

## Search Engines - Part One - **Graffiti Wall**

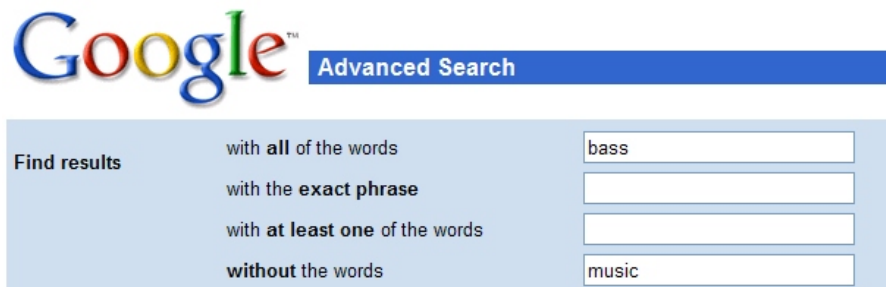
Hang a piece of kraft paper or bulletin board paper on a wall in your classroom. Have the students generate a list of homographs. Be sure to distinguish a homograph from a homophone. A homograph is one of two or more words that have the same spelling but differ in meaning (e.g. sink - where you brush your teeth and sink - the opposite of float) and sometimes pronunciation (e.g. wind - related to weather and wind - as in a wind up toy).

Challenge them by leaving the Graffiti Wall up for a week or two with a supply of magic markers so that students can record homographs as they come across them. You may be surprised at how motivating this Graffiti Wall can be! Students love the opportunity to use a magic marker as well as being challenged to think about the English language.

You may eventually want to direct them to the web site below.

[www.marlodge.supanet.com/wordlist/homogrph.html](http://www.marlodge.supanet.com/wordlist/homogrph.html). Here, users play a homograph challenge in the form of the game 'Jeopardy'. Your Graffiti Wall will fill up quickly after students visit this site.

Once the Graffiti Wall is full, using a data projector, lead the students in a Google Search. Have students select words from the wall to use in a search term. You will be using the list of generated homographs to demonstrate how to narrow a search. A good place to start is with the word 'bass'. Type the word bass into the Google Search Engine. You will generate a list of hits that range from fishing sites to music stores (and even one or two Bass beer advertisements). Scroll through the first 20 hits or so and have the students identify the variety of web sites generated from this type of search. Next, click on the Advanced Search option.



The image shows a screenshot of the Google Advanced Search interface. At the top left is the Google logo. To its right is a blue button labeled "Advanced Search". Below the logo and button is a light blue search box with the text "Find results" on the left. Inside the search box, there are four radio button options for search criteria: "with all of the words", "with the exact phrase", "with at least one of the words", and "without the words". To the right of these options are four input fields. The first field contains the word "bass", the second is empty, the third is empty, and the fourth contains the word "music".

Conduct your search of 'bass' again only this time use the '**without** the words' field. Adding the word music to the '**without** the words' field will generate a smaller list of hits - mostly sites that deal with fishing as a topic. Try it again using the term 'fishing' in the '**without** the words' field and compare the results. Experiment with other words from your Graffiti Wall (homographs that are both nouns work best) and the other fields in Google's Advance Search Engine.

## Search Engines - Part Two - **Directories**

You may also demonstrate the usefulness of the Advance Search to students using words like Saturn or Mercury. If students are researching the planets, and type in “Saturn” for example, they are likely to obtain a search that contains many sites for automobile manufacturers. Ask the students how they would use the Advance Search tool to find the information that will be useful to them.



**The web organized by topic into categories.**

Another tool that many search engines offer is a Directory. A directory is useful when you're not sure how to narrow your search from a broad category. Using a Directory (web content organized by topic into categories) will provide only the responses that fall within that category. For example, if you wanted to search for the planet Saturn, by choosing the Science - Astronomy Directory, you will only turn up pages that have been categorized as 'Astronomy'. Furthermore, you could continue to go down levels in the directory - Astronomy - For Kids - Solar System will result in pages that were developed with a student audience in mind.

