

# Beyond the Books: The Novi Library presents: Great Online Resources for Science

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## General Science Links

### [National Science Foundation](#)

An independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense..."

### [Science.gov](#)

Science.gov searches over 50 databases and over 2100 selected websites from 14 federal agencies, offering 200 million pages of authoritative U.S. government science information including research and development results.

## Astronomy (520s)

### [Ask an Astronomer!](#)

From the graduate students and scientists at Cornell University's Astronomy Department

### [Astro/Space Frequently Seen Acronyms](#)

A list of frequently used acronyms in astronomy and space-related information

### [Astronomy Thesaurus](#)

This reference tool will help you standardize your terminology when it comes to astronomy.

### [Earth and Moon Viewer](#)

Clickable satellite maps of the Earth and the Moon. You can select views of Earth from the Moon or from the Sun, locate specific craters on the Moon by name, zoom in and out, and select different types of displays including topographic maps, weather maps and cloud maps.

### [The Heretic's Guide to Choosing and Buying Your First Telescope](#)

For the amateur astronomer - Includes a look at several kinds of scopes, a glossary, and a frequently asked questions section.

### [Hubblesite](#)

The Hubble Space Telescope

### [Physics and Astronomy Reference](#)

Extensive library of educational and reference materials

### [Project Galileo: Bringing Jupiter to Earth](#)

Up-to-date information on the Galileo spacecraft, including links to Galileo's Mission, Images, Frequently Asked Questions, Statistics, and Educational Resources.

### [US Naval Observatory](#)

provides a wide range of astronomical data and products, and serves as the official source of time for the U.S. Department of Defense and a standard of time for the entire United States

## Physics (530s)

### [American Institute of Physics \(AIP\)](#)

The official site of professional physicists. A great site with good links, info on physics as a career, news on federal government science policy, and current articles on physics subjects.

### [Eric Weisstein's World of Physics](#)

This resource has been assembled over more than a decade by internet encyclopedist Eric W. Weisstein with assistance from the internet community.

### [Khan Academy – Physics](#)

An excellent resource to make the content understandable.

### [Motion & Forces Hosted by the Lawrence Berkeley National Laboratory](#)

A collection of links covering a wide array of physics principles and how they relate to everyday life, from aerodynamics and energy to momentum and thermodynamics.

### [List of Physics Laws](#)

A glossary of physics-related terms and concepts.

### [Physics Classroom Resources](#)

from the National Science Foundation

### [Newton's Laws of Motion Hosted by NASA](#)

for college, high school, or middle school students

### [Physics.org](#)

by the Physics in Society team at the Institute of Physics. Aims to inspire people of all ages about physics. Get the latest news in physics or search a database of over 4,000 physics sites online

### [Physics Classroms](#)

Developed primarily for high school physics students and teachers. The website features a variety of sections intended to support both teachers and students in the tasks of learning and teaching physics.

### [PhysLink.com](#)

From a great physics glossary to the Greek alphabet, this site offers many references making it well worth bookmarking.

### [Stephen Hawking's Universe](#)

Based on the PBS television series, this web site presents the concepts behind astronomy, relativity, and quantum mechanics in laymen's terms. Topics covered include the Big Bang, Black Holes, Dark Matter, Radioactivity, Schrodinger's Cat, Wormholes and more.

### [Thermodynamics](#)

From the American Physical Society

### ["What's That Stuff?"](#)

Ever wondered about what's really in hair coloring, Silly Putty, Cheese Wiz, artificial snow, or self-tanners? Chemical & Engineering News presents a collection of articles that gives you a look at the chemistry behind a wide variety of everyday products.

## Chemistry (540s)

### [ABC Chhemistry](#)

Directory of free full-text journals in Chemistry

### [American Chemical Society](#)

the American Chemical Society (ACS) is the world's largest scientific, a nonprofit organization, chartered by Congress. ACS is at the forefront of the evolving worldwide chemical enterprise and the premier professional home for chemists, chemical engineers and related professions around the globe.

### [American Chemistry Council](#)

As America's oldest trade association of its kind, the American Chemistry Council's (ACC's) is committed to sustainable development by fostering progress in our economy, environment and society.

### [BrainPOP Chemistry](#)

Conceived as a creative way to explain difficult concepts, BrainPOP uses animated, curricular content that engages students, supports educators, and bolsters achievement. Their mobile apps have been downloaded millions of times.

