

Primary Sources/Research Studies - Natural Sciences

When completing research for your **biology, chemistry, exercise science, and nursing** classes, you will have to differentiate between primary and secondary sources.

I. Primary Sources

Primary source documents in the sciences focus on original research, ideas, or findings in the following formats:

- research studies published in academic journals.
- laboratory notebooks
- journals
- conference papers
- dissertations*
- plant or mineral samples.
- interviews with patients about health

*Dissertations are not used for student papers and cannot be ordered through interlibrary loan.

Characteristics of Research Studies/Primary Sources

- The researchers explain their methods of research, as well as the results.
- Primary source articles often include the following subheadings: methods, results, and discussion.
- Article abstracts often indicate if the article is an actual research study or merely a review.
- Words used in the article, such as “double-blind” “randomized,” or “clinical trial” will indicate the nature of the article.

II. Secondary Sources

A secondary source interprets or analyzes more than one primary source. For instance, researchers might analyze or review the results from several similar studies; these are known as **meta-analyses** or **review articles**. Secondary sources also include **literature reviews, bibliographies, dictionaries, and encyclopedias**. Use secondary sources to get a broad overview of a topic. Use bibliographies to identify primary sources cited in review articles.

III. Find Primary Sources in the Library

Primary sources can be found in many of the library’s online databases. See chart for specific search tips to retrieve a high percentage of research studies/primary sources. *Some* helpful databases are listed below.

Medline
ScienceDirect
Wiley InterScience
SciFinder Scholar
SpringerLink

PubMed
BioOne
American Chemical Society Publications
CINAHL
SPORTDiscus

MURRAY LIBRARY
MESSIAH COLLEGE – BOX 3002
GRANTHAM, PA 17027
(717) 691-6006
WWW.MESSIAH.EDU/MURRAYLIBRARY



Locating Primary Sources/Research Studies in Natural Sciences Databases

Database	Limit to Primary Sources / Research Studies
Medline with Fulltext Indexing, 1965-	<ul style="list-style-type: none"> • Click the Refine Search tab • Limit to English language • Limit to Publication type: controlled, clinical trial, randomized controlled trial, multi-center study, or case report
PubMed	<ul style="list-style-type: none"> • Click on Limits tab. • Under Type of Article: controlled, clinical trial, randomized controlled trial, multi-center study, or case report
CINAHL Indexing, 1982-	<ul style="list-style-type: none"> • Limit to Publication type: case study, clinical trial, protocol, questionnaire/scale, research • NOTE: Checking the “Research” box will limit to research studies, but also includes literature reviews
BioOne Indexing, 1999- Links to fulltext	<ul style="list-style-type: none"> • Scroll down & key in abstract box: study. Add other keywords for your topic. • NOTE: Most of the results will be primary sources / research studies.
Science Direct Indexing, 1995- Fulltext (for subscribed journals only), 1995-	Primary Sources / Research studies: <ul style="list-style-type: none"> • Change one pull-down menu to Abstract. Use keywords: trial or study • Add other keywords for your topic to the second search box. • NOTE Most of the results will be primary sources /research studies.
SciFinder Scholar Indexing with links to fulltext.	<ul style="list-style-type: none"> • Under Explore option, search topic keywords. • At results list, click on Analyze/Refine button; then Analyze button. • Select Document type > OK > Clinical trial or Controlled clinical trial.
SPORTDiscus with Fulltext Indexing, 1975-	<ul style="list-style-type: none"> • May limit to journal articles (publication type) Primary Sources / Research studies: • Change one pull-down menu to Abstract • In Abstract search box, enter one of these keyword/phrases: randomized, trial, “comparative study,” “prospective study”

Page 1 adapted from *Guide to Library Research in Science*, The College of Wooster, Timken Science Library:

<http://www.wooster.edu/Library/sciref/Tutor/EvSciInfo/primary.php> and *Using Primary Sources to Answer Foreground Questions*, Western Connecticut State University Libraries: http://library.wcsu.edu/web/assistance/research/nursing/tutorial/g_primary/