

Strategic Searching

Essential Question

What steps can help you find what you're looking for when you search online?

Lesson Overview

Students learn that to conduct effective and efficient online searches, they must use a variety of searching strategies rather than relying on a single source. They learn a five-step method for planning and carrying out an online search. Students then apply what they have learned to a scenario in which they pretend they are employees in a workplace, searching for information for their job.

Learning Objectives

Students will be able to ...

- understand the importance of using a variety of search strategies.
- master new strategies for effective and efficient online searches.
- learn to create and execute a five-step plan for conducting an online search.

Materials and Preparation

- Copy or download the **Tips for Strategic Searching Student Handout**, one for each student.
- Copy or download the **Make a Search Plan Student Handout**, one for every three to four students.
- Prepare computer access for student groups to do online research.

Family Resources

- Send home the **Strategic Searching Family Tip Sheet (Middle & High School)**.

Note: This lesson emphasizes informal online searching, rather than academic research specifically for school. In their everyday lives, students search or surf for information online. This lesson helps students think critically about their online searches so they are effective and produce relevant results. Much of what students learn can be applied to their schoolwork as well. In this lesson, we encourage you to use search engines that students typically use on their own, such as Google, Yahoo!, and Bing.

Estimated time: 45 minutes

Standards Alignment –

Common Core:

grade 6: RI.1, RI.4, RI.10, W.4, W.7, W.10, SL.1a, SL.1b, SL.1c, SL.1d, SL.4, SL.6, L.3a, L.6

grade 7: RI.1, RI.4, RI.10, W.4, W.7, W.10, SL.1a, SL.1b, SL.1c, SL.1d, SL.4, SL.6, L.3a, L.6

grade 8: RI.1, RI.4, RI.10, W.4, W.7, W.10, SL.1a, SL.1b, SL.1c, SL.1d, SL.4, SL.6, L.6

NETS•S: 3a-d, 4b, 4c, 6b

Key Vocabulary –

effective: achieving a desired goal or result

efficient: doing something in a way that saves you time and energy

strategy: a course of action designed to help you reach a specific goal or result

introduction

Warm-up (10 minutes)

ASK:

*How do you find something online?
What kinds of things do you search for?*

Encourage students to provide examples of searches related to their personal interests, as well as to their schoolwork. The point is to remind students that they spend a fair amount of time searching online for a variety of purposes, both in school and in their personal lives.

DEFINE the Key Vocabulary terms **effective** and **efficient**.

EXPLAIN to students that an effective online search is one that yields the precise results they are looking for. An efficient search does so without a lot of wasted time or energy – for example, having to scroll through a lot of search results that don't relate to their desired topic.

DEFINE the Key Vocabulary term **strategy**, and point out to students that search strategies can help them search effectively and efficiently.

CREATE a KWL (Know|Want|Learn) chart with three columns on the chalkboard or chart paper, or project it from your computer screen. Explain to students that they will use these columns to track what they know, and what they want to know, about strategic searching.

ASK:

What are some strategies you have used to search for information online?

Guide students to think specifically about searching for information more than sorting or evaluating the information. Write responses in the first column.

What do you need to know to make your searches more effective and efficient?

Encourage students to think about problems they encounter when searching and would like to solve. Write responses in the second column.

Sample responses:

What search strategies do I KNOW?	What do I WANT to know about strategic searching?	What did I LEARN about strategic searching?
Use quotes around words or phrases you want to find Use specific words Check out multiple search results – don't just use Wikipedia!	How to keep from getting a lot of results I don't need What to do when a search term can mean two different things How to search for two different things at once	

TELL students that you will be leaving the final column blank for now, but you'll return to it later in the lesson. Explain that they are going to learn about search strategies, some of which may answer questions in the "What do I WANT to know about strategic searching?" column.

teach 1

Searching Strategies (10 minutes)

DISTRIBUTE the **Tips for Strategic Searching Student Handout**, one per student.

INVITE different students to read aloud each search strategy on the handout, along with the example provided. Then encourage them to come up with their own examples for each of the strategies.

DEMONSTRATE some of the examples. If possible, project your computer screen so that students can see the search results. If time and resources permit, you may also choose to have students conduct the searches, working in small groups on their own computers.

teach 2

Plan and Perform a Search (15 minutes)

ASK:

Why do you think it might be important to have a plan when you search online?

