Academic Research: The Basics

What is academic research?

- Academic research is about gathering information from a variety of different sources, experts, and opinions.
- You use these different sources of information to help you form your opinion of a topic.
- It is very important that you only use the best, most reliable, unbiased information that is available to you.
- By using the best sources available, you should be able to form an independent academic opinion.
- This presentation covers the vocabulary and tools needed to understand the basics of academic research.

Source

- Where you find your information for your research projects (Books, magazines, web sites, etc.)

- Every source must be listed for your teacher to prove that your information was found in academic/reliable, expert sources.

- You must have annotated printouts and a list of sources that you consulted attached to your project to prove that you properly used the information that you found.

Database

An expert library of digital information gathered together for easy access.

Databases contain:

- -digital books
- -digital magazines/newspapers
- -digital media (pictures, charts, maps, video, audio, etc.)
- -R.Q.W. (Research Quality Web Site) recommendations

Research Quality Web Sites - R.Q.W.s

Web sites whose content has been checked to be expertly written, valid, and up to date.

R.Q.W.s give the credentials of their writers, list the sources of their information, and take responsibility for the information on their sites.

R.Q.W.s can be found using:
-databases
-the library catalog using the "WebPath Express" option
-The "Targeted Resources" section of any of the library research categories from the library web site.
-If you locate a web site on your own and wish to use it for research, you must prove it is Research Quality by submitting a Web evaluation form (available from the library portal) and a print out of the site with your source form.
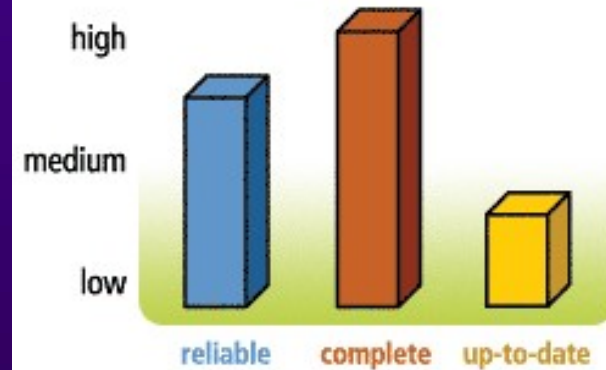
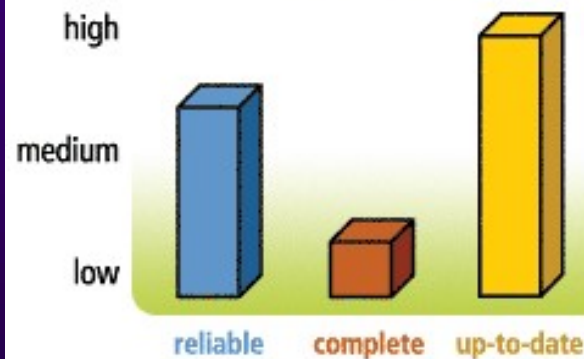# Why am I not allowed to just use the web?

Variety
Guarantees
Quality!
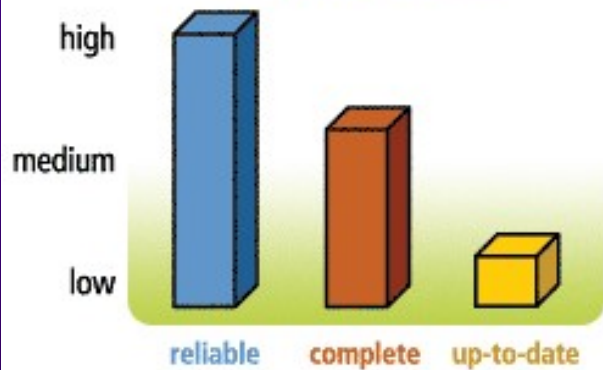
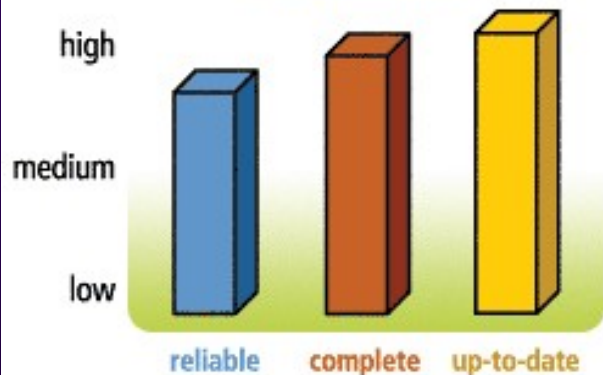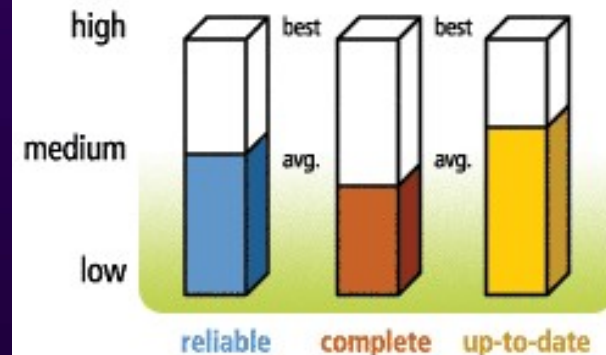Academic Research is about quality of information!

Searching for Digital Sources

There are two ways to search for digital information:

- **Subject Searching:** Searches digital sources for information sorted by topic.
    - ❖ Gives more "useful" topic based hits
    - ❖ Helps to lead you to subject based links/cross-references
    - ❖ You can not currently search the internet using subject searching.

