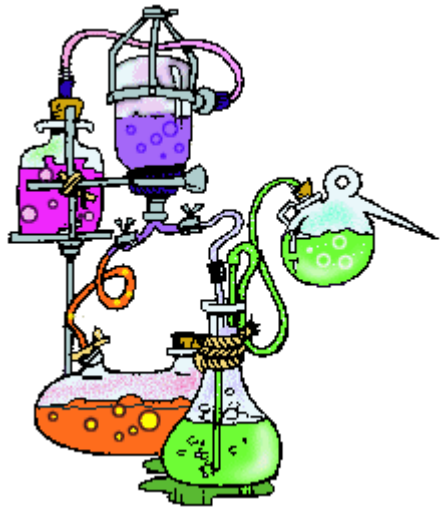
Science Fair Research Plan



HOW DO I COMPLETE MY RESEARCH PLAN FOR MY SCIENCE FAIR PROJECT?

Research Plan

The Research Plan/Project Summary is a succinct detailing of the rationale, research question(s), methodology, and risk assessment of your research project and should be completed **before** the start of your experimentation. Any changes you make to your project should be added to the final document.

What should my research plan have?

The research plan for *ALL* projects should include the following:

a. What is the **RATIONALE** for your project? Include a brief synopsis of the background that supports your research problem and explain why this research is important scientifically and if applicable, explain any societal impact of your research.

b. State your **HYPOTHESIS(ES), RESEARCH QUESTION(S), ENGINEERING GOAL(S), EXPECTED OUTCOMES**. How is this based on the rationale described above?

What should my research plan have?

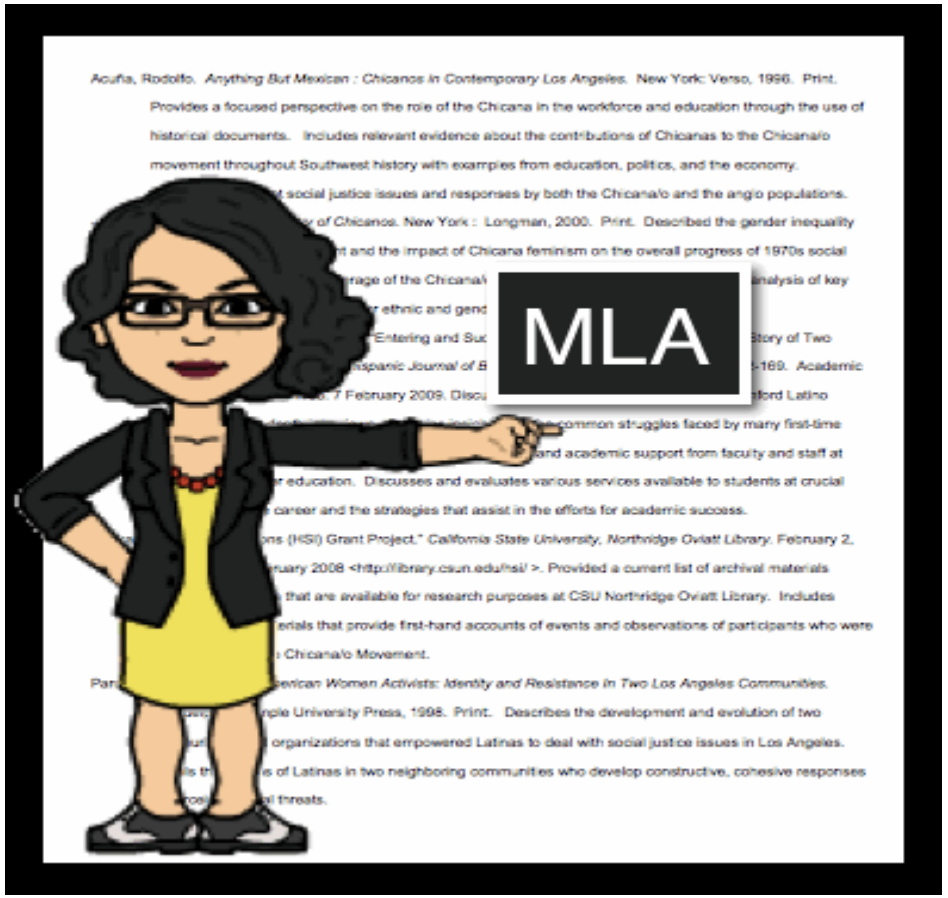
c. Describe in detail your **RESEARCH METHODS AND CONCLUSIONS**.

Procedures: Detail all procedures and experimental design including methods for data collection. Describe only your project. Do not include work done by mentor or others.

Risk and Safety: Identify any potential risks and safety precautions needed.

Data Analysis: Describe the procedures you will use to analyze the data/results that answer research questions or hypotheses.

What should my research plan have?



d. Bibliography: List at least five (5) major references (e.g. science journal articles, books, internet sites) from your literature review.

If you plan to use vertebrate animals, one of these references must be an animal care reference.

If you have human participants, you will need to include:

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 benefit to society or each participant.

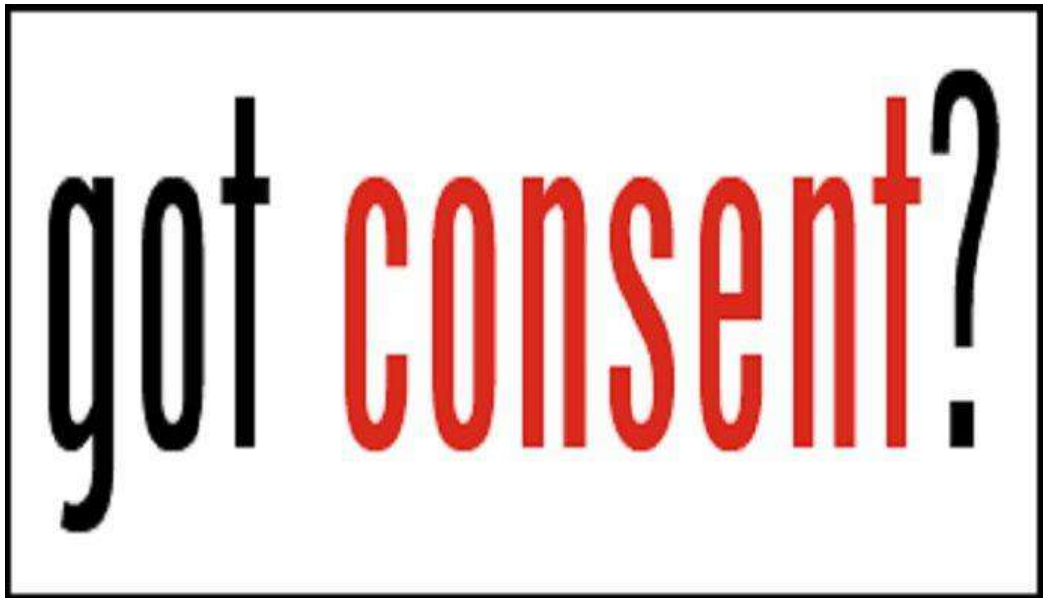
Protection of Privacy

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

If you are using any hazardous material or methods in your project, you will need to include:

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