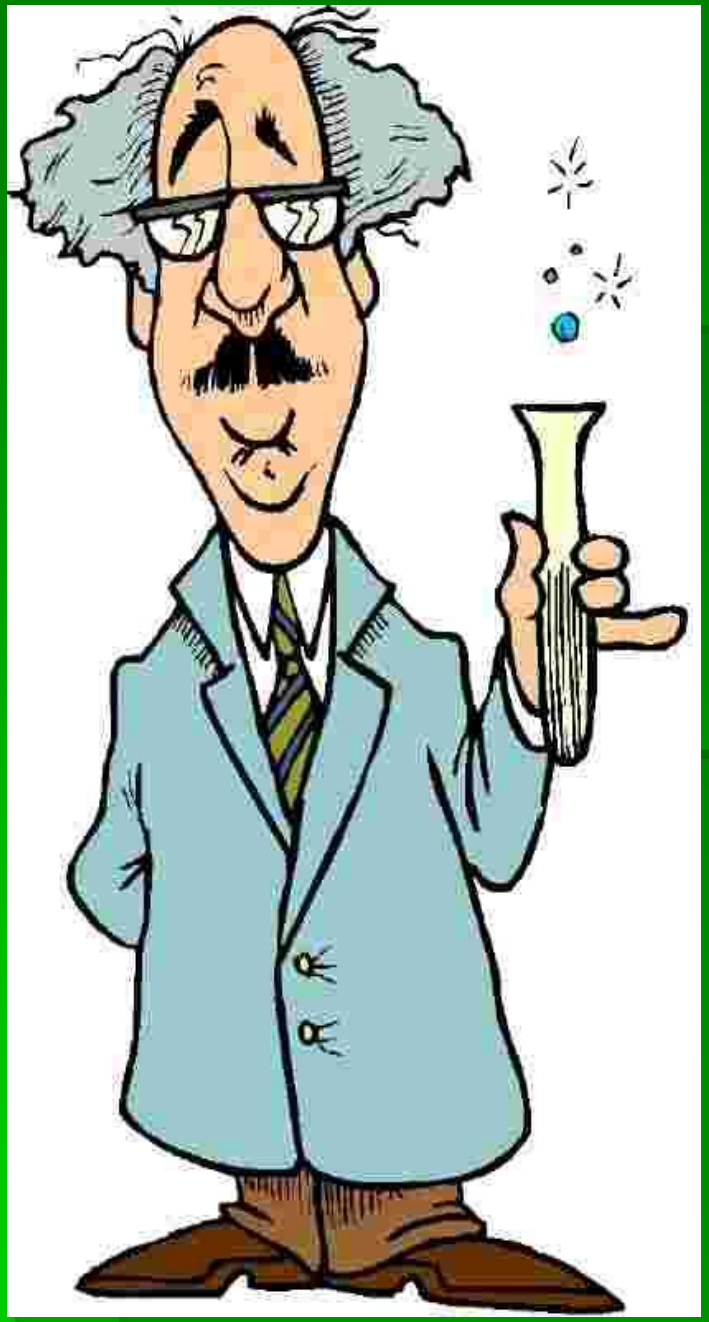


USING YOUR SCHOOL LIBRARY: SCIENCE FAIR RESEARCH

WILLIS FOREMAN ELEMENTARY SCHOOL

MS. V. NEW,
LIBRARY MEDIA SPECIALIST

When you are driving a car there are two ways to find your destination: drive around randomly until you finally stumble upon what you're looking for OR look at a map before you start.

Finding information for your research is very similar. But, since libraries and the Internet both contain millions of pages of information and facts, you might never find what you're looking for unless you start with a map! To avoid getting lost, you need research plan.

The place to start building your research plan is with the *QUESTION* for your science fair project.

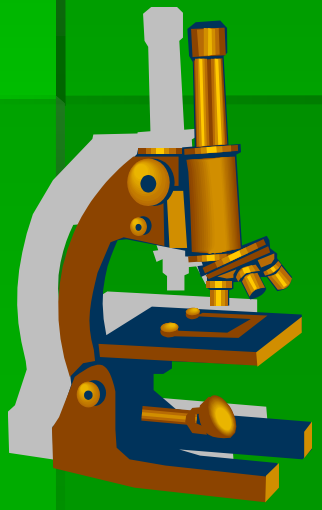
WHAT IS THE QUESTION YOU ARE GOING TO TRY TO ANSWER WITH YOUR EXPERIMENT?

RESEARCH QUESTIONS

We use our keywords with

“who,” “what,” “where,” “when,”

“why” and “how” to generate research questions.



Writing A Hypothesis

In science, a **hypothesis** is an idea or explanation that you test through study and experimentation. It is an educated guess suggesting an outcome.