### **Solar System**

[Kids and Teens](#) > [School Time](#) > [Science](#) > [Astronomy and Space](#) > Solar System

#### **Categories**

<a href="#">Activities and Games</a> (4)	<a href="#">Mars</a> (6)	<a href="#">Saturn</a> (6)
<a href="#">Asteroids</a> (8)	<a href="#">Mercury</a> (4)	<a href="#">Sun</a> (17)
<a href="#">Earth</a> (17)	<a href="#">Moons</a> (2)	<a href="#">Uranus</a> (6)
<a href="#">Events</a> (1)	<a href="#">Neptune</a> (6)	<a href="#">Venus</a> (6)
<a href="#">Jupiter</a> (3)	<a href="#">Pluto</a> (7)	

Have students working in groups to generate a list of things that they find interesting that they would like to research on the Internet. Collect the lists from each group to photocopy and distribute so that each group has a complete class list. Have the groups generate categories for the topics as if they were creating their own 'Web Directory'. As a whole group, discuss and compare the categories.

## Search Engines - Part Three - **Various Aspects of Internet Searching**

Divide the students into small groups so that you have ten groups. Each group will be responsible for teaching an aspect of web searching to the entire class.

Direct each group to one of the areas in Kid's Click - Worlds of Web Searching at <http://www.rcls.org/wows/>

This resource brings students interactively through web searching strategies. The categories include:

1. Dictionary Lists of Subjects
2. Sorted Subject Guides
3. Searching Using Pictures or Numbers
4. Keyword Searching - Spelling
5. Keyword Searching - Common and Rare
6. Keywords Using AND, OR, NOT Phrases
7. Robots verses Humans as Database Builders
8. Selection verses Filtering in Kid's Searches
9. Multimedia Searching
10. What's Not on the Web

Have students present what they have learned about Internet searching to the entire class. Encourage them to be creative and to use props and visuals. (They may even want to demonstrate a concept using a data projector).

## Search Engines - Part Four - **Comparing Search Engines - Preparing a Research Report**

Now that students are becoming better at searching the Internet, it is time for them to compare and evaluate different search engines. Tell students that a company called “Kids on the Internet” (or perhaps a more creative name that you come up with) contacted you last week and asked if your web savvy students would take part in the research they are conducting. “Kids on the Internet” would like to know which ‘Classroom Friendly’ Search Engines are most useful for student research. Continue by telling the class the company would like them to conduct the study and write a report based on their findings. The study will be simple, useful (and perhaps published on your school website)!

The first step is to have students develop a criteria - “What makes a site useful/appealing to them?” Have the class develop a web evaluation criteria list.

Some ideas may include - easy to read, interactive, no annoying pop-ups. Make a record of the list.

Next, place students in pairs. Provide each group with the same, specific, curriculum-related topic to research (e.g. John Cabot or the rock cycle) and a copy of the class generated web evaluation criteria.

**Greater Essex County DSB  
Student Reference Portal  
- Internet Search Engines -**

<b>Classroom Friendly Search Engines</b>	<b>Internet Search Engines</b>
Ask Jeeves for Kids	All the Web
CleanSearch	Altavista Canada
Cyber Sleuth for Kids	Altavista: Recherche Canada
Genie Find	Ask Jeeves
KidsClick	Canada.COM
Lycos Zone	Dogpile
OneKey	Google Canada
Stop Dog	Hotbot
Yahooligans	Kartoo
	Lycos Canada
<b>Online Libraries</b>	Metasearch
eLibrary Elementary	Northern Light
Big Chalk Library Canada	Teoma
	Vivisimo
<b>SchoolWeb Librarian</b>	Webcrawler
Leamington District Secondary School	Yahoo Canada
Mill Street Public School	Yahoo Canada en Français

Direct each group to a different ‘Classroom Friendly’ Search Engine (links to ‘Classroom Friendly’ Search Engines are available from the Student Reference Portal). Have the ‘researchers’ conduct a search on the given topic. Have them skim through the sites looking specifically for the items on the web evaluation criteria list. Hold a group discussion on which search engines yielded the best results. Have students keep records to be used later for their report.

