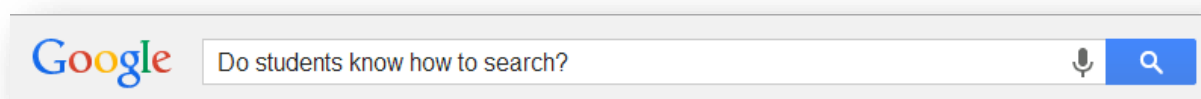


Improving your digital literacy skills



10-step guide to web researching

Trying to find out an accurate number for how many indexed webpages there are online is very difficult. Some websites believe there are 3,700,000,000 while others suggest it is closer to 8,300,000,000. Every year millions of new websites are created, which can make the job of finding good, reliable information much more difficult.

Many people assume that students know how to search. Type in a word and **voilà**, all the answers you wanted are there in front of you... but it doesn't really work like that. Too often the results send us to sites that bear no relation to what we want. And other sites lack authenticity, with dodgy information that claims to be real. It can be a minefield.

To do searching well it is a skill to be learnt. Once you've learnt the basics it can aid you in developing critical thinking and information literacy skills.

Stage One: Deciding where to search

1. The internet is not always the best place to start

Don't expect a search engine to do all the work for you. Some schools offer access to databases, which are often a good place to start a search. They can be a bit difficult to use but they will give you information which is more credible than most search engines.

The best researchers often rely on websites that they use again and again. When seen in a web search they will navigate to them straight away. Develop your own list of favourite sites by:

- a. Asking your teacher or librarian to recommend websites
- b. Stick to a small number of credible websites for your topic
- c. Use the search box on those sites, or do a site search using a search engine
- d. As you learn the names for the best sites bookmark them, or save them using tools such as [Diigo](#), [Delicious](#) or [Symbaloo](#)

Activity	Students are given a list of ten sites. They must then select and defend their sources before they start writing
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2. When using search engines, always use more than one

Major search engines like Google or Bing often return different results. This is because they work slightly differently. If you are using the same one all the time, you are not learning what is needed

to become a web researcher. Even with Google itself, you should know when to use Google News, Books, Scholar, and its many other features.

Activity	For two weeks don't use your favourite search engine. Force yourself to use other research methods available to you
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Try a meta-search engine like [Zuula](#). It searches several search engines at the same time.

Speciality search engines often search specific types of websites, or use different ways to search the web. For some categories or topics these will generate better and more targeted results.

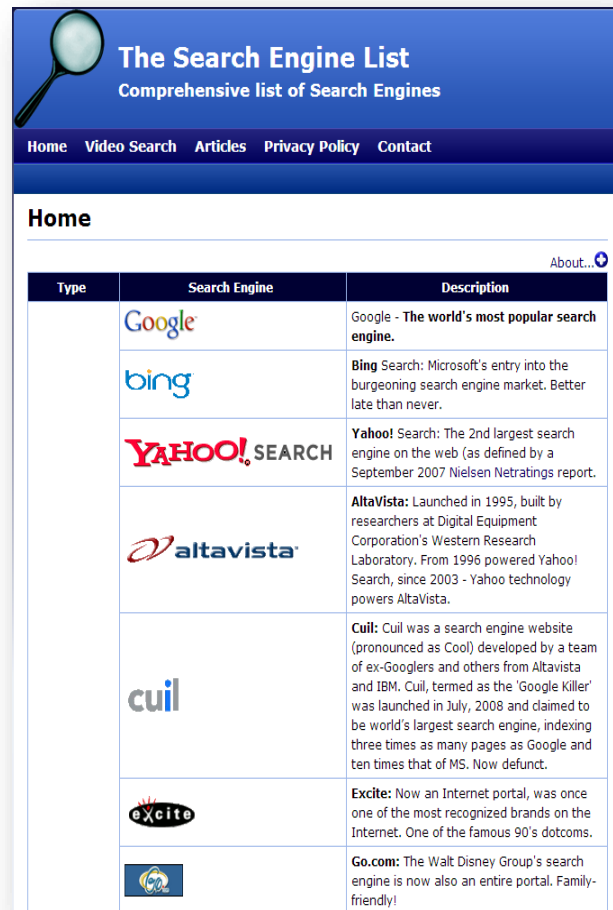
Example: Wolfram Alpha is a 'computational knowledge engine' and a good resource for Maths and Science. You can ask it about these [topics](#).

Here is a [list of search engines](#) you can use, listed by type with brief descriptions for each one

3. The best results are often not on page One

Some websites are very good at making their content rank highly in the search results for reasons that have nothing to do with the quality of their content. Websites that provide the best information are often found several pages deep so make the effort and browse each results page carefully.








[Yolink](#) is a free tool which upgrades the *Control F* search function when searching webpages. It browses search results to find the information you need quickly.
<https://www.youtube.com/watch?v=LOu05Ue91vA>



The Search Engine List
Comprehensive list of Search Engines

Home Video Search Articles Privacy Policy Contact

Home

Type	Search Engine	Description
		Google - The world's most popular search engine.
		Bing Search: Microsoft's entry into the burgeoning search engine market. Better late than never.
		Yahoo! Search: The 2nd largest search engine on the web (as defined by a September 2007 Nielsen Netratings report.
		AltaVista: Launched in 1995, built by researchers at Digital Equipment Corporation's Western Research Laboratory. From 1996 powered Yahoo! Search, since 2003 - Yahoo technology powers AltaVista.
		Cuil: Cuil was a search engine website (pronounced as Cool) developed by a team of ex-Google and others from Altavista and IBM. Cuil, termed as the 'Google Killer' was launched in July, 2008 and claimed to be world's largest search engine, indexing three times as many pages as Google and ten times that of MS. Now defunct.
		Excite: Now an Internet portal, was once one of the most recognized brands on the Internet. One of the famous 90's dotcoms.
		Go.com: The Walt Disney Group's search engine is now also an entire portal. Family-friendly!

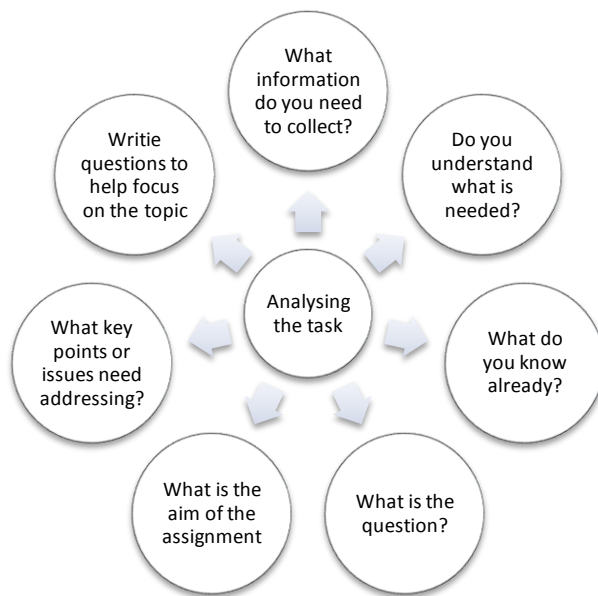
Stage Two: Planning your research

4. Think before you search

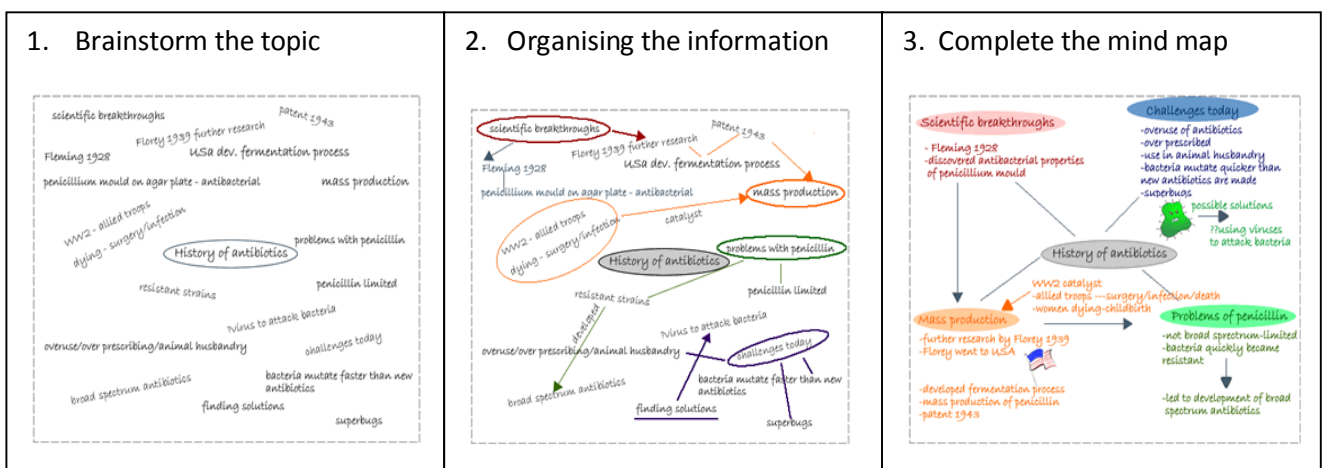
Many students start to research before they understand what it is they are supposed to do. Instead of reading and analysing the task, it is quite common to lift the question direct from an assignment and put it in a search engine. This doesn't often generate good results.

How to analyse a task?

Analysing your task is very important. If you haven't got a clear picture in your mind of where you want to go, planning your assignment is going to be difficult. So, here are some questions you should ask yourself:



One common method for analysing tasks is to brainstorm a topic using the mind mapping technique. This has a three-step process:



Source: [RMIT](#)

Once you have finished brainstorming make a list of key search terms. When you find a good result, write down the most important words in it and add them to your keyword list.

You can keep track of your sources by using web-based bookmarking tools, such as [Diigo](#), [Delicious](#) or [Symbaloo](#). Keeping track of sources helps you to avoid repeatedly visiting bad websites and makes it much easier to cite the sources in your work (cite/citation/referencing is very important in university).

Activity: 2+2+2	<ul style="list-style-type: none">• Spend 2 minutes writing everything you know about the assignment topic• Spend another 2 minutes noting down questions you want to ask about the topic.• Extract keywords from those questions and pair them together to create web searches
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The aim of this activity is to get you thinking about the task and to create keywords for an online search, which helps in your research. Your goal is also to find relevant and authoritative sources that you can go back to again and again.

5. Use special search functions to make the search engine work for you

If you are asked to write about fruit and you search using the word 'apple', you'll find a lot of information about technology and computers. Using a single word in a search engine does not generate the best results. Good researchers use a combination of words to find what they are looking for.

<https://www.youtube.com/watch?v=7tm-sDKCnO4>

Here are a few search techniques that will help you conduct better, more accurate searches:

Quotation Marks:

Use quotes to search for an exact word or set of words. This is useful when you want something like quotes, song lyrics or text from an exact historical time period.

- Example: "The Great Fire of London"

Dashes (or minus sign):

Use this symbol directly before a word to help exclude unwanted information from your search

- Example: The Great Fire of London –second

Using an asterisk (*)

To help widen the scope of a search try adding an asterisk (*)

- Example: politic* will bring up references to politics, politician, political etc

You can also use an asterisk to cover different spelling

- Example: To cover 'systemize' and 'systemise', type 'systemi*e, which returns results on both spellings

AND, OR, NOT:

Narrowing your search by using AND:

- Example: 'cities AND planning' so you don't get thousands of results for each word, but only results for both

Avoid enormous sets of useless results by using NOT:

- Example: 'phrases and utterances, NOT speech'

Use OR for widening a search, by putting search terms in brackets

- Example: '(dreams OR trances)'

Related sites

This search can be used for finding similar sites

- Example: related:www.youtube.com

Two dates:

Use this to help you find information between those two numbers. For example you might want to try:

- Example: The Great Fire of London September 2..5 (you can also use years e.g. 2002-2007)

Capitalisation

Most search engines do not distinguish between uppercase and lowercase, even within quotation marks. The following are all equivalent:

technology Technology TECHNOLOGY "technology" "Technology"

Site Search:

For a look through the British Library site only

- Examples: The Great Fire of London site:www.bl.uk

Using the AROUND function

If you search "Obama" AROUND(10) "Australia" then all results will be within ten words of each other.

NOTE: for this to work both search terms must be in quotes, AROUND must be capitalised, and the number must be in brackets.

Use Country Codes to Look Up News Stories:

When gathering information it is always good to look at an issue from different perspectives. This will help provide a fuller



picture and increase your understanding of a topic. One way to do this is by using different country codes.

For example, if you wanted to get to Google Korea all you would have to do is search using the country code of Kr for Korea.

Try it yourself first by going to Google Korea – www.google.co.kr.

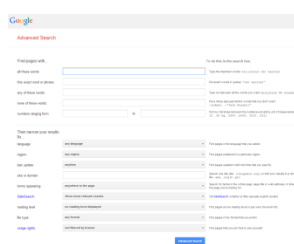
Below are a few of the country codes. You can click on the link to get a complete [list](#).

International Internet and Phone Codes for countries			
Country	Capital	Internet	Phone
Afghanistan	Kabul	af	93
Albania	Tirana	al	355
Algeria	Algiers	dz	213
American Samoa	Pago Pago	as	684
Andorra	Andorra	ad	376
Angola	Luanda	ao	244
Anguilla	The Valley	ai	1-264
Antarctica	None	aq	672

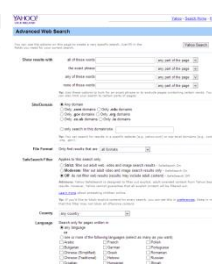
Search engines have advanced features that help narrow search results. Below are links to three of the most popular advanced searches and a short tutorial from the Open University.



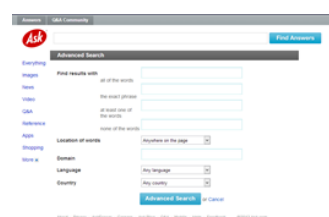
OU advanced search tutorial



Google



Yahoo



Ask



Sometimes, you want to find an image that is copyright free. This video tutorial demonstrates how to do this: [Advanced search for Google images](#) (slow enough that even your teacher can understand)

6. Don't believe everything you read (or see) on the internet

Searching online is like being a detective. You have to be sceptical. You want to find the best information you can, not the first thing that looks good or sounds good.

The good and bad thing about the internet is that anyone can publish anything they want on it. Your job as a researcher is to decide if that website can be trusted and if its information is credible, authoritative, objective, accurate and up-to-date.

A good detective always verifies critical information by confirming it with more than one source. If you find a few unrelated, credible sites in agreement on an issue, your research might be done. This is not the case for something you read once.



Stage Three: Evaluating your search results

7. Finding primary sources

The best research sources you can find online will be primary sources, such as newspaper and magazine accounts, letters, diaries, films, photographs and other documents written or recorded at the time of the event. A detective would think of them as "eyewitness accounts".

Listening to the authentic voice of people who witnessed the event brings a story to life and helps fuel empathy. Primary sources have strong educational value and are easily accessible via the internet. Below is a link to a one minute video on 'How to use Google news to easily find primary sources'.



http://www.youtube.com/watch?v=zfn-Zan2YTY&feature=player_embedded#t=0

The finding Dulcinea website has some good tips for [finding primary source material](#).

Not all of your material will come from primary sources, so use these [tips to find out if you are looking at the original publisher](#) or a copycat.

8. Who published the article?

A good web researcher does not use information without considering who the author and publisher are first, so why would you trust a website without the same information?

When you find information you want to use, visit the home page and check the 'About Us' page before you decide if the information is good or bad. Generally speaking, sites that end with .edu, .ac.uk, or .gov.uk are considered credible, but this is not always true so always check first.

