



Use this guide to evaluate student responses to the [Operator Assessment](#) published in this Kit.

The assessment measures knowledge of four operators, what they do, when to use them and how: AND, "Quotation marks," OR and NOT.

One knowledge question and one performance question is associated with each operator. In addition, there is a question about literal matching (#3) and one live search engine performance question (#9).

Elapsed time for the entire assessment is recorded, as well as time elapsed for the live search engine performance item (#9).

If you want students to turn in their results for evaluation, instruct them to print a copy of their results. Printing is accomplished by right-clicking on the final screen and selecting PRINT. No results are saved once the window is closed.

Scoring Guide

This assessment measures knowledge/performance associated with four operators. Knowledge is measured by all questions, performance is measured by simulated and live search questions.

Become familiar with the contents of this guide in order to provide feedback to individuals.

[Example of an Answer Sheet with all correct responses](#)

Observations in General:

- Correctly answering a multiple-choice KNOWLEDGE question but missing the corresponding PERFORMANCE question is an indication that a search concept/strategy has not been mastered.
- Searching with a single term in "Quotation marks" or OR has the same effective as using AND.
- Using "Quotation marks" with terms that are not a natural language string (for example, leaving out parts of speech) has a low probability of success.
- Using OR with words that are not logical alternatives will unnecessarily inflate the number of returns (e.g., travel OR space, instead of travel OR tourism)
- If numerous items are answered incorrectly, note the time elapsed. This may reveal if students gave the questions much thought. Total elapsed time under 2 minutes may signify carelessness if multiple answers are incorrect. An efficient searcher may complete the assessment in 3 minutes. Spending more than 10 minutes may indicate inefficient search skills or problems encountered online.
- Students are likely to enter more words than are necessary in search boxes. If they use more words than the model queries (see [Example of an Answer Sheet with all correct responses](#)) encourage them to choose only essential keywords to improve their queries.

LITERAL MATCHING

Item 3. Google searches for documents that contain...

- **BEST ANSWER: b. the terms you enter letter-for-letter.** Spelling affects the performance of

all operators.

- Answer a. Google is not case specific when it searches (some search engines are).
- Answer c. Google retrieves whole terms, not fragments (e.g., if the query is snowboard, Google does not search for snow).
- Answer d. Google can retrieve synonyms, but that requires adding a special operator (~) in front of a term.

Note: Google questions words that are misspelled and will search for other terms if the ~ operator is inserted before a term. Not all search engines include these functions, which makes literal matching an important concept to understand.

Operator-specific Observations:

AND OPERATOR

Item 1. Retrieve information about snowboarding and competitions.

- BEST ANSWER: **a. with ALL of these words.** (indicated by the word *and* in the challenge).
- Answer b defines the “Quotation marks” operator.
- Answer c defines the OR operator.
- Answer d defines the NOT operator.

Item 6. What advice is often given to snowboarders who have Sasquatch-sized feet?

- An optimal query requires *only* the use of: **with ALL of these words: snowboarders sasquatch feet**
- Placing “sasquatch-sized” in “quotation marks” may work, but assumes this is *the* form in which the answer appears. If feet the size of sasquatch, or just the terms sasquatch feet, are the way the answer is worded, quotation marks will not work. Quotation marks should be used only if confidence is high that the terms must be placed in a certain order.
- There are no alternatives in the question that should be coupled with OR.
- There are no terms that should be eliminated with NOT.

OR OPERATOR

Item 2. Retrieve information about sasquatch or bigfoot.

- BEST ANSWER: **c. with AT LEAST ONE of these words.** (indicated by the word *or* in the challenge).
- Answer a defines the AND operator.
- Answer b defines the “Quotation marks” operator.
- Answer d defines the NOT operator.

Item 7. Question: Retrieve a list of all the known sightings of Bigfoot, also known as Sasquatch, in the USA

- An optimal query uses **ALL OF THESE WORDS: sightings**
- An optimal query uses **at LEAST ONE OF THESE WORDS: Bigfoot Sasquatch** (these terms are alternatives)
- Placing both Bigfoot and Sasquatch in the ALL OF THESE WORDS box unnecessarily limits the number of results. There is no certainty that both words are used in conjunction with sightings.
- Including any other words given is unnecessary—they are either clutter terms or stop words.
- There is no string that should be placed in “Quotation marks”
- There are no terms that should be eliminated with NOT.

“Quotation marks” OPERATOR

Item 4. Retrieve information about chicken salad air

- BEST ANSWER: **b. with the EXACT PHRASE.** (indicated by a phrase that seems to have a unique meaning that is different than the meanings of each word taken separately).
- Answer a defines the AND operator.
- Answer c defines the OR operator.
- Answer d defines the NOT operator.

Item 8. Question: Retrieve a document that describes an eyewitness account of Bigfoot's eyes as 'like they were human.'

- An optimal query uses **THE EXACT PHRASE: like they were human** (this string seems like it should be kept intact, especially since it is quoted in the example. The phrase also includes two stop words that would be eliminated if “Quotation marks” are not used).
- An optimal query uses **ALL OF THESE WORDS: Bigfoot eyes** (these terms should both be used).
- Including any other words given is unnecessary—they are either clutter terms or stop words.
- There are no alternatives that should be coupled with OR. If Bigfoot or Sasquatch is used, that is acceptable; however, Sasquatch is not used in the problem statement.
- Eliminating any of the words is not necessary.

NOT OPERATOR**Item 5. Retrieve articles on snowboarding that are not also about halfpipe**

- BEST ANSWER: **d. WITHOUT the words: halfpipe** (references to halfpipe will be eliminated with this operation).
- Answer a defines the AND operator.
- Answer b defines the “Quotation marks” operator.
- Answer c defines the OR operator.

Item 9. Question: Find a snowboard academy not located in Canada

- URL there are many possibilities -- you may want to check the urls, but it is the *query* that is most important information here.
- An optimal query includes **NONE of these words: Canada movie film** (A search for snowboard academy retrieves many documents about a movie entitled snowboard academy. The first snowboard academy retrieved after that is in Whistler, British Columbia).
- An optimal query uses **ALL OF THESE WORDS: snowboard academy**
- Including any other words given is unnecessary—they are either clutter terms or stop words.
- There are no words or phrases that need to be used within “Quotation marks,” however **"snowboard academy"** will eliminate most of the "academy snowboard" products. If this operator is used, the AND operator is not necessary.
- There are no alternatives that should be coupled with OR.

[Example of an Answer Sheet with all correct responses](#)

[Operator Assessment Guide \(.pdf format\)](#)

