



21st Century Information Fluency Project

IMS A Illinois Mathematics and Science Academy

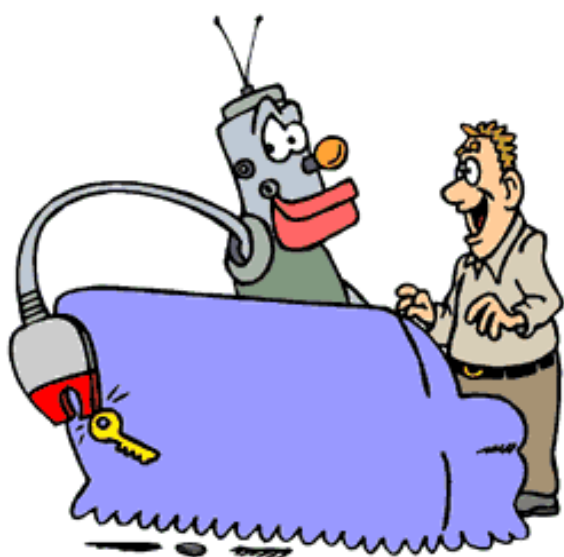


MicroModule: keywords

REVIEW Page

Below is the entire module on one page.

Find Powerful Keywords!



Nothing will help you find just the right information more quickly than well-chosen keywords. When searching the Internet, less is often more. Words that return hundreds of thousands of hits are worthless, you want to find terms that accurately narrow search results. Thoughtful keyword selection is your most powerful tool. The right keywords are the fastest path to the relevant information you are after.

How can you distill just the right combination of keywords from all the possibilities?

- *Before* you begin searching create lists of keywords that describe your topic.
- Use a thesaurus to stimulate your word choice.
- Generate synonyms for the concept.
- Use search engines that provide a list of related terms along with the results of your first search.

Advanced Strategies:

Use the professional vocabulary of the subject you are investigating to create keywords. Discipline specific terms (terms that are used almost exclusively by the experts such as "stellar cartography" or "seismic hazards") will yield discipline specific information. Choose words that are unique and descriptive. Combine those words in various ways until they yield the best results.

Once you begin searching, look in the documents returned by the first query. Skim for new words that better describe what you are after. Often you will find just the right descriptive term to get you where you want to go.

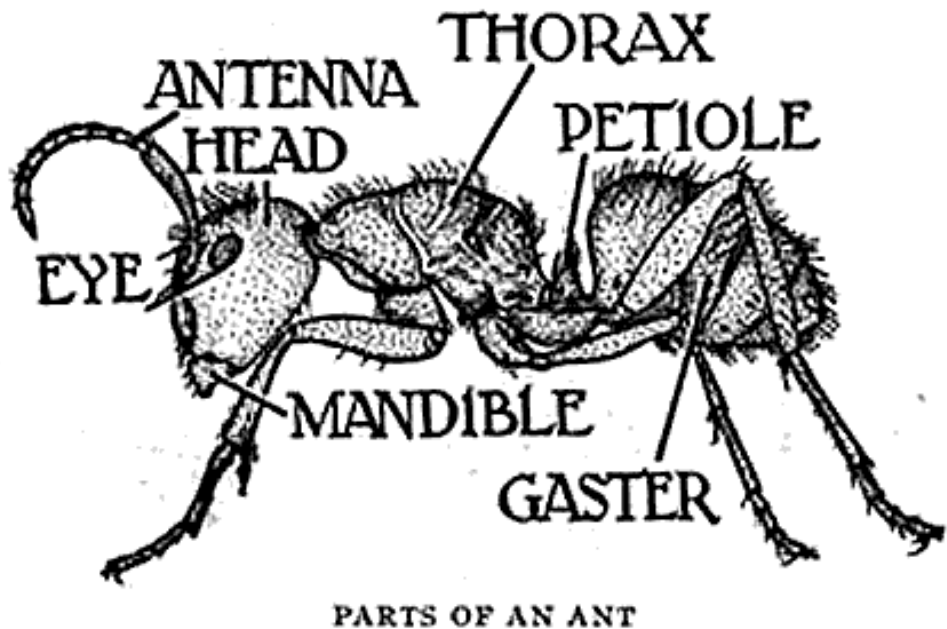
If your search results are still too broad, try using hyponyms (more specific terms such as Ford, Chevrolet, or Toyota). If the results are too narrow, use hypernyms (more general or broad terms, such as car, truck, or automobile).

Sometimes you have just the right keyword and the first document returned is exactly what you are looking for.

This will happen more often as you include keyword techniques in your queries. When you're stumped advanced techniques become even more important. Perseverance is important; with powerful keyword insights you will find what you are looking for!

Why use expert vocabulary?

It pays to develop an ear for the professional vocabulary of your topic. Using specific words from a specialized field will not only focus your search, but also get you more exact information. Terms that are used almost exclusively by the experts will return higher quality resources. Consider the difference between 'whale' and 'cetacean' or 'earthquakes' and 'seismology'.



Scientific Vocabulary is powerful!

How can you refine your keywords based on preliminary results?

Scanning the 'snippet' or summaries returned by your first searches can give you good ideas for keyword refinement. You might notice an evocative phrase that better describes your target. Additionally some search engines, Such as Teoma.com, suggest associated keywords when they return results. Combining these techniques can quickly get you focused on the right power words for your search.

Results

Relevant web pages

Refine

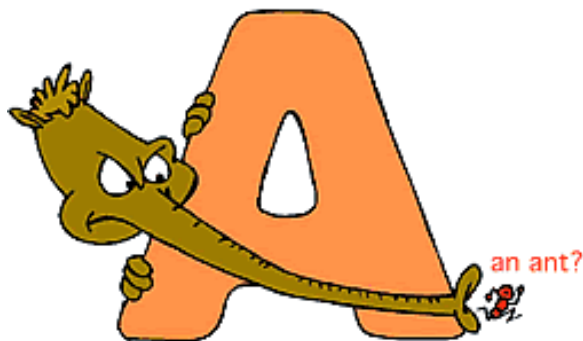
Suggestions to narrow your search

Showing 1-10 of about 122,600:
[Incorporated Research Institutions for Seismology Consortium](#)

IRIS is a university research consortium dedicated to exploring the Earth's interior through the collection and distribution of seismographic data.
www.iris.edu/

- [Geophysical Institute](#)
- [Seismology Institute](#)
- [Earthquakes World](#)
- [Seismology Center](#)
- [Usgs Earthquake](#)
- [History Of Seismology](#)

Does case count?



Will search results differ on these terms, Pacific / pacific? Some search engines ignore case. Others search engines attend to capitalization and will only search for the unique upper and lower case combinations you supply. Google only uses lowercase. AltaVista and HotBot will search for unique combinations of upper and lower case. As a rule of thumb, use lower case, to broaden your search, and capitals to narrow your search. If case is crucial, enforce the punctuation by creating an exact phrase using quotation marks, "Pacific Ocean currents".

What about spelling?



If your search returns very few or zero results check your keyword spelling. Conversely, alternate spelling may return a selection of results you might miss otherwise. Also consider the differences in American vs. British spelling. Will the keyword 'catalog' yield the same results as catalogue?

British	American
programme	program
colour	color
theatre	theater
aeroplane	airplane
defence	defense

Try searching for Shakespear on Google. This spelling returns about 52,000 hits. Google suggests the alternative spelling: Shakespeare. Searching with this spelling returns 3 million hits. You'll always want to narrow your search with combinations of keywords, but don't presume that pages using an alternate spelling are of no value. Ultimately it is the content of the resource, rather than minor spelling variations that counts.

What is full text vs. field searching?

Most of the time you will be full text searching. You will direct the search engine to examine the complete editorial content (full text) of webpages hoping to match words that describe your search topic.

Field Searching takes place at a higher level of organization. Field searching is like using the author or title field in a card catalog. Just like a card catalog, webpages have important descriptive fields within the hidden HTML code. These 'fields' might be descriptive titles, headings, or the site's URL. You would field search the title and headings of a web page, on the theory that if you find your keywords in these parts of a page, the pages are likely to have a high degree of relevance.

Different search engines provide unique syntax to aid field searching. Using the term title: you can add a title field search term to your query in Alta Vista, HotBot, Lycos, and Northern Light. You can do the same thing in Google using their term **allintitle:**



When would I use thesaurus?

Example: The Visual Thesaurus:

A thesaurus can be a powerful tool when you are seeking just the right keywords for your search.

