

5.0 RESEARCHING THE TOPIC

You have decided upon a topic and are thinking, “Where do I begin?” The best place to begin is the library. The library will have magazines, newspapers, books on the subject, scientific references, and electronic resources, each with information about some aspect of your topic.

You may think you should begin with an encyclopedia. Encyclopedias are quick references that will give you basic background information, but not the specific scientific information you may need, especially if you chose a cutting-edge field of science. It is acceptable to begin with an encyclopedia for key terms, but do not use general encyclopedias as the only source of your information, and do not include them in your list of references. However, good scientific encyclopedias, such as The Encyclopedia of Chemical Technology, are acceptable resources.

You’re more likely to find what you need in large public libraries and college libraries. Scientific journals can be found at these libraries. Articles in scientific journals have some of the most up-to-date information on many current hot topics in research. There are scientific journals specific to every field in science. Articles in journals will be found in three forms: as complete papers with short abstracts, as final notes on projects, and as updates or communications about ongoing research.

You will be able to find texts on particular science topics in the 500s and 600s of the library stacks. College texts have information that goes beyond what most high school texts offer. Most libraries have databases on computers, which make the search for books and magazine articles much easier.

Note-Taking Alternative

Some students find it useful to use note cards to record research and bibliography information in addition to recording this information in the scientific notebook. These cards can be arranged and rearranged to help you find the best sequence to present the literature and experiment. (Use a different color for each book, for easy recognition.)

Periodicals

Many popular newsstand magazines written for the general public may not have scientifically reliable information appropriate for your background research, so these should not be your main references. Some reliable periodicals for scientific research are listed below.

Air and Space Magazine
American Biology Teacher
American Journal of Physics
Astronomy
Chemical and Engineering News
Discover
Environmental Science Technology
Journal of Chemical Education
Natural History
Science
Science News
Scientific American

The Internet is also a valuable tool for students doing research. When conducting research on the Internet, make sure that you use reliable sources. Information you use will need the same citation data as a book or magazine article: author, title, publisher, and copyright. It is best to download copies of everything you use, including the website address.

Remember, good literary research and documentation provides a solid foundation for your hypothesis and experiment.

Background Research Sentence Starters

The major scientific concepts related to my investigation are...

Some of the research I found involving _____ shows that...

The investigation is being done because _____ found that...

Based on my research, I decided that I should...

One technique I found to include in my investigation is...

Student Name: _____

Date: _____

Type of source	Author	Date	Title	Pages	City of Publication	Publisher	Notes about content
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							