The hypothesis is usually written as follows…

"If _____, then _____ because _____."

Example – Someone performing an experiment on plant growth might write this hypothesis: "If I give a plant an unlimited amount of sunlight, then the plant will grow to its largest possible size."

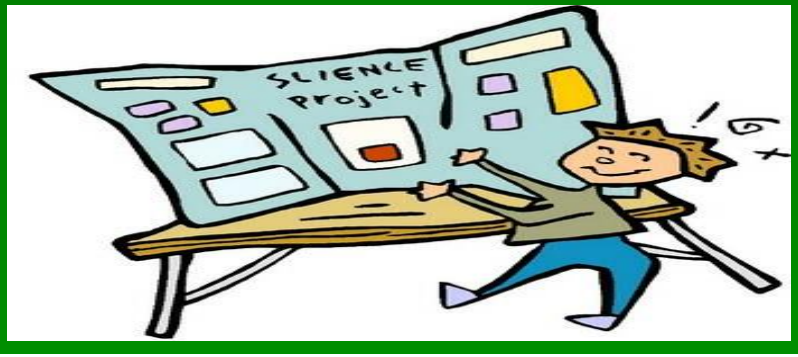
FINDING INFORMATION

- Most teachers will require you to find at least three sources of information.

- How to find information:

1) Find and read the general information contained in an encyclopedia, dictionary, or textbook for each of your keywords.
2) Use the bibliographies and sources in everything you read to find additional sources of information.
3) Search periodical indexes at your local library.
4) Search the Internet to get information from an organization, society or online database.
5) Broaden your search by adding words to your search phrases in search engines. Narrow your search by subtracting words from or simplifying your search phrases.

EVALUATE YOUR INFORMATION



GOOD	BAD
Come from a credible (trustworthy) source	Come from a source with poor credibility
Not too old	Out of date
Not biased (more than one point of view)	Not objective and fair, one point of view
Free of errors	Prone to errors
Properly cite (quote or give as evidence) the original source of all information	Do not cite where the information came from
Easy for other people to find or obtain	Difficult for others to obtain

Library Media Specialists

One of the most valuable resources at the library is not a book, but a person. Public librarians, college librarians and certified school librarians are specially trained to teach information literacy.

INTERNET RESEARCH

- Kids Click! The Freedom To Explore
  www.kidsclick.org
- Fact Monster: Online Almanac, Dictionary, Encyclopedia, Thesaurus
  www.factmonster.com
- Yahoo! Kids
  http://kids.yahoo.com/learn
- Start Squad
  www.startsquad.org
- Kids Konnection
  http://kidskonnect.com

GALILEO
www.galileo.usg.edu/welcome

- Through GALILEO, Georgia citizens have access to authoritative, subscription-only information that isn't available through free search engines or Web directories.

How Do I Use Galileo?

- Ask Ms. New or your teacher for the password.
- Go to www.galileo.usg.edu/welcome
- Log in using password
- At the top of the page, click on Galileo Kids Grades K-5
- Choose from the following links:

  KIDS SEARCH – Search magazines, newspapers, book articles, images, an encyclopedia and Encyclopedia of Animals.

MORE →

Using Galileo

- BRITANNICA ELEMENTARY – Search encyclopedia articles with maps and pictures, a guide to reliable web sites and a student dictionary and thesaurus.
- DIGITAL LIBRARY OF GEORGIA – Explore Georgia History in books, letters, photographs and more.
- KIDS.GOV – A website with links to some of the best kids' sites from the US Government and other places.

IS A WEBSITE RELIABLE?

The Internet is a great resource, but it is also a public forum, where anyone can make a claim or an assertion. If you find an article that provides relevant information for your research topic, you should take care to investigate the source to make sure it is valid and reliable.

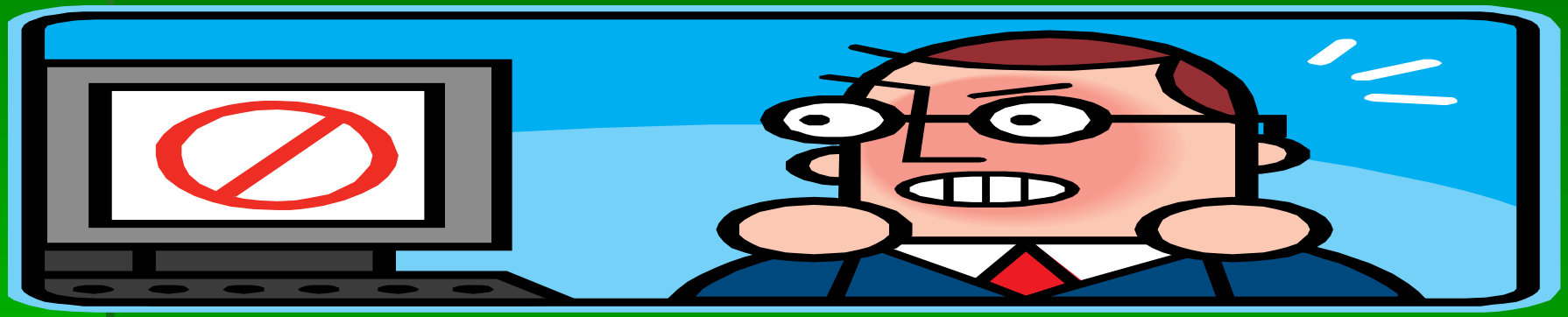
THE Currency Reliability Authority Purpose/Point of view TEST

