NOTE: The 4 steps of online database searching are (1) identify the main concepts in your research question, (2) list synonyms for the main concepts, (3) create a preliminary search, and (4) interact with search results to refine. See Academic Search Premier scholarly article search (5min screencast click for transcript). For more tutorials about research, see the CUNE Research Toolkit.

Example research question (main concepts = red)
Build a device that detects electromagnetic fields (using an Arduino and an antenna) Use the detector to measure the strength of electromagnetic fields near power lines and near various appliances. Related search terms: physiologic effects of electromagnetic fields

Recommended searches
Click on examples in Bold Italics – then revise the search based on your research question.

1. Print and/or online reference books for background information and lists of potential sources
   Click for list
2. WorldCat Local (WCL) For more information see WorldCat Local > [top l.margin] WorldCat > Help
   kw:electromagnet* NOT juvenile = over 830,000 results from Libraries Worldwide – use left margin to limit
   su:(detectors design and construction) = over 1,200 results from Libraries Worldwide – use left margin to limit
   kw:(electromagnet* AND arduino) = about 40 results from Libraries Worldwide > [l.margin] Book > Environmental monitoring with arduino > Chapter 4 “Detecting electromagnetic interference (and making bad music)”
3. Journal Finder advanced search
4. Open access databases [for more about open access see http://www.plos.org/open-access/]
   DOAJ http://doaj.org/ > search all: arduino = 146 results
   ADS (Astrophysics Data System) http://www.adsabs.harvard.edu/
   AIP-Scitation Advanced Search http://scitation.aip.org/search/advancedsearch
   HEP (High Energy Physics) Search http://inspirehep.net/?ln=en
   HighWire http://highwire.stanford.edu/lists/browse.dtl > Physical Sciences > Physics
   Hindawi Publishing http://www.hindawi.com/journals/ [12 titles with 'physics' in the title]
   PhysDoc http://de.physnet.net/PhysNet/physdoc.html
   ScienceDirect http://www.sciencedirect.com/ “6 ways to find Elsevier’s open access content”
   Selected Internet Resources-Physics http://www.loc.gov/rr/scitech/selected-internet/physics.html
   UMD Technical Reports Center http://lib.guides.umd.edu/techreports
   WorldWideScience.org Advanced Search http://worldwidescience.org/wws/
5. CUNE online databases at Natural Sciences Resources
   Academic Search Premier, GreenFILE, & OmniFile simultaneous search (using Choose Databases) su(electromagnet*) and (physiolog* or measur* or detect* or sensor) and (power or grid or electric* or appliance) = about 12,275 results
   JSTOR ti:(electromag*) and full text:(physiolog* or measure or detect or sensor) and full text:(power or grid or electric or appliance) = 27 results
6. Other resources
   The Feynman Lectures on Physics http://www.feynmanlectures.info/ For example, electromagnetism
   Free Scientific Research Resources on the Web http://instr.iastate.libguides.com/freescientific
   Internet for physics tutorial http://www.vtstutorials.co.uk/ > Physics
   Physics http://researchguides.dartmouth.edu/physics
   Primary & secondary sources http://www.clipinfolit.org/tutorials/primary-and-secondary-sources
   Primary vs. secondary sources http://www1.chapman.edu/library/instruction/tutorials/primary.html
   Wolfram Library Archive http://library.wolfram.com/ For example, electromagnetism

One-minute Feedback on today’s session: https://www.surveymonkey.com/s/HCBSPTG