

Goal • Practise organizing your ideas and information to design your own investigation.

Introduction

Scientists carefully plan and develop investigation proposals before actually conducting an inquiry. Like them, as your start to plan an investigation, consult books, the Internet, knowledgeable people, and other sources to get ideas to help you develop and revise your design.

What to Do

- Follow this outline to draft a proposal for the design of a science inquiry you would be interested in investigating.
- Refer to the questions and answers to help you complete your investigation and presentation.

Outline

Consider the purpose of your inquiry.

1. Topic

- a. Describe the area or topic you intend to investigate.

- b. List at least three key words related to your inquiry area or topic.

- c. Indicate why this inquiry interests or is significant to you.

2. Timing

Indicate the due date. _____

3. Problem Statement

Adjust your inquiry to focus on a single problem, hypothesis, or question that can be investigated in the time available. Write your specific inquiry topic or problem statement.

Prepare the equipment and materials needed for your inquiry.

4. Apparatus and Materials

- a. List apparatus (equipment, tools, machines) needed for the proposed design.

- b. List the materials needed for your proposed design.

- c. Indicate where apparatus and materials are available or can be obtained.



5. Safety Precautions

- a. List the protective clothing or equipment you may need.

- b. List any special precautions.

Plan where, when, and how your inquiry can take place.**6. Locations**

- a. State the location for each step in your proposed inquiry.

- b. Indicate safety procedures, such as the presence of an adult supervisor, required for each location.

7. Timing

On the back of this sheet, develop a diagram or flowchart showing all of your steps and the approximate amount of time you estimate each step will take. Remember to include the need for a control or for repeating an experiment.

8. Recording

- a. State whether you will use a log, journal, or notebook for recording your actual procedure and your observations, information, or data summaries.

- b. List what visual ways you will use to record data (i.e., charts, tables, graphs, or organizers).

- c. Decide if you will draw diagrams or take photographs of observations.

- d. Explain what you plan to do if you miss an observation.



Consider the results of your enquiry.**9. Presenting**

- a. List the ways you plan to present your major findings and conclusions. For example, will you build a model, write a report, prepare a display or multi-media show, hand out a summary fact sheet, give an oral presentation, or do something else?

- b. Indicate if you will include your raw data in your presentation, or only data patterns and trends or predictions.

- c. Note requirements for referring to supporting materials in proper forms.

- d. Has this investigation made you think of other ideas to investigate? _____
If so, mention them.

- e. Are there questions related to this investigation that you might now like to investigate?

If so, list them.

10. Applications

- a. Explain how your inquiry applies to society at large.

- b. Explain how you will assess your completed inquiry to decide whether you have fulfilled your stated purpose and responded effectively to your stated problem.

- c. At the end of your inquiry, outline what you have learned that will help you do future science inquiries.

