Database Search Techniques
Academic Achievement Team
When you enclose your search terms with **double quotation marks** (i.e. "global warming") the search engine looks for words in the **exact order** they appear in, i.e. your search results will then include a fixed phrase.

**Examples:**
- *early childhood studies* will return all documents containing the words at any point they separately occur in the text.
- "*early childhood studies*" will find documents containing this exact phrase.
Try searching for the following both with and without double quotation marks to compare your results:

- Corporate social responsibility
- Fair trade
- Human biology
- Genetic engineering
- Resource development
- Dark tourism
- Skin cancer
- Supply chain
- Positive psychology
Follow the leads from one interesting article, i.e. the reference, bibliography or works cited list. This will take you back to the sources the author used in his or her article.

Identify sources that cite a particular article after it has been published. Using this approach, you’ll be able to identify follow-up studies, and discover new developments in a given field.
**Truncation and Wildcards**

**Truncation** is a technique that broadens your search to include various word endings.

- Enter the root of a word followed by the *asterisk* `*` symbol and the database will then retrieve results that include any ending of that root word, e.g. `child*` = children, childcare, childhood, etc.

**Wildcards** are used to swap one letter of a word for a symbol (`!` or `?`)

- Use this when your search terms have the same meaning, but are spelled in different ways

**Examples:** wom?n = woman, women; col!r = color, colour
Boolean logic defines logical relationships between terms in a search. Boolean operators (AND, OR and NOT) are used to connect and define the relationship between your search terms – either narrowing or broadening your results.

**Why use them?**

- To focus a search, particularly when your topic contains multiple search terms
- To connect various pieces of information to find exactly what you're looking for
Use **AND** when you are looking for articles that contain all of your search terms.

Use **OR** when you want any of the search terms – this is good for searching for synonymous terms (college OR university).

Use **NOT** to exclude a search term, such as if you get a lot of irrelevant items in your search. This works in readable order, i.e. *Economic recession NOT “New Deal”* would search for economic recession and exclude results on the New Deal.

**The order of Boolean operators:** **AND** is the primary operator and **NOT** takes precedence over **OR** (so it’s a good idea to put the terms you want to be **ORed** in brackets...).
Boolean Search examples

**AND**

This search will find documents that contain **both** the ‘modern’ and ‘drama’ search terms (i.e. the **exact phrase**, thus narrowing down your search).

**OR**

This search will find documents that contain **any** of the search terms (this expands your search).

**NOT**

This search will find documents that contain just the ‘drama’ search term and **not** the ‘pantomime’ search term.
To find the Boolean operators in a database, look for the **advanced search** option.
Boolean Search

Google Scholar

Find articles
with **all** of the words
with the **exact phrase**
with **at least one** of the words
**without** the words
where my words occur

Return articles **authored by**
e.g., "PJ Hayes" or McCarthy

Return articles **published in**
e.g., J Biol Chem or Nature

Return articles **dated** between
e.g., 1996
Use this technique to search for two or more words that occur within a specified number of words (or fewer) of each other in the databases.

The proximity operators are composed of a letter (N or W) and a number (to specify the number of words).

The proximity operator is placed between the words that are to be searched.
Proximity Searching

**NEAR n#**

Use the near operator to find your keywords if they are within a few words of one another **regardless of the order in which they appear**.

**e.g.** “technology N5 education” will find the keywords if they are within 5 words of each other.

**WITHIN w#**

Use the within operator to find your keywords if they are within a few words of one another and **in the order in which you entered them**.

**e.g.** “technology W5 education” will find the keywords if they are within 5 words of each other.
Grouping search terms together using the advanced search fields

“social impacts” AND resource AND (extract* OR develop*) NOT “shale gas”

Results will include information on social impacts and resource development (or resource extraction), but not in relation to shale gas.
Despite being a rather complex search query, there are 26,039 results in our library online collection! Note how the results contain different variations and word endings on the terms develop* and extract*. 

1. Original article: Managing the social impacts of the rapidly-expanding extractive industries in Greenland
   By Hansen, Anne Merrild; Vanclay, Frank; Croal, Peter; Skjervedal, Anna-Sofie Hurup. In The Extractive Industries and Society. January 2016 3(1)
   • Greenland is undergoing rapid change but is not adequately prepared for this change. • The potential benefits from resource projects are not likely

2. Social impacts of climate change and resource development in the Arctic: Implications for Arctic governance

4. Foresight as a tool for sustainable development in natural resources: The case of mineral extraction in Afghanistan

8. Original article: The evolving role of CSR in international development: Evidence from Canadian extractive companies’ involvement in community health initiatives in low-income countries
Grey literature

The term refers to research that is either unpublished or has been published in non-commercial form. Much grey literature is of high quality and it is often the best source of up-to-date research on certain topics. Examples of grey literature include:

- Conference proceedings
- Working papers
- Policy drafts
- Charity reports
- Newsletters
- Theses and dissertations