Students should conclude that having a search plan might help them apply the searching strategies they learned, and therefore conduct more effective and efficient searches. In other words, a plan can help them quickly find the exact results they are looking for.

WRITE the following steps on the board or chart paper, or project it from your computer screen. This mnemonic device lays out the five steps in a search plan, and the steps spell out SEARCH. Share the explanation of what each step means.

SELECT research questions and search tools.

(Explain to students that they should have one or more questions that get to the core of what they want to find out in their search. They should also choose search engines and tools that are most relevant to what they are looking for.)

EXTRACT keywords and terms.

(Students should understand that they can find effective keywords by highlighting the key terms from their research questions.)

APPLY search strategies.

(Students should apply some of the search strategies they learned – for example, adding quotation marks or a minus sign, or specifying what type of information they need.)

RUN your search.

(Students should run a search on the terms they have chosen and review the results. Remind students that they should check out multiple sources.)

CHART your search.

(Students can avoid repeating work they have already done by jotting down what they've searched for and where they've searched for it.)

EXPLAIN to students that they will have the opportunity to practice this five-step search plan in the following group activity.

DISTRIBUTE the **Make a Search Plan Student Handout**.

INVITE a volunteer to read the directions aloud. (Students will be asked to imagine that their boss has asked them to find a location in a particular city for the annual company picnic. The location needs to meet a number of criteria, as described in the handout.)

DIVIDE students into groups of three or four.

INSTRUCT students to complete the search plan, listing responses to each step as instructed on the handout. Encourage groups to include all members in the planning process, and give them five minutes to complete their plans.

ARRANGE student groups at computers to conduct their online searches.

TELL students that they have ten minutes to come up with a place for their company to have its picnic. Set a timer or have a bell that signals when time is up.

INVITE each group to name the place it chose, and share which keywords, strategies, and search tools it used in its search.

ASK:

What are three ways you got to this choice?

For instance, maybe students found people’s opinions of the park through blogs. Perhaps they saw a video of the park and could confirm what it looks like. Maybe they searched for .gov park websites and compared what each park had to offer.

closing

Wrap-up (10 minutes)

HAVE students go back to the KWL chart from the lesson introduction and invite them to share what they’ve learned about how to make their searches more effective and efficient. Add their responses to the third column of the chart. (Students should be able to name several search strategies, as well as understand how to make and carry out a search plan.)

You also can use these questions to assess your students’ understanding of the lesson objectives. You may want to ask students to reflect in writing on one of the questions, using a journal or an online blog/wiki.

What are two search strategies you learned about that you plan to use in the future?

Refer to the **Tips for Strategic Searching Student Handout**.

What are the five steps of a search plan?

Students should recall the following five steps:

- SELECT** research questions
- EXTRACT** keywords and terms
- APPLY** search strategies
- RUN** your search
- CHART** your search

Why is it important to have a search plan?

Students should realize that thinking through their search before they begin should lead to a more effective and efficient search.

Extension Activity

Assign students to work in groups to play “A Google a Day” (www.agoogleaday.com), an online search game in which one tries to find the answer to a complex search question from a myriad of topics. Points go down the longer one takes! Encourage students to use their five-step search plans.

At-Home Activity

Encourage students to play “A Google a Day” (www.agoogleaday.com) daily with family members. In addition, families together can learn more about how to conduct an advanced search under Google’s “Tips and Tricks” link.

Strategic Searching

Directions

Use the following searching strategies to conduct an effective and efficient online search.

1 Use multiple, specific, descriptive keywords for narrower results.

Example:

Searching for *concerts* will lead to a variety of musical events, ticket purchasing opportunities, and tour dates. Searching for *underground hip-hop shows Bay Area* will lead to narrower, location-based results.

2 If at first you don't succeed, try synonyms.

If you've tried searching for *rare cats* but haven't found what you are looking for, try searching for *exotic cats*, *rare felines*, or *exotic felines*.

3 Place quotation marks around specific words or specific phrases you're looking for.

If you want information on the president's residence, search on "*White House*" rather than *white house*.

