# Research Stategies Lessons 2011-2012

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Purpose for doing lessons for helping my patrons to become efficient, effective and ethical users of information:
= students are struggling with simple research topics
= teachers are struggling with helping students (ie: locating a legitimate picture of the Beatles band so they can appropriatly cite the source. Google images does not work.)
= every document that I have looked at that discusses the needs/goals/objectives for our (21 century) learners uses the terms efficient, effective and ethical
= I hope this is a way to encourage the skills be taught (across the curriculum) in order to help our students to become efficient, effective and ethical users of information

**Sources I use to guide my lessons:**

**1)** Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects www.corestandards.com

Writing Standards for 7th & 8th grades, page 44
"Gather relevant information from muliple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation."

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**2)** ISTE NETS and Performance Indicators for Students (NETS-S)
ISTE (Interantional Society for Technology in Education) www.iste.org
NETS (National Education Technology Standards)

NETS for Students: Achievement Rubric (Draft March 22, 2005) page 4

> "5. Technology research tools: Students know how to conduct an advanced search using Boolean logic and other sophisticated search functions; and know how to evaluate information from a variety of sources for accuracy, bias, appropriateness, and comprehensiveness."

Computational Thinking Teacher Resources 2nd edition = a pdf guide located through www.iste.org
This source added another dimension to my teaching search strategies.

Outcomes:
1. Students will demonstrate the ability to expand or restrict a set of internet search results by changing the search terms.
2. Students will demonstrate the ability to expand or restrict a set of internet search results by adding Boolean modifiers to the search terms.
3. Students will demonstrate the ability to analyze search results for relevance to a research question.
4. Students will demonstrate the ability to describe the logic of an analysis using pseudocode. (IF, THEN)

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**3)** Information and Communications Technology Literacy Grade-Level Expectations from the Missouri Department of Elementary and Secondary Education (Spring 2010) http://dese.mo.gov/divimprove/curriculum/GLE/index.html (located under Communication Arts)

#3 Access information efficiently and effectively

A. Source Selection

B. Source Navigation

#4 Evaluate information critically and competently

A. Message (media techniques)

B. Relevance (in relationship to the topic and timeliness)

C. Evaluate information critically and competently (fiction vs. nonfiction, origin of source, information verified with other sources, bias, viewpoint, copyright)

D. Comprehensiveness (readability, comprehend and understand the information, and decide if additional resources/sources are needed)

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**Outline for Instruction**

I. Advanced Search Strategies
   A. Boolean Operators AND OR NOT
   B. Fields
   C. Use of quotation marks, wildcards and truncation (some databases are intuitive)
   D. Primary Sources
   E. Other Sources reviewed
   F. Limiters (Lexile, date, etc.)

II. Practice with common research methods
   A. Search Engines (Google, Bing, Yahoo, etc.)
   B. Using the index of an encyclopedia & nonfiction books and subjects in OPAC as a research strategy to expand keyword/vocabulary

III. Web page evaluation (will need to be taught by classroom teachers. Use lesson from www.blueribbonlessons.com)

Vocab and ideas to assist:

truncation = to shorten by cutting off a part … use for variants of search terms or of spelling

wildcard ? # used when unsure of spelling or to find alternative spellings

quotation marks = exact phrase searching “world war II”

term nesting (using parentheses)

term = a word or expression that has an exact meaning in some uses or is limited to a particular field.

Primary source is the original materials or the original source of information about the subject. Examples include diaries, letters, newspaper articles written at the time of the occurrence, pictures, video recordings, works of art such as paintings, original documents (birth certificate) radio programs , television news reporting at time of event, artifacts (clothing, money, furniture, fossils, etc.)

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Following are ideas from Computational Thinking Teachers Resources found at iste.org

algorithmic thinking (a series of ordered steps taken to solve a problem or achieve some end)

Simulation = representation or model of a process. Simulation also involves running experiments using the model.

Problem Decomposition = break down task into smaller, manageable parts.

Investigate alternative options to the problem and the solution.

algorithm = a set of rules for solving a problem in a finite or limited number of steps

Pseudocode is a term for describing something in your native language.
http://www.bfoit.org/itp/Pseudocode.html