	RELIABLE	NOT RELIABLE
CURRENCY	•There is a date as to when the page was written or updated. •The information is current enough for your topic.	•No date as to when the page was written or updated is given on the page. •The information is not current enough for your topic.
RELIABILITY	•There are references given for the information on the site. Look for a bibliography. •The content is based on facts. •The content is not biased. •The content is balanced.	•There are no references given for the information on the site. •The content is based on opinion. •The content is biased. •The content is not balanced.

THE Currency Reliability Authority Purpose/Point of view TEST

	RELIABLE	NOT RELIABLE
AUTHORITY	•The name of the person who wrote the page is given. •If there is no author listed, the name of the organization responsible for the site is listed. •The author's credentials are listed and he or she is an expert on the subject.	•No author is listed. •No organization is listed. •An author or organization is listed, but no credentials are listed.
PURPOSE AND POINT OF VIEW	•The reason why the page was put on the web is given. •There are no advertisements on the site that are related to the topic covered. •The content is mostly facts. •The domain extension would not influence the purpose of the site.	•There is no reason given for why the page was put on the web. •There are advertisements on the site that are related to the topic covered. •The content is mostly opinions.

www.wikipedia.com is NOT a reliable website for research!



WHY?

- Although it contains a lot of factual information, Wikipedia allows any registered user the ability to add information.

SOURCES

Make a list to keep track of ALL the books, magazines, and websites you read. Later this list of sources will become your **bibliography**.

WRITE DOWN THE FOLLOWING FOR EACH SORUCE:

PRINTED	WEB SITES
▪author name ▪title of the publication (and the title of the article if it's a magazine or encyclopedia) ▪date of publication ▪the place of publication of a book ▪the publishing company of a book ▪the volume number of a magazine or printed encyclopedia ▪the page number(s)	▪author and editor names (if available) ▪title of the page (if available) ▪the company or organization who posted the webpage ▪the Web address for the page (called a URL) ▪the last date you looked at the page

WRITING YOUR BIBLIOGRAPHY

- List the sources in alphabetical order using the author's last name. If a source has more than one author, alphabetize using the first one. If an author is unknown, alphabetize that source using the title instead.

BOOK FORMAT

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

Example:

Nicol, A. M., & Pexman, P. M. (1999). *Presenting Your Findings: A Practical Guide For Creating Tables*. Washington, DC: American Psychological Association.

ENCYCLOPEDIA AND DICTIONARY FORMAT

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

Example:

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 AND NEWSPAPER FORMAT

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

Example:

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

Kalette, D. (1986, July 21). California town counts town to big quake. *USA Today, 9*, p. A1.

Website or Webpage Format

Online periodical:

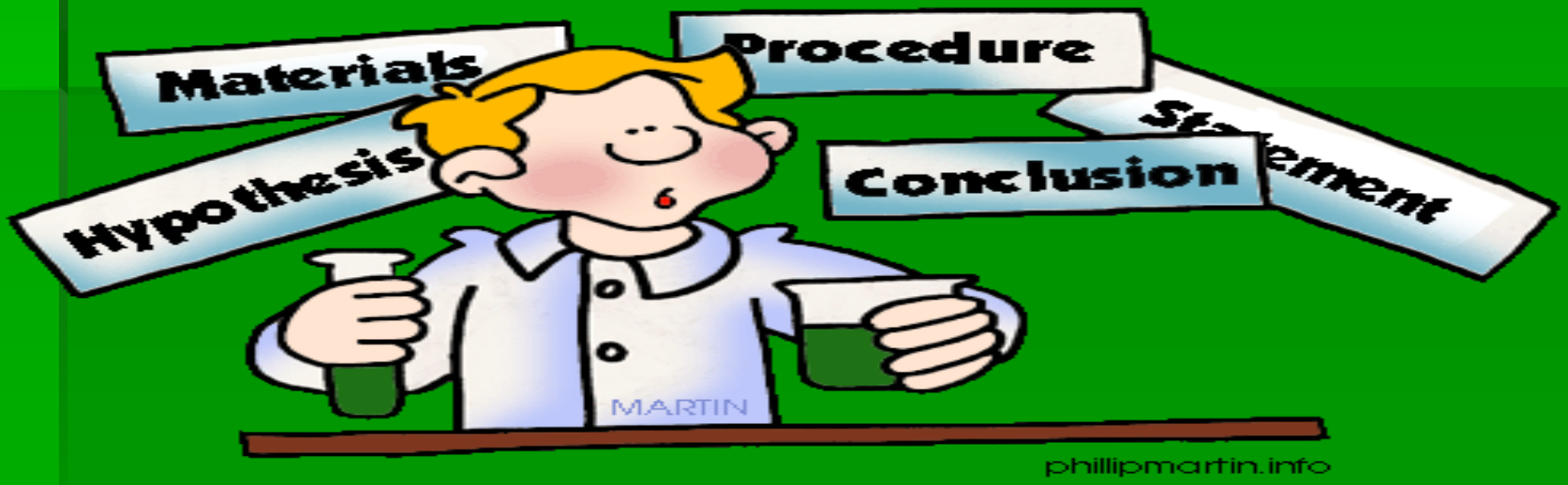
Author's name. (Date of publication). Title of article. *Title of Periodical*, volume number, Retrieved month day, year, from full URL

Online document:

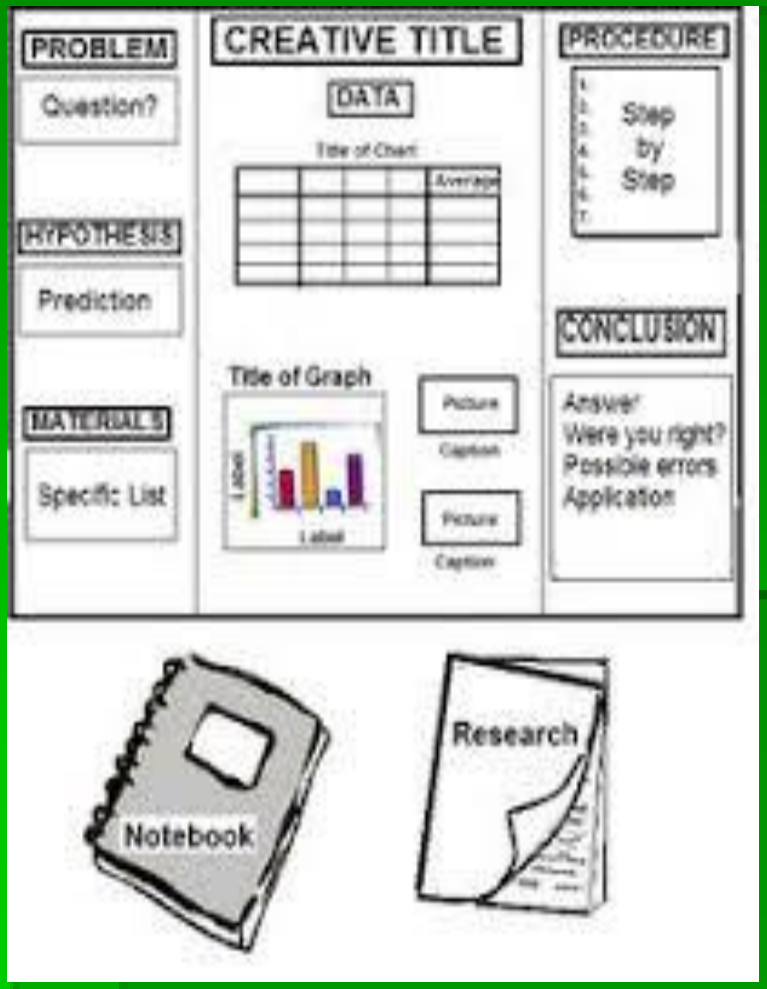
Author's name. (Date of publication). *Title of work*. Retrieved month day, year, from full URL

Example:

Hilts, P. J. (1999, February 16). In Forecasting Their Emotions, Most People Flunk Out. *New York Times*. Retrieved November 21, 2000, from http://www.nytimes.com



Your Display Board



You should complete an eye-appealing display board containing all of the following components:

1) Your name, grade, teacher
2) Project Title
3) Problem (Question)
4) Hypothesis (Prediction)
5) Materials
6) Data (Pictures, graphs, tables, etc.)
7) Procedure
8) Conclusion
9) Research Paper
10) Lab Notebook