4 Add a minus sign before a word to show that you don't want that one included.

If you are searching for mullet but you want the fish and not the hairstyle, you would enter: *mullet -hair*.

5 Look for two words at once by placing OR between them.

If you want information on Cornell but you're not sure whether it's a college or a university, search on *Cornell College OR University*. (Note: the OR has to be capitalized!)

6 Search for and pay attention to URL domain types.

.com = company

.gov = government website

.edu = educational institution

.org = organization

If you are searching for parks and you include .gov as a keyword, you should receive government websites in your results. If you are searching for parks and you include .com as a keyword, you should receive results that are companies related to parks.

7 Specify the format of the information you're looking for.

Many search engines will allow you to search exclusively for images, videos, news, blogs, or even scholarly articles. Different types of information will help you in different ways.

If you search for *military service*, the following information will tell you different things:

- **Blogs:** People's opinions about military service.
- **Video:** Videos related to military service. Some might be made by anyone, while others might be created by news outlets, organizations, or the government.
- **News:** The latest news articles and stories related to military service.

8 Use advanced search options on a search engine.

You can often specify dates, exact words you're looking for, or even languages you want in your results in search engines such as Google, Yahoo!, or Bing.

9 Once you have your search results, use them!

Searches enable you to access the huge store of information on the Web, so take some time to see what's out there! Don't just look at the first results, and don't rely only on familiar sources like Wikipedia or About.com.

Strategic Searching

Directions

Choose a large city in another state. Imagine that you work at a company located in that city. Each year, your company has a yearly “employee appreciation” gathering. You are part of a group that is planning the event, and your boss asked you to find a park in the local area where you can have a picnic. The company has 50 employees. Money is tight, so you have to find a free or inexpensive location. Here is what you know you need:

- Public park (not private)
- An area to play games and do team-building activities
- A covered area in case it rains
- Restrooms

Your boss needs a recommendation in 15 minutes. Take 5 minutes to plan your search, using the strategies you’ve already learned about, and 10 minutes to come up with a suggestion.

Fill out the sections below to plan your SEARCH. Then write down the location you chose.

Select research questions.

What question(s) do you have? Write the question(s) below.

Extract keywords and terms.

Be broad or specific, depending on your goals. Use synonyms, and apply some of the strategies you learned. Write your keywords below.

Apply search strategies.

What search strategies will help you find the information you need? Write down your keywords with search strategies applied.

Run your search.

Search using the terms that you chose and look at the results. Remember to check out several sources.

CHart your search.

Keep track of what you searched for and where, so that you don't repeat work. Jot down what you searched for and where you searched for it.

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City you chose: _____

Name of park you chose: _____

URL of park: _____

Strategic Searching

.....

1. A strategy is:

- a) A course of action designed to help you reach a goal or result
- b) A fraction of a larger amount
- c) A word that helps you search online

2. Cindy heard a new song on the radio. She wants to search for it online, but she can only remember one line of the song. Which of the following strategies should Cindy use to search for this song?

- a) Include the date she heard the song on the radio
- b) Add synonyms to a few of the words she remembers
- c) Use quotation marks around the line she remembers

3. What is the first step you should take when you want to conduct an online search?

- a) Select research questions
- b) Extract keywords and terms
- c) Run your search

Strategic Searching

1. A strategy is:

- a) **A course of action designed to help you reach a goal or result**
- b) A fraction of a larger amount
- c) A word that helps you search online

Answer feedback

The correct answer is **a**. Having a search strategy, for example, means that you have a specific plan for carrying out your online search.

2. Cindy heard a new song on the radio. She wants to search for it online, but she can only remember one line of the song. Which of the following strategies should Cindy use to search for this song?

- a) Include the date she heard the song on the radio
- b) Add synonyms to a few of the words she remembers
- c) **Use quotation marks around the line she remembers**

Answer feedback

The correct answer is **c**. When you use quotation marks around a search term, you are telling a search engine to look for that exact phrase.

3. What is the first step you should take when you want to conduct an online search?

- a) **Select research questions**
- b) Extract keywords and terms
- c) Run your search

Answer feedback

The correct answer is **a**. Before you do a search, you should think of a question about what you are looking for. You can then use this question to help you choose your keywords.