HOW DO MOST SEARCH ENGINES WORK?

1) Gather information from the Web

   A) Software crawlers, spiders, robots, bots are used to visit pages and sample content
      
      - How does sampling occur? Title, metadata, clustering, etc.
      - How often do crawlers visit?

   B) Humans search for or submit pages for indexing

   C) Hybrid: crawler/human

2) Index information that is returned by crawlers

3) Answer queries from users

   These search engines work superbly for a wide range of queries

   However, it is always good practice to use more than one search engine to perform a given search.

   And, METASEARCH ENGINES like ixquick and dogpile can be used to search several engines at once.

4) Always remember that most search engines are trying to sell you something. They are funded mostly by advertisers and these advertisers may be favored in searches--so that their sites always come up at the top of search results, for example, or in other ways.
THREE PROBLEMS

1) Ambiguous names and terms—A common problem in cartography and geography when search for information about places with confusing placenames and different names in different languages

   This is a reason for learning and using the advanced search options available for most search engines.

2) Finding different types of map and geospatial data

   Sometimes the difference between finding finished maps and the raw data on which they are based.

   See examples from www.nationalatlas.gov
   Raster versus vector formats

3) Access to the "Deep" or "Invisible" Web, including:

   A) Databases and web sites that generate responses dynamically from databases

      - http://www.geocomm.com/
      - http://www.loc.gov

   B) Dynamic maps and mapservers

   C) Sites that block crawlers

   D) Rapidly changing sites
References

General Information About How Engines Work

http://searchenginewatch.com/

Search Engine Feature Chart

http://www.searchengineshowdown.com/

Examples of Metasearch Engines

http://www.dogpile.com/
http://us.ixquick.com/eng/

How Different Are the Results?

http://www.langreiter.com/exec/yahoo-vs-google.html

Internet Tutorials, http://www.internettutorials.net/, including:

Laura Cohen, The World of Search Engines
http://www.internettutorials.net/world-of-search-engines.asp

Laura Cohen, How to Choose a Search Tool
http://www.internettutorials.net/choose.asp

Laura Cohen, The Deep Web
http://www.internettutorials.net/deepweb.asp