Basics of Literature Searching
PSCI 4442
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Why search the literature?
- Find out if information from proposed project is already available
- Acquire a broad general background in a given field
- Acquire new ideas for exploration

Basic Types of Literature
- Primary literature – a peer-reviewed written format relaying results of work for the first time to a community larger than the research group itself
- Secondary literature – publications that synthesize and summarize information from the primary literature
- Tertiary literature – based on primary or secondary sources and aimed at scientists working in different areas from the main topic
- Gray (or Grey) literature – publications (including electronic) not usually available through ordinary bibliographic routes

Examples of Primary Literature
- Many of the American Chemical Society Journals (Journal of the American Chemical Society, Journal of Organic Chemistry, etc.
- Physics Review Letters – several flavors
- Many other journals in specific areas
- Conference proceedings
- Government reports, patents, assertions

Characteristics of Primary Literature
- Describes original research
- Written in enough detail that work could be reproduced
- Very specific
- May see the terms “We” or “I” used
- Fairly standard format: Intro, Materials and Methods, Results, Discussion and Conclusion
- Possibly difficult to follow if subject not well understood
**Characteristics of Secondary Literature**
- Summarizes and/or brings together primary literature results in a specific field.
- Mostly references primary literature sources.
- Authors likely have produced primary literature in the subject field.
- Useful for “getting up to speed” in an area one with which one is not overly familiar.

**Examples of Secondary Literature**
- Review articles (Accounts of Chemical Research, Chemical Reviews, Nature, Science, etc.)
- Could be books.
- Monographs, multigraphs (several authors contributing sections).
- Encyclopedias and dictionaries.
- Handbooks and data compilations.
- Bibliographies.

**Characteristics of Tertiary Literature**
- Written in a more popular style rather than a scientific style.
- Do not necessarily include references to the primary literature.

**Examples of Tertiary Literature**
- Science magazines.
- Newsletters.
- Science articles in newspapers.
- Introductory textbooks.
- Encyclopedias.

**Characteristics of Gray Literature**
- Limited distribution channels.
- Some peer-reviewed, some not.
- Typically not produced by commercial publishers.

**Examples of Gray Literature**
- Technical reports.
- Preprints.
- Business documents.
- Government documents.
- Symposia.
- Unpublished works.
- Notes on finding gray literature.

(http://www.doncio.navy.mil/iltoolkit/Types_Gray_Lit.htm)
An Approach to Exploring a Topic

- Approach depends upon familiarity with topic. If not familiar with topic, start at the tertiary or secondary level and work towards the primary.
- For example, start with an encyclopedia or book, move to review article and, from there look in the primary literature.