Next, Students will test the search engine's capabilities using the strategies they have gained during this unit. Before directing students to a search engine, provide them all with the same (curriculum-related) broad topic to research (e.g. Explorers or Space). Have them (using mind-mapping software such as *Smart Ideas*) brainstorm **key words** they could use in their search.

They will need to narrow the topic significantly. At this point, allow them to peruse printed resources on the topic (arrange this with the Teacher-Librarian ahead of time). Have them narrow the broad topic to something of interest to them (e.g. Explorers - Canadian Explorers OR Space - Black Holes). During this process they will have many questions and need some assistance. Remind the students that their report is not about their topic - but about the usefulness of the search engine (but hopefully, they will gain some knowledge about the topic in the meantime!). Their task is to generate key words for their search.

Once the students have generated their key terms, they will need some feedback. Schedule time for them to exchange their narrowed topic and key terms with another team for feedback. Before the groups exchange information and give feedback, they will need an example modelled for them. To do this, place topics on the board and have the students choose key words. Hold a group discussion about the appropriateness of the choices.

Next, have paired students exchange their generated list of key words with another team. At this point, have the teams provide feedback to each other regarding their chosen search terms and try to add to the list or take un-useful terms away.

Give students time to use various 'Classroom Friendly' Search Engines to find information about their topic. Have them use the web evaluation criteria list to judge the usefulness of the search results. Once they have used a variety of Search Engines, ask the pairs to make a recommendation of **one** search engine and to defend their choice (using the web evaluation criteria).

Finally, have the whole class discuss each recommendations and draft a report based on all the findings.

The following titles are some of the videos relating to searching on the Internet that are available from the Media Resource Centre. To book or to locate more - go to The Media Centre - <http://media.gecdsb.on.ca/>

Title	<b>Research basics on the Internet (29172)</b>
Physical	Color; Sound; 15 minutes
Copyrighted	1999
Distributor	Mclnytre Media (0356)
Audience	Intermediate (Grades 7 and 8), Senior High (Grades 9 to 12), Adult (ISA)
Synopsis	The on-going challenge for young people is keeping pace with the landslide of information available to them on the Internet and making sense of this vast resource. Accessing information for a school project is the basis of this program which includes how to use search engines and how to find web sites. Most importantly, the video explores the concepts of research and how it differs on the Internet.

Title	<b>Navigate the Web with Ease (29667)</b>
Physical	23 minutes
Produced	1998
Synopsis	Searching on the Internet is a challenging and exciting problem-solving process. But where do you start? Internet Searching Skills is a comprehensive video guide to searching the World Wide Web. In logical, step-by-step strategies, Eleanor and her virtual friend Jane explain how to access, research, evaluate and communicate vast Internet resources into results anyone can use in school, daily life or in the working world. [Junior/Intermediate] Technology. <b>Closed Captioned</b>

Title	<b>Internet for Math and Science K-6, Tape 1 (29746)</b>
Physical	70 minutes
Produced	1998
Distributor	Visual Education Centre (0600)
Series	<a href="#">Internet in Action</a> (0408)
Synopsis	Tape 1 Internet-ize Your Classroom. Tape 1 features: The student computer squad ; Smart searching ; Internet-ize your lessons ; Super science site ; The worldwide classroom. Professional Development. [Secondary/Adult] Mathematics, Science, Technology.
Notes	The video component provides over 3 1/2 hours of teaching models, tips, insights and ideas for intergrating online activities into daily lesson plans. They offer a combination of formats, including studio demonstrations, short documentaries taped at diverse schools and inspiring interviews with specialists, educators and visionaries in the technology field. The series also looks at some great science and math Web sites that a teacher can use as a starting point for exploring the Internet.