### [Chemdex](#)

Maintained by the Department of Chemistry, University of Sheffield, England

### [Chemicool](#)

Periodic table that includes extensive information about the elements.

### [Chemistry Central](#)

Open access chemistry journals

### [Chemistry Quick Facts](#)

Chemical properties by name, atomic number, density, electron configuration and more.

### [ChemSpider](#)

A free chemical structure database providing fast text and structure search access to over 26 million structures from hundreds of data sources.

### [General Chemistry Online](#)

Tutorials, glossary, trivia and more, including the names, formulas, structures, and properties for over 800 common compounds.

### [Interactive Periodic Table](#)

overview for each element with basic information, atomic structure, and discovery information

## Earth Sciences (550s)

### [Basic Hydrology](#)

A general overview of the science, and how it has come to help the environment.

### [Board on Atmospheric Sciences & Climate](#)

The BASC organizes and oversees studies addressing weather and atmospheric sciences issues.

### [Cascades Volcano Observatory](#)

Facts, figures, photos, research, history, definitions, and descriptions of Volcanos

### [CHRONOS](#)

A source for Earth history data, visualization tools, expert opinion, and educational materials.

### [Climatology as a Profession](#)

A brief history of what climatology used to be, followed by what it is and may yet become.

### [Earth Science and Oceanography Education](#)

Resources for teachers and students about oceanography.

### [Earth Science World](#)

Website developed by the American Geological Institute

### [Earth's Active Volcanoes](#)

Listed by Geographic Region, by Michigan Technological University

### [Education Resources from the US Geological Service](#)

Videos, Images, Maps, Lectures, and other educational resources

### [Extreme Ice Survey](#)

News, blogs, and educational resources about this survey, and what it is doing regarding the study of climate change.

### [The Geography Site: Physical Geography](#)

This site is a complete resource for physical geography, with dozens of constantly updated articles.

### [Geologic Time Scale](#)

Stratigraphic charts of geologic time.

### [Geological and Geophysical Databases, Information, and GIS Map Server](#)

Information, data, and maps for scientists, students and for those who are interested in the geological sciences

### [GeoSciences E-Journals](#)

Provides a portal to 54 peer-reviewed international journals that contain articles on various topics that have to do with the field of Geoscience

### [Glossary of Meteorology](#)

From the American Meteorological Society

### [International Association of Geodesy](#)

Anyone thinking of a career in geodesy should consider the information available on this site, including the meetings and assemblies they attend.

### [Introduction to Geomicrobiology](#)

A complete presentation on what exactly geomicrobiology is.

### [Introduction to Soil Science](#)

This introduction covers everything from what soil is to the applications of the study of soil.

### [Marine Geology](#)

A basic overview of what marine geology is, provided by the US Geological Survey.

### [Marine Sediment and Rock Data](#)

from the National Oceanic and Atmospheric Administration. Includes descriptions, Photographs, and Analyses of Marine and Lakebed Sediments and Rocks, from the National Geophysical Data Center

### [National Archive of Geological Photographs](#)

Contains approximately 6,400 digitized images dedicated to the theme of earth sciences.

### [National Geodetic Survey](#)

Constantly updated news and publications regarding this exciting science.

### [National Snow and Ice Data Center](#)

supports research into our world's frozen realms: the snow, ice, glaciers, frozen ground, and climate interactions that make up Earth's cryosphere.

### [Oceanic and Atmospheric Sciences Internet Guide](#)

From the National Oceanic Data Center

### [The Oceanography Society](#)

A site full of information and resources regarding the study of life in the ocean.

### [Paleobiology Database](#)

The Paleobiology Database seeks to provide researchers and the public with information about the entire fossil record. All data can be downloaded.

### [Paleoceanography](#)

This site from the National Climatic Data Center provides tons of download-able information

about the field.

### [Rainbow of Gems](#)

Descriptions of gemstones and their characteristics

### [Soil Science Education](#)

Links, features, resources, and more can be found on this site.

### [Tsunami and Earthquake Research at the USGS](#)

Contains overview documents about recent earthquakes and resulting tsunamis from selected events since 1998.

### [U.S. Geological Survey](#)

As the Nation's largest water, earth, and biological science and civilian mapping agency, the U.S. Geological Survey (USGS) collects, monitors, analyzes, and provides scientific understanding about natural resource conditions, issues, and problems.

### [What are GIS and Remote Sensing](#)

Learn how making measurements of the earth remotely has a profound effect on scientific endeavors.

