



ELEMENTS OF A NON-EXPERIMENTAL/RESEARCH PROJECT

- **Background Research:** helps you understand your topic; helps you come up with a problem/testable question to investigate in your project.
- **Problem/Testable Question:** the specific question you will investigate in your research. For example, “How do archaeologists date wood samples?”
- **Hypothesis or Thesis:** Write a thesis - a statement giving an original point of view based on your background research. Or, if you propose to challenge current thinking or analyse a subject in a new way write, write a hypothesis - what you predict the outcome of your research will be. Use the hypothesis/thesis to keep your research focused on a goal. A thesis can be written in many forms. For example: “Dendrochronology (tree ring dating) is combined with Carbon-14 dating to determine the actual calendar age of a tree.” **OR** “Potassium/Argon dating will provide comparable results to Carbon-14 dating combined with dendrochronology.”
- **Research:** To carry out extensive research on your subject, consult a wide variety of sources: books, internet, scientific journals, and interviews with experts in the field. If you uncover a controversy, it is important to explore and understand both sides of the issue.
- **Scientific Principles:** Make sure you understand and explain the underlying scientific principles of the subject/problem you are studying. Often a small demonstration of the underlying scientific principle or “Law” is valuable; you should also be able to explain the conditions for known departures from the scientific principles in question.
- **Concepts:** Explore the key points, problems and issues related to your subject matter. Ensure that your information is accurate and complete for your level of knowledge and understanding. Relevant graphs or tables from other workers’ research may help to summarize your concepts. Remember to get permission to use other people’s graphs, pictures etc., or at least to give the proper credits.
- **Results:** keep a complete record of research, research materials, and evolution of thought in a logbook.
- **Conclusion:** the final outcome of your investigation as supported by the research; relate your conclusion directly to your initial thesis/hypothesis.
- **What Next?** Discuss how you could take your research further, or what experiments you could undertake to support your conclusion. Include an explanation of why people would be interested in knowing your results and how they can be used.