

## ***THE LITERATURE REVIEW: KEY TO GOOD EXPERIMENTATION***

### **What and Why?**

A literature review is used to describe background information concerning a project. The knowledge obtained is necessary to understand and discuss the science project. It is the foundation that allows the researcher to make an informed hypothesis as well as planning an appropriate experiment. To prepare a literature review, the researcher must compile and summarize information on the topic WITHOUT PLAGIARIZING. Sources of information could include but are not limited to the Internet, books, journals, and encyclopedias. It may be difficult to locate information on a particular topic, and there may not be a book on the subject either. Although encyclopedias are a good starting source, they are NOT sufficient for quality research. Likewise, newspapers and non-professional periodicals are not scientific in nature and therefore are not quality sources either.

### **Quality Format**

*Opening paragraph*—Introduce the idea and groundwork is laid as to direction of report;

*Body of report*—Flow of report: goes from general ideas to specific conclusions, transitions tie sections together

- ▼ Content coverage--appropriate content in consideration is covered in depth without being repetitive; sources are cited; report is between 1000-2000 words;
- ▼ Clarity of Writing/technique--writing is crisp, clear and to the point; all in third person;

*Conclusion*—synthesis of ideas and hypothesis; able to make clear and precise conclusions based on the review; insights into the problem; conclusions and hypothesis are strongly supported in the report.

*References*—use of proper format; all included and matched with any citations using proper format.

**NOTE:** MINIMUM SOURCE REQUIREMENT IS 4-6; USE OF AN OUTLINE IS HIGHLY SUGGESTED.

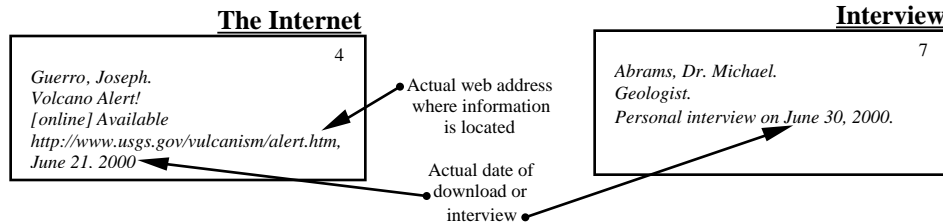
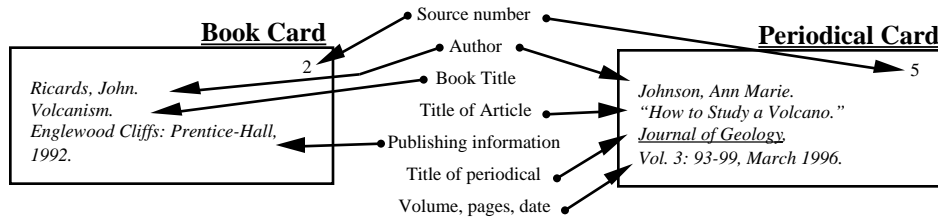
### **Suggested Steps (after choosing a topic)**

- I. Locate information on topic using multiple sources
  - A. Keep bibliography cards
    1. Copy all information: author, title, publisher, copyright...
    2. Use correct punctuation
    3. Number sources and any photocopies made
  - B. Make note cards
    1. Use 4x6 lined index cards
    2. Read whole paragraphs and summarize the main ideas/points
    3. Do not copy or change a few words (plagiarism\*)
    4. Direct quotations may be used, but do not over quote
    5. Mark card with source number and page numbers where information was found
- II. Make an Outline
  - A. Minimum requirement is 3-5 major sections with 2-4 subsections in each
  - B. Write a preliminary outline first
    1. Be brief; use short bulleted statements, not sentences
    2. Avoid personal pronouns
    3. Do not refer to the topic as "it"
    4. Keep margins straight and indent in proper manner (use light pencil lines one cm apart as guides)
    5. Make changes as needed
  - C. Take more notes that fit outline information; code cards to bibliography card and outline
- III. Write a rough Draft
  - A. Organize the note cards to fit the outline
  - B. Write the introductory paragraph (50-75 words; be descriptive; use key terms)
  - C. Convert note cards into an understandable written body of information (3<sup>rd</sup> person)
  - D. Cite sources/quotes properly
  - E. Integrate supporting material such as diagrams, pictures, tables and graphs
  - F. Write a summary paragraph
  - G. Prepare the references page from bibliography cards using proper format and alphabetized
- IV. Rewrite, rewrite, rewrite
- V. Write the Final Draft and reference page

**\*Plagiarism—using someone else’s writings without proper permission/recognition; a form of theft; to take someone’s work and pass it off as your own research is stealing! IT WILL NOT BE TOLERATED!!**

**EXAMPLES**

Bibliography Cards (this is not the same format as a bibliography or works cited page)—



Outline—

- I. Introduction
- II. Types of Volcanoes
  - A. Shield
  - B. Cindercone
  - C. Composite
- III. Eruptions
  - A. Magma movement
  - B. Gas build up
- IV. Lava types
  - A. Pahoehoi
    - 1. Temperature
    - 2. Consistency
  - B. AA
    - 1. Temperature
    - 2. Consistency
- V. Relation to land formation
- VI. Conclusion

Note Cards—