## Life Sciences

### Biology (570s)

#### [BiologyBrowser](#)

BiologyBrowser links to free, searchable resources covering all aspects of biology. Also includes links to a science discussion forum, and an international science conference calendar and archive. It is maintained by the Thomson Corporation as part of its Web of Science

#### [Classroom Resources](#)

from The National Science Foundation

#### [EOL - Encyclopedia of Life](#)

Collaborative effort between several institutions that seeks to be an open, freely accessible and trusted digital resource providing global access to knowledge about life on Earth. Over the next 10 years, the Encyclopedia of Life will create pages for all 1.8 million species currently named. The pages will provide written information and, when available, photographs, video, sound, location maps, and other multimedia information on each species.

#### [Khan Academy - Biology](#)

Biology videos from the Khan Academy

#### [NatureServe Explorer: An Online Encyclopedia of Life](#)

Conservation information on plants, animals, and ecological communities in the U.S. and Canada

#### [Stem Cell Resources](#)

Provides timely, reliable, high-quality and scientifically credible stem cell information for the educational community worldwide

#### [The Cell: an Image Library](#)

Free repository of annotated images, videos, and animations of cells from a variety of organisms, showcasing cell architecture, intracellular functionalities, and both normal and abnormal processes

#### [The Human Genome Project](#)

A large collection of information files related to the Project (1990-1993). New information related to the project is still added to the website.

#### [Tour of a Cell](#)

From the National Science Foundation

#### [Understanding Evolution](#)

a non-commercial, education website, teaching the science and history of evolutionary biology with the aim of helping you understand what evolution is, how it works, how it factors into your life, how research in evolutionary biology is performed, and how ideas in this area have changed over time.

## **Plant Sciences - Botany (580s)**

#### [Botany Encyclopedia of Plants and Botanical Dictionary](#)

Gardening resource providing information about cultivation, propagation, varieties and hybrids. Features material on annuals, bulbs, succulents, fruit, grass, water plants, herbs, spices, houseplants, perennials, shrubs, bushes, trees, vegetables, vines, crawlers and wild flowers. Also includes a dictionary of botanical words, links to botanical gardens, associations, and societies

#### [Biodiversity Heritage Library](#)

a consortium of natural history and botanical libraries that cooperate to digitize and make accessible the legacy literature of biodiversity held in their collections and to make that literature available as a part of a global "biodiversity commons."

#### [Botanical Society of America Online Image Collection](#)

15 collections comprising approximately 800 images

#### [Flora of North America](#)

Information on the names, taxonomic relationships, continent-wide distributions, and morphological characteristics of all plants native and naturalized found in North America north of Mexico.

#### [International Plant Names Index](#)

a database of the names and associated basic bibliographical details of seed plants, ferns and lycophytes. Its goal is to eliminate the need for repeated reference to primary sources for basic bibliographic information about plant names.

### [Michigan Flora](#)

Created by the UM Herbarium, the goals of this Michigan Flora Website are to present, in a searchable and browsable form, the basic information about all vascular plants known to occur outside of cultivation in the state

### [Plants Database](#)

by the U.S. Department of Agriculture's Natural Resources Conservation Service

### [Plants for a Future](#)

Search by name, use, habitat and more

### [Plants in Motion](#)

Uses time-lapse photography to show the movements of plants

### [Tree of Life Web Project](#)

Diversity of organisms, evolutionary history, and characteristics

## **Animals & Zoology (590s)**

### [AmphibiaWeb](#)

Provides species descriptions, life history information, conservation status, photos, on amphibian biology and conservation

### [Animal Diversity Web](#)

Animal natural history, distribution, classification, and conservation biology

### [AviBase](#)

An extensive database about all birds of the world.

### [Cephalopod Page](#)

contains photographs and thoroughly researched information on many species of octopus, squid, cuttlefish, and other cephalopods.

### [e-Nature.com: Field Guides](#)

"Field guide to more than 5,500 animals and plants. Birds section includes audio clips.

### [Fishbase](#)

A wealth of information about the worlds' fish species. Search for information by common name, scientific name, country, ecosystem, or topic

### [Insectclopedia](#)

Insect information, including a section where species are covered alphabetically, insect control, research, identification, and pests found in crops, forests, gardens, homes, and lawns

### [North American Mammals](#)

From the Smithsonian

### [U.S Fish and Wildlife Service](#)

Among the oldest in the world dedicated to natural resource conservation, the U.S. Fish & Wildlife Service is a bureau within the Department of the Interior, whose mission is to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.