One giveaway is if the website name describes a product or service. These sites tend to be used for selling products and do not provide reliable information. Another sign of a bad site is if you see words such as free, discount, best, your, 4 you, web* in its domain name.

Question: Should you always trust Wikipedia?

Answer: No! Before you trust what a page says ask yourself who wrote the information. Wikipedia is good for an overview but its contributors are anonymous so their credentials cannot be trusted.

Can you trust this information? [The reliability of Wikipedia](#)

9. Why did they write this?


As any detective will tell you once you have worked out who did it, you need to know why they did it. What was their motive? Is it trying to sell you something or is it biased politically or socially? These factors will impact on the type of information, providing a clue to whether it is biased or a well-rounded overview.

At some point you have probably been taught that when doing an assignment, be it a presentation or a report, you should always have the audience in mind. Online, you should also have the author in mind.

Always ask yourself:

Who created this website? and **Who is the author?**

Also ask **why**. Why does this website exist? E.g. The UK [Downing Street website](#) promotes and celebrates the work of the Prime Minister and the current government. It is useful as an overview but it does not critically examine their work.

<p>Activity – The Good, the Bad and the Ugly</p> <p>The Internet Detective is a free online tutorial, designed to help you develop your research skills.</p>		<p>The tutorial looks at the critical thinking required when using the internet for research</p>	
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<http://www.vtstutorials.ac.uk/detective/index.html>

10. When was the information written or last revised?

Old information is not always good information. Things change - sometimes very quickly. What is written about a scientific discovery or a person, a current event, or a new technology can quickly become out-of-date or untrue.

Always check the dates of your sources. If you cannot find out when a source was written be sceptical and do not trust it. Look for something else with a recent date. As we have said before, use a news search engine or do a web search including the current year as one of the search terms, and use the advanced search to find recent results.

If you are looking for something older, where possible use a primary source document, such as a newspaper, interview or magazine article, that was written close to the time of the event.

E.g. Rosa Parks is famous for her stance on civil rights in the 1960's. There are many websites that talk about her, but there are other sites with actual footage of the events leading up to when she refused to give up her seat, and interviews she gave explaining why she did it. These are much more powerful than third-hand accounts.

Finally

When searching online keep asking the same basic questions:



If it isn't obvious what information you need to gather, look at what information you might want if you were researching the [The Three Little Pigs](#) for an article in the school magazine.



Who was involved? The three little pigs (the first pig, the second pig and the third pig) and The Big Bad Wolf (a.k.a. Wolf).

What happened? Each pig constructed a house out of different materials (straw, sticks and bricks). Wolf (allegedly) threatened to blow over their houses and is believed to have destroyed both the straw and stick homes at this time. Pig one and two were able to flee to the brick house, where they remain at the moment. We're still waiting to hear from local authorities, but it looks like the Wolf may have been injured while attempting to enter the brick house.

Where did it take place? Outside a straw house, a stick house and a brick house.

When did it take place? At various times throughout the day.

Why did it happen? Apparently the Big Bad Wolf was trying to eat the pigs. Several eye witnesses recall the Wolf taunting the pigs before he destroyed the straw and stick homes by chanting, "Little pigs, little pigs, let me in." The pigs apparently scoffed at the Wolf's idle treats, saying "Not by the hair of our chinny, chin chins." It's believed this angered the Wolf and led to him blowing the houses down.

How did it happen? It would appear the first two homes were not built to withstand the Wolf's powerful breath. The incident inside the brick house is still being investigated, but early indications suggest the Wolf fell into a boiling pot of water when trying to enter the house through the chimney.

A silly example but these basic questions help you to get the information needed to write an accurate report. Next time you are preparing for an assignment or outlining a story, consider the Five Ws and One H to see if you left anything out.

Acknowledgement

This guide takes its inspiration from a PowerPoint presentation created by Sweet search. To see it please visit <http://www.slideshare.net/sweetsearch/teaching-the-ten-steps-to-better-web-research>

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