Science Fair Project Question Background Research:

1. What is the **question** you are going try to answer with an experiment?

_____
_____

_____
_____
_____

2. List the **keywords** and phrases from your question and the topic in general. (Hint: Use an encyclopedia to help you)

_____   _____

   _____

_____   _____

   _____

_____   _____

   _____

3. Now use your keywords to build some **questions to guide your background research**. Develop at least two or three from each "question word." Don't worry about whether you already know the answer to the question—you'll find the answers when you do your background research. And don't forget to "network" with knowledgeable adults who can help guide you toward good materials!

Question:	Possible Questions (you can think of others)	Substitute your keywords (or variations of your keywords) for the blanks in the previous column. Write down the relevant questions and use them to guide your background research.
Why?	Why does _____ happen? Why does _____ _____? Why _____?	
How?	How does _____happen? How does _____ work? How does _____ detect _____? How does one measure _____? How do we use _____? How _____?	

Question:	Possible Questions (you can think of others)	Substitute your keywords (or variations of your keywords) for the blanks in the previous column. Write down the relevant questions and use them to guide your background research.
What?	What causes _____ to increase/decrease? What is _____ made of? What are the characteristics of ____? What is the relationship between ____ and ____? What do we use _____ for? What _____?	
Who?	Who needs _____? Who discovered _____? Who invented _____? Who _____?	
When?	When does _____ cause _____? When was _____ discovered? When _____?	
Where?	Where does _____ occur? Where does _____ get used? Where _____?	

4. Now write use various sources (Library/ books or internet) to conduct **background research** on your chosen topic question. Record your information in the space provided below: (*Use a separate sheet of paper for additional notes!*)

Source:	Background Research:

Bibliography or Works Cited Page

A bibliography is a listing of the books, magazines, and Internet sources that you use in designing, carrying out, and understanding your science fair project. But, you develop a bibliography only after first preparing a background research plan -- a roadmap of the research questions you need to answer. Before you compose your bibliography, you will need to develop your background research plan.

With your background research plan in hand, you will find sources of information that will help you with your science fair project. As you find this information it will be important for you to write down where the sources are from. You can use the Bibliography Worksheet to help you, just print out a few copies and take them with you to the library. As you find a source, write in all of the necessary information. This way, when you are typing your bibliography you won't need to go back to the library and find any missing information. The more information you write down about your source, the easier it will be for you to find if you want to read it again.

When you are writing your report, you will use the sources in your bibliography to remind you of different facts and background information you used for your science fair project. Each time you use some information from a source, you will need to cite the source that it came from. To cite a source, simply put the author's name and the date of the publication in parentheses (Author, date) in your text. If the person reading your report wants to find the information and read more about it, they can look up the reference in your bibliography for more detail about the source. That is why each source you use must be listed in a detailed bibliography with enough information for someone to go and find it by themselves.

Your bibliography should include a minimum of three written sources of information about your topic from books, encyclopedias, and periodicals. You may have additional information from the Web if appropriate.

Examples: *(APA Format)*

Books

Format:
Author's last name, first initial. (Publication date). *Book title*. Additional information. City of publication: Publishing company.

Examples:

Allen, T. (1974). *Vanishing wildlife of North America*. Washington, D.C.: National Geographic Society.

Boorstin, D. (1992). *The creators: A history of the heroes of the imagination*. New York: Random House.

Encyclopedia & Dictionary

Format:
Author's last name, first initial. (Date). Title of Article. *Title of Encyclopedia* (Volume, pages). City of publication: Publishing company.

Examples:

Bergmann, P. G. (1993). Relativity. In *The new encyclopedia britannica* (Vol. 26, pp. 501-508). Chicago: Encyclopedia Britannica.

Merriam-Webster's collegiate dictionary (10th ed.). (1993). Springfield, MA: Merriam-Webster.

Magazine & Newspaper Articles

Format:
Author's last name, first initial. (Publication date). Article title. *Periodical title, volume number(issue number if available)*, inclusive pages.

Note: Do not enclose the title in quotation marks. Put a period after the title. If a periodical includes a volume number, italicize it and then give the page range (in regular type) without "pp." If the periodical does not use volume numbers, as in newspapers, use *p.* or *pp.* for page numbers.
Note: Unlike other periodicals, p. or pp. precedes page numbers for a newspaper reference in APA style.

Examples:
Harlow, H. F. (1983). Fundamentals for preparing psychology journal articles. *Journal of Comparative and Physiological Psychology, 55*, 893-896.

Henry, W. A., III. (1990, April 9). Making the grade in today's schools. *Time, 135*, 28-31.

Website or Webpage

Format:
Online periodical:
Author's name. (Date of publication). Title of article. *Title of Periodical*, volume number, Retrieved month day, year, from full URL

Online document: Author's name. (Date of publication). *Title of work*. Retrieved month day, year, from full URL   Note: When citing Internet sources, refer to the specific website document. If a document is undated, use "n.d." (for no date) immediately after the document title. Break a lengthy URL that goes to another line after a slash or before a period. Continually check your references to online

documents. There is no period following a URL. Note: If you cannot find some of this information, cite what is available.

Examples:

Devitt, T. (2001, August 2). Lightning injures four at music festival. *The Why? Files*. Retrieved January 23, 2002, from http://whyfiles.org/137lightning/index.html

Dove, R. (1998). Lady freedom among us. *The Electronic Text Center*. Retrieved June 19, 1998, from Alderman Library, University of Virginia website: http://etext.lib.virginia.edu/subjects/afam.html

Note: If a document is contained within a large and complex website (such as that for a university or a government agency), identify the host organization and the relevant program or department before giving the URL for the document itself. Precede the URL with a colon.

Fredrickson, B. L. (2000, March 7). Cultivating positive emotions to optimize health and well-being. *Prevention & Treatment*, 3, Article 0001a. Retrieved November 20, 2000, from http://journals.apa.org/prevention/volume3/pre0030001a.html

GVU's 8th WWW user survey. (n.d.). Retrieved August 8, 2000, from http://www.cc.gatech.edu/gvu/usersurveys/survey1997-10/

Bibliographies/Works Cited:

Following the APA format examples for listing bibliographies/works cited, record them in the space provided below:

Author:	Date Written:	Title:	Source: