

# MHS LIBRARY RESOURCE GUIDE

## Science Edition 1.0

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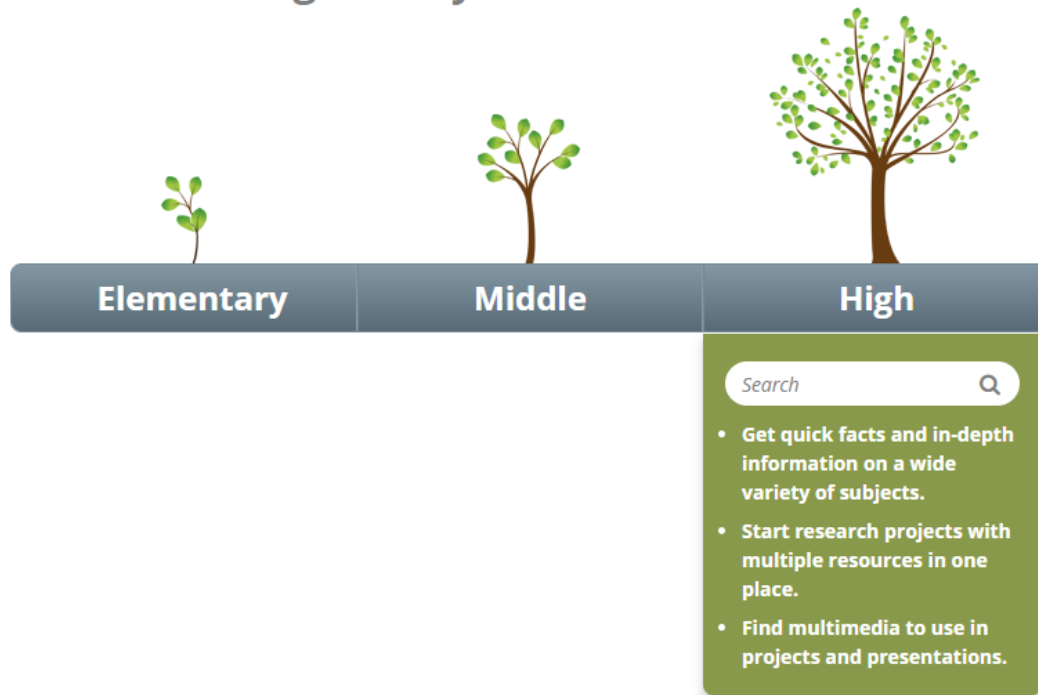


<sup>1</sup> Also available through the library's homepage at [milfordpublicschools.com](http://milfordpublicschools.com)

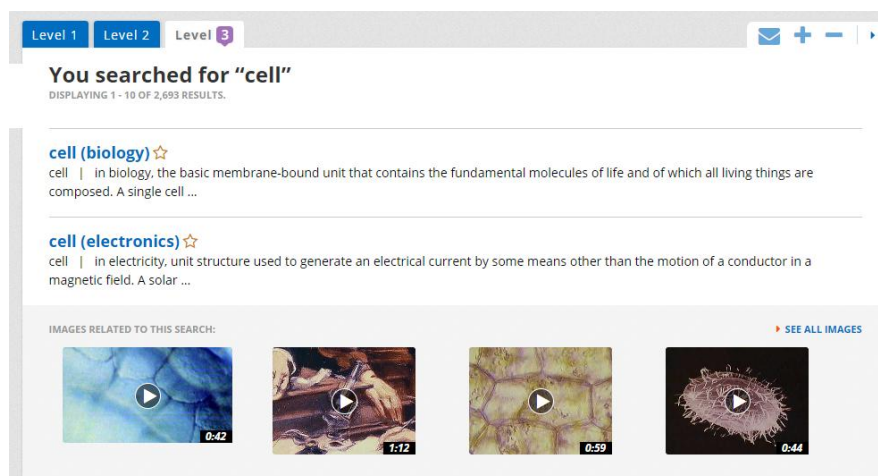


Use this for general overviews of particular topics (any discipline). This is a good alternative to Wikipedia, especially Wikipedia entries that are still under development.

Select learning for any level.



Start with High School. For students having difficulty you can adjust the reading level within the search results by selecting a different level (1= Elementary School; 2=Middle School; 3= High School).



The article itself has many features:

The screenshot shows the top of a web browser window with a toolbar containing icons for star, print, email, checkmark, globe, speaker, and zoom. Below the toolbar, the article title 'Cell' is partially visible. Underneath, there's a section for 'Article Reading Level' with three numbered buttons (1, 2, 3) and a purple speech bubble icon. Below that, it says 'Alternate titles: cell system'. The main heading is 'Introduction'. To the left of the text is a video player showing a 3D model of a cell with a play button and a 0:44 duration. Below the video is a diagram of a cell with various organelles labeled: lysosome, peroxisome, centriole, centrosome, cilium, microvillus, mitochondrion, ribosomes, nucleoplasm, nucleolus, nuclear pore, and nucleus. The text to the right of the video and diagram describes the cell as the basic membrane-bound unit of life, mentioning examples like bacteria and yeast, and discussing the size and mass of cells relative to atoms and human cells.

Article Reading Level 1 2 3

Alternate titles: cell system

## Introduction

Cell, in biology, the basic membrane-bound unit that contains the fundamental molecules of life and of which all living things are composed. A single cell is often a complete organism in itself, such as a [bacterium](#) or [yeast](#). Other cells acquire specialized functions as they mature. These cells cooperate with other specialized cells and become the building blocks of large multicellular organisms, such as animals and humans. Although cells are much larger than atoms, they are still very small. The smallest known cells are a group of tiny bacteria called [mycoplasmas](#); some of these single-celled organisms are spheres about 0.3 micrometre in diameter, with a total mass of  $10^{-14}$  gram—equal to that of 8,000,000,000 hydrogen atoms. Cells of humans typically have a mass 400,000 times larger than the mass of a single mycoplasma bacterium, but even human cells are only about 20 micrometres across. It would require a sheet of about 10,000 human cells to cover the head of a pin, and each human

It can be translated to virtually any language by selecting the icon.

It can be read aloud by clicking the , which is especially useful for EL students

It can be cited by clicking the icon. The system can cite in APA, MLA, Chicago and Harvard:

The screenshot shows a citation pop-up window titled 'Cite'. It contains a disclaimer: 'While every effort has been made to follow citation style rules, there may be some discrepancies. Please refer to the appropriate style manual or other sources if you have any questions.' Below this is a section 'Select citation style' with a dropdown menu currently set to 'Harvard'. At the bottom, it provides the citation: 'Cell 2017. Britannica School. Retrieved 4 October 2017, from http://school.eb.com/levels/high/article/cell/106125'.


### Cite

While every effort has been made to follow citation style rules, there may be some discrepancies. Please refer to the appropriate style manual or other sources if you have any questions.

Select citation style

Harvard ▼

Cell 2017. *Britannica School*. Retrieved 4 October 2017, from <http://school.eb.com/levels/high/article/cell/106125>


You can also email an article to your entire class by selecting the , and adding a special email list.



**General Science Collection** is for finding articles from periodicals (academic journals, magazines, etc.) about different topics in science.

Search by keyword or use the more advanced search functions (author, periodical title, etc.). You can also use “Topic Finder” which will select resources for you (discussed below).

DISCOVER A COMPREHENSIVE PERIODICAL COLLECTION SUPPORTING THE  
LATEST SCIENTIFIC DEVELOPMENTS


 Cancer

Basic Search ▾ >

SUBJECT GUIDE SEARCH

PUBLICATION SEARCH

### TOPIC FINDER



Use the Topic Finder to discover the context of your search term and uncover hidden connections.

### TOP SEARCHES

Alternative Energy

Cancer

Genetically Modified Organisms

Global Warming

NASA

*General Science Collection contains 3,212,969 articles and was last updated as recently as October 03, 2017.*

Articles can be sorted by date or relevance. See the variety below. If it says “Citation” it means you don’t have access to the entire article. If it says “Full-Text” it means you do.

## Academic Journals (77,907)

Search Terms: *Basic Search (Cancer)*
Sort by: Relevance

Citation: *REPORT*

[Synthetic lethality and cancer](#)

Nigel J. O’Neil, Melanie L. Bailey, and Philip Hieter.

Nature Reviews Genetics.

18.10 (Oct. 2017) p813. Word Count: 10304. Reading Level (Lexile): 1650.

Save

Full-text: *ARTICLE*

[Pathway-based discovery of genetic interactions in breast cancer](#)

Wen Wang, Zack Z. Xu, Michael Costanzo, Charles Boone, Carol A. Lange, and Chad L. Myers.

PLoS Genetics.

13.9 (Sept. 28, 2017) pe1006973. Word Count: 14016. Reading Level (Lexile): 1600.

Author(s): Wen Wang 1, Zack Z. Xu 1,2, Michael Costanzo 3, Charles Boone 3, Carol A. Lange 4, Chad L. Myers 1,\*

Introduction Cancer, like many common diseases, is influenced by a variety of genetic and environmental...

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Full-text: *ARTICLE*

[Ribosomal DNA copy number amplification and loss in human cancers is linked to tumor genetic context, nucleolus activity, and proliferation](#)

Meng Wang and Bernardo Lemos.

PLoS Genetics.

13.9 (Sept. 7, 2017) pe1006994. Word Count: 10533. Reading Level (Lexile): 1490.

Author(s): Meng Wang, Bernardo Lemos \* Introduction The ribosomal DNA (rDNA) arrays give origin to the nucleolus, the nuclear organelle that is the site of ribosomal RNA (rRNA) transcription and ribosome biogenesis [1]...

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## Content Types

Academic Journals (77,907)

Magazines (10,074)

Books (70)

News (4,662)

Images (336)

Videos (53)

## Search within results

Search within results

## Limit Search by:

☐ Full Text

☐ Peer Reviewed Journals

☐ Contains Images

## Publication Dates:

Past Week

Past Month

Past Year

Custom Date Range

## Subjects

Gene expression (5520)

Genetic research (2448)

Cancer cells (2358)

## Document Type

Report (38507)

Article (28726)

**NOTE:** Academic journals (e.g. *PLoS Genetics*) are very advanced. Magazine articles (e.g. *Popular Mechanics*) are more engaging, and usually summarize different advances that are formally written-up in academic journals.



Each article has several “tools” you and your students can use.

The screenshot displays a digital article interface. At the top, there's a search bar with the text "Search Results". To the right of the search bar are two buttons: "Download PDF" and "Related Resources". Below the search bar, the article title "It'll take an army to kill the emperor" is prominently displayed. Underneath the title, the author's name "Jacqueline Detuiler" is listed. The article is from "Popular Mechanics", issue 194.6 (June 2017), page 74. A copyright notice states "Copyright: COPYRIGHT 2017 Hearst Communications. Reprinted with permission of Hearst." and provides the URL "http://www.hearst.com". Below the article information, there is a "Listen" button with a play icon. The main text of the article is titled "Full Text:" and begins with "The men and women who are trying to bring down cancer are starting to join forces rather than work alone. Together, they are winning a few of the battles against the world's fiercest disease. For this unprecedented special report, we visited elite cancer research centers around the country to find out where we are in the war." The text continues with "I. PRECISION MEDICINE OR What is cancer, though, really?" and then describes a visit to St. Jude Children's Research Hospital in Memphis, Tennessee. Several sentences in the text are highlighted in yellow, indicating that the highlighting tool has been used. The sidebar on the right, titled "Tools", contains various options: "Citation Tools", "E-mail", "Download", "Print", "Highlights and Notes (2)", "Save", "Download MP3", "Share" (with a plus icon), "Translate Article" (with a dropdown arrow), a search box with the text "within publication" and a magnifying glass icon, a checkbox for "limit to this issue", and a "+ Related Subjects" button.

To add highlights, simply click the mouse and scroll over the text you want to highlight. A box will appear that lets you choose the color and add notes.

To view all highlights and notes, select  Highlights and Notes from the tool bar.

To cite the source (APA, MLA, Chicago, Harvard) select  Citation Tools from the tool bar.

To save to your Google drive, select  Download from the toolbar.

To share an article via Social Media select  Share from the toolbar.



Environmental Studies and Policy Collection works like all the other databases and has the same tools available, so here we will explore the “Topic Finder”.

Start by typing in a keyword. After the initial analysis, you will get a word-graphic with various sub-topics related to “Climate Change”.

View Search Results

Climate Change

Search Terms: Climate Change

There are two ways to visualize below which words and subjects are found most often in the text of your search results.

Visualization: ☐ Wheel ☒ Tiles [Reset](#) [Help](#)

The word cloud visualization shows various sub-topics related to climate change. The most prominent words are "Global Warming", "United Nations", "India", "Sea Level", "Greenhouse Gases", "Carbon Dioxide", "Fossil Fuels", "United States", "New York", "Gulf", "Lake", "Species", "Age", "Town", "Erosion", "Canada", "Urban Areas", "Options", "Nutrition", "Deforestation", "Utility", "Gaps", "Core", "