to participants? How will you minimize the risks?

◊ **Benefits:** List any benefits to society or each participant.

Protection of Privacy: Will any identifiable information (e.g., names, telephone numbers, birth dates, email addresses) be collected? Will data be confidential or anonymous? If anonymous, describe how the data will be collected anonymously. If not anonymous, what procedures are in place for safeguarding confidentiality? Where will the data be stored? Who will have access to the data? What will you do with the data at the end of the study?

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:

• Briefly discuss potential ALTERNATIVES to vertebrate animal use and present a detailed justification for use of vertebrate animals.

• Explain potential impact or contribution this research may have.

• Detail all procedures to be used.

◊ Include methods used to minimize potential discomfort, distress, pain and injury to the animals during the course of experimentation.

◊ Detailed chemical concentrations and drug dosages.

• Detail animal numbers, species, strain, sex, age, source, etc.

◊ Include justification of the numbers planned for the research.

• Describe housing and oversight of daily care.

• Discuss disposition of the animals at the termination of the study.

3. Potentially hazardous biological agents research:

• Describe Biosafety Level Assessment process and resultant BSL determination.

• Give source of agent, source of specific cell line, etc.

• Detail safety precautions.

• Discuss methods of disposal.

4. Hazardous chemicals, activities & devices:

• Describe Risk Assessment process and results.

• Detail chemical concentrations and drug dosages.

• Describe safety precautions and procedures to minimize risk.

• Discuss methods of disposal.