Use a traditional thesaurus or an online tool like the IMSA Internet Thesaurus Wizard: <http://21cif.imsa.edu/nym> to develop a list of keywords before you begin your search.

If you have a high speed Internet connection you like to play with while generating those special keywords, consider using the **Visual Thesaurus**: <http://www.visualthesaurus.com/online/index.html>. This free online tool displays synonyms in a unique 3-D environment.



What happens if you juggle word order?

Some engines give more weight to the first keyword in a query. In this case it makes sense to place the most unique keyword first.

Try varying the order of keywords. When doing this, avoid the use of quotation marks, or operators such as AND, OR, NOT that work to control word order.

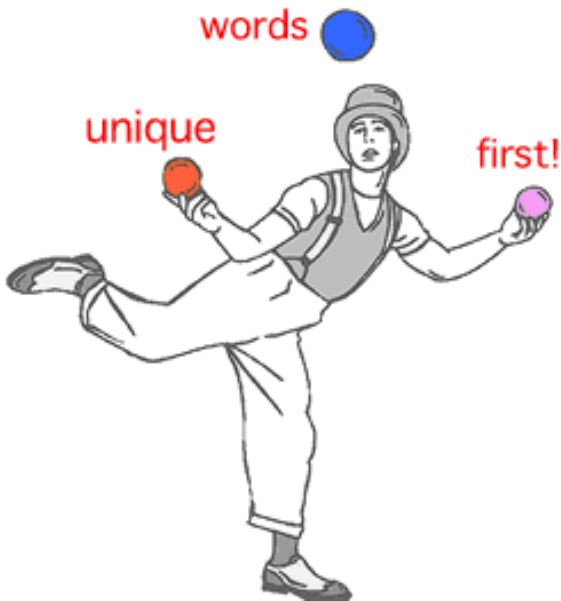
For Example: Which keywords will return the most hits:

blues music

or

music blues

Will word order matter?



What are stop words?

To improve retrieval times or conserve storage space, some search engines exclude the most common words from their databases. Other search engines may record every word, but exclude the common ones from the search index. Here are some words typically treated as stop words:

a	an	and	are	as	at	be
but	by	for	from	had	have	her
his	in	is	it	not	of	the

Basically, removing stop words from a sentence has little impact on the meaning of the sentence. If the word 'the' is removed from the sentence: *The quick brown fox jumped over the lazy dog*, a search engine will look for: *quick brown fox jumped over lazy dog*. The elimination of the stop word 'the' doesn't change the meaning of the sentence or the likelihood that the search engine will find relevant pages.

By skipping stop words, the search engine saves time because it doesn't have to 'stop' to look for these small words.

What are nyms? How can understanding nyms empower my search?

When striving to name a concept with great precision, it helps to understand the subtleties of *nyms*. The root *nym* comes from the Greek *onoma*, a name. We use the term nym to identify many classes of words. As keywords, some nyms have a definite impact on your search results.

<i>Hyponyms</i>	more specific names such as Ford, Chevrolet, or Toyota, which will narrow a search.
<i>Hypernyms</i>	more general or broad terms, such car, truck, or automobile, which will widen the results of a search.
<i>Heteronyms</i>	words that are spelled identically, but change meanings when pronounced differently. Consider: buffet <i>BUFF</i> <i>Et style='font-family:"Times New Roman";color:black'>- to pound or bump; booFAY - place where you serve yourself; dove <i>color:black'>DUV - a bird; DOEV - jumped off; wind WHINEd - to coil up; WINd - the blowing air</i></i>
<i>Homonyms</i>	words that have the same sound but a completely different meaning. Misspelling these common words can create confusion. Consider: acts things done / chopping tool; racket illegal moneymaking scheme / racquet woven bat for tennis; right correct / rite ritual / wright a maker write to inscribe
<i>Contronyms</i> (also called Janus words)	words which confound a search because they are words with the same spelling and contradictory meanings. Consider: buckle : to hold together (e.g. buckle your belt) <i>vs.</i> to fall apart (e.g., buckle under pressure); cool : positive sense (cool web-sites) <i>vs.</i> negative sense (cool reception); transparent : easily seen ("His motives were transparent.") <i>vs.</i> invisible.

For more about these concepts see the IMSA MicroModule: Nyms

Authored by Dennis O'Connor 2003



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