- **Keyword Searching:** Searches digital sources for combinations of letters and words. The meaning of those words is not considered as part of the search.
    - ❖ Creates a broader search with lots of hits
    - ❖ Makes the researcher sort through more "useless"/non-relevant hits
    - ❖ Keyword searching is the main search method for the internet.
    - ❖ Use keyword searching only as a last resort!
    - ❖ If you have to use it- Use the tools described on the next slides!

Keyword Search Strategies
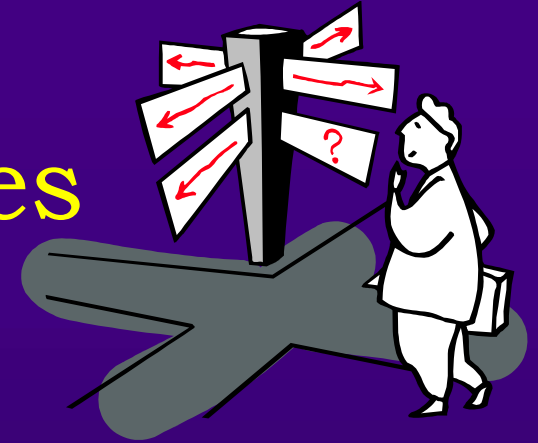
✓Wild Cards / Truncation

- •Using symbols to replace letters of a word or using symbols to shorten words.

✓Phrases

- •Using symbols to group words together to get better search results.

✓Boolean Operators

- •Using symbols to tell the search engine what words to search for and what words to leave out of the search.

Wild Cards

Also called Truncation

You can use an asterisk * or a ? to shorten words
Check out the help section of your search tool to see what symbol to use!

- For example, you are looking for information about Japan's economy.
    - If you use the * symbol to shorten your search to econ*, you will get hits for: economics, economic, economy, economies, and economists

- For example, you are searching for information about teen suicide.
    - If you use the * symbol to search for teen*, you will get hits for: teenage, teenagers, teens

- For example, you are searching for information about women's rights.
    - If you use the search, wom*n, you will get hits for: woman or women.
    - Examples of hits would be "a woman's rights" or "the fight for women's rights"

Phrases

Use symbols to let the computer know what words you want to appear together in a specific order.

- Most search engines mark phrases by using "quotation marks"
- Some search engines use 'single quotes' or (parentheses)
- Check the help section of your search tool to see what symbol to use.

✓For example, you need to do a health report on Vitamin A.
- If you type in the search without the phrase symbol, you will get a hit for every mention of the word - Vitamin and every mention of the word – A
- If you type the search as "Vitamin A", you will get hit for the two words together. - Better results guaranteed!

✓For example, you need to complete a presentation about the Pittsburgh Penguins.
- If you type the search without the phrase symbols, you will get hits for every mention of the word - Pittsburgh and every mention of the word - penguins.
- If you type the search as "Pittsburgh Penguins", you will narrow your hits to those two words appearing together, side by side. Fewer and better hits.

✓For example, you need to do a poster about the inventor, George Washington Carver.
- If you search without the phrase symbols, you will get hits for everyone who's name is George, Washington, or Carver. TOO many hits!
- Using the search "George Washington Carver" means hits about the right person.

Boolean Operators

Words or symbols that tell the search program what words to look for or what words to leave out of a list of hits.

- Named after the mathematician, George Boole
- There are three main Boolean operators.
    - And
        - Use this operator to connect concepts.
        - You get all items that mention every word in your search.
    - Or
        - Use this operator to expand your search for multiple meanings.
        - You get hits for all items that mention any word in your search.
    - Not
        - Use this operator to exclude words from your hits.
        - You get hits for items that only have the words you want and not any words that you tell the computer to skip.
- Some programs use mathematical symbols to represent these operators. For example, + for the operator "and".
- Check the help section of your search tool to see what symbol to use.

Searching with the Boolean Operator - AND

You search for information about flu symptoms.
Your search would be: flu AND symptoms

You get 100 hits for the word "Flu"

The computer sees the operator "AND", so it re-searches the hits for any that also have the word "symptoms"

Your new list is narrowed to only the 50 articles that have both words.

Searching with the Boolean Operator - OR

- You been assigned a project about heart attacks.
- You know that the technical name for a heart attack is a cardiac arrest, so you want to search for both terms at once.
- Your search would be: "heart attack" OR "cardiac arrest"

*Note the use of phrase symbols to group words!

The search finds 10 hits for the words- "heart attack"

The computer sees the operator "OR", so it re-searches for the next term.

The search finds 20 hits for the words- "cardiac arrest"

Your final list of hits will list all 30 hits for you to evaluate.

Searching with the Boolean Operator - NOT

- You been assigned a project about the common flu.
- Your hits are mostly about Swine Flu, but you need only the common flu.
- Your search would be: flu NOT swine

The search finds 10 hits for the words- "flu"

The computer sees the operator "NOT", so it re-searches and deletes 5 hits with the term- "Swine"

Your final list of hits is for the 5 sources that do not have the word – "Swine"

Final Search Tips

✓ When you have a choice, use a subject search to get the most reliable hits.

✓ When you have to keyword search, use all of the search tools:
- Wild Cards
- Phrases
- Boolean Operators

✓ Remember that all of these search tools can be combined to get you the best hits possible with a keyword search.