

Biology Research Guide

[Find Books](#)

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[Suggested Websites](#)

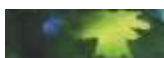
[Research Process Guide](#)

I. Find Books

A) Reference Materials: Encyclopedias, Dictionaries, etc.

Reference materials offer background information and broad overviews of subjects. This information is often helpful in narrowing your topic and in selecting a specific area to explore further. Reference materials such as almanacs and yearbooks also provide quick access to statistical data.

1) Suggested Titles:

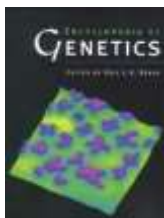


Dictionary of
BIOLOGY

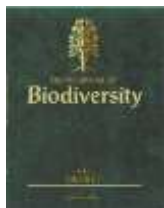
[Penguin Dictionary of Biology](#). London: Penguin Books, 2004. (REF QH13 .N62 2004) Defines nearly 6000 terms, including more than 400 new entries to account for new developments in genetics, disease, and cell biology.



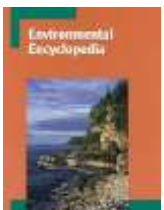
[McGraw-Hill Dictionary of Bioscience](#). New York, NY: McGraw-Hill, 2003. (E-book) Covers more than 20 areas of life science, including anatomy, biochemistry, botany, evolution, genetics, microbiology, physiology, and zoology.



[Encyclopedia of Genetics](#). London: Fitzroy Dearborn, 2001. (REF QH427 .E533 2001) Includes 125 entries, covering all branches of genetics: bacteria, viruses, insects, animals, plants, and humans.



[Encyclopedia of Biodiversity](#). San Diego, CA: Academic Press, 2001. (REF QH541.15 .B56 E53 2001). Major themes of the work include the evolution of biodiversity, systems for classifying and defining biodiversity, ecological patterns and theories of biodiversity, and an assessment of contemporary patterns and trends in biodiversity.



[Environmental Encyclopedia](#). Detroit, MI: Gale, 2003. (REF GE10 .E38 2003). Consists of nearly 1,300 signed articles and term definitions. This is the 3rd edition of the award-winning Environmental Encyclopedia. It provides an in-depth, worldwide coverage of environmental issues.

B) [Library Catalog](#): **Find Books**

Students can search the library's online catalog for print and e-books available within the VC library system.

E-Books:

The library's e-books can be checked-out and downloaded to an iPad, PC, or other personal device. To download e-books, install an e-reader such as Adobe Digital Editions, select a book from the library catalog, and then check-out and download the book to your device.

View [instructions](#) for downloading e-books.

E-books are loaned for a period of 1 to 7 days. At the end of the check-out period, the book is no longer accessible and automatically returned for use by other patrons. If a book you are wanting is in use, you can place a hold on the book and receive an email notification when the book is available.

C) [Browse the Collection](#)

Physically browse the titles shelved by call number in the following Library of Congress Classification ranges:

GE: Environmental Sciences

QL: Zoology

GF: Human Ecology

QM: Human Anatomy

QH 1-278.5: Natural History

QP: Physiology

QH 301-705.5: Biology

QR: Microbiology

QK: Botany

II. Find Articles

A) Article Databases

1. [Gale Academic OneFile](#) is the library's multidisciplinary database that offers full-text journal coverage in almost all subject areas including social sciences, political science, technology, health sciences, literature, and more. Students can enter their search term to search hundreds of journals at once for articles on their topic.

Features also include the ability to:

- Automatically generate a citation in the formatting style of your choice.
- Highlight text and insert notes.
- Download your markups into your Google Drive or One Drive.
- Filter your results by publication date, document type, and more.

B) [In-house Magazines and Journals](#): *Discover*, *National Geographic*, and *National Wildlife*, and *Scientific American* are all available in the reference section of the Wright Library, located on the Vernon campus.

III. Suggested Websites

[PubMed](#): PubMed comprises more than 22 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

[Encyclopedia of Life](#): An effort to compile information about all Earth's life-forms from books, journals, databases, websites, specimen collections, and human thoughts and observations into one location.

[National Center for Biotechnology Information](#): The National Center for Biotechnology Information advances science and health by providing access to biomedical and genomic information.

The Research Process

- 1) Select a topic that you find interesting and appropriate for the assignment.
- 2) Review reference sources such as subject encyclopedias for background information to help focus or narrow the search.

For example, students interested in **antibiotics** may consult the *McGraw-Hill Encyclopedia of Science & Technology* for ideas in narrowing the focus to their use in **farm animals**.

- 3) Restate the topic as a question. Inquiry is at the heart of the research process, a quest to locate information which answers questions and leads researchers to a greater understanding of the topic.

Restating the topic as a question will help in:

- Locating information that is useful and relevant to the primary focus or thesis of your research.
- Identifying the keywords or phrases to use in the search statement.

Example: What problems have resulted from the prophylactic use of **antibiotics** among **farm animals**?

- 4) Develop a search statement by combining keywords or concepts from the research question. For example, "**antibiotics**" and "**farm animals**" were identified as keywords in the question above. By connecting one or more terms with the Boolean operator "**and**", the researcher will retrieve only those articles that discuss *both* concepts, thus improving the relevancy of the search.

Enter in search field: **antibiotics and farm animals**

- 5) Develop alternate search statements to improve the search results. Authors may use various terms to describe the same concept.

For example, **farm animals** is often used in the same context as **livestock**.

By identifying and connecting alternate terms, researchers may expand the search results. As indicated below, consider brainstorming and listing synonyms or word variations to identify alternate keywords.

Concept 1		Concept 2
antibiotics	AND	farm animals
antibacterial drugs	AND	livestock
antimicrobial drugs	AND	poultry
anti-infective agent	AND	cattle

- 6) Evaluate information for objectivity and reliability.
- 7) Cite the information borrowed from other authors or informational sources. Careful documentation will ensure that credit is given with no intention to plagiarize or claim ownership of information belonging to other researchers. For explanations and examples, visit the [Duke University Library's Citation page](#).

Questions?

Email: librarian@vernoncollege.edu

Chat: Select the chat icon on the library homepage.

Phone: 940-552-6291 ext: 2222