Searching Smarter with Boolean Operators:
How to use AND, OR and NOT to refine search requests.
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What is a “Boolean operator?”

A Boolean operator (AND, OR and NOT) is a tool that can help refine a search for information online. Each operator affects a search request in a different way, in both search engines and electronic resource databases. Examples of how each operator works are below.

How AND works:

Inserting the word AND into a search request asks the search engine or the database to search for something AND something else. For example, a search for Erie Canal would return some results on the Erie Canal, but will also retrieve results on just Erie, and just canals. However, if you search for Erie AND Canal you will get results where both words will appear somewhere within each result. See the diagram below:

The darkly shaded middle/intercept area of this diagram is where the Erie AND Canal results come together in your search request, returning results that include both Erie AND Canal. You can insert multiple ANDs if you need to add more terms – for example, Erie AND Miami AND Canal.

How NOT works:

Inserting the word NOT into a search request asks the search engine or the database to search for something and NOT something else. For example, if you want to do a search for information on canals in general, but you don’t want any information on the Erie Canal, a search for “Canal NOT Erie” will retrieve results including canal, but not those articles that have Erie in them as well.

The yellow-shaded Canal portion of this diagram represents results returned when using the NOT operator – the search will not return results from the blue circle (Erie), nor will it return results represented by the green middle/intercept area (that have both Erie and Canal). Just as with AND, you can add multiple NOT terms – for example, Canal NOT Erie NOT Miami.

How OR works:

Inserting the word OR into a search request asks the search engine or the database to search for something OR something else – this is particularly useful when multiple terms are used to describe something. For example, canals are sometimes referred to as waterways – a search for articles where either one or the other term is used would return the most results.

A search for Canal OR Waterway will return results from the red circle (Canal) or the blue circle (Waterway) – it will also return results that include both canal and waterway (the darkly shaded middle/intersect point). Just like with AND and NOT, you can add multiple ORs to your search – for example, Canal OR Waterway OR Aqueduct.
A “Quick Reference” example task aid that can be given to students (to keep in a wallet, etc.).

**Boolean Operator Quick Reference:**

Simple Boolean operators are AND, OR and NOT. Using these operators in your search requests, in either a search engine or an electronic resource database, will return more specific results.

Using AND: Can be added to a search request when looking for something AND something else. For example: Erie AND Canal. Can be used for multiple terms: Erie AND Miami AND Canal.

Using NOT: Can be added to a search request when looking for something and NOT something else. For example: Canal NOT Erie. Can be used for multiple terms: Canal NOT Erie NOT Miami.

Using OR: Can be added to a search request when looking for something OR something else. For example: Canal OR Waterway. Can be used for multiple terms: Canal OR Waterway OR Aqueduct.

**Search Strategies Quick Reference:**

**Quotations**

Putting words or terms together in quotations helps refine a search’s results.

Quotations (“”) tell the database or search engine to find results that contain these elements exactly as they are phrased in quotations, e.g. “Where the Wild Things Are” or “academic research.”

**Truncation**

Truncating a word at its root in a search asks the search engine or database to search for results with all variations of the word beyond truncation. Example: educat* will find ‘educate,’ ‘educator,’ ‘educated,’ etc.

The asterisk (*) is the most commonly used truncation symbol. Check your database’s ‘help’ or ‘search tips’ menu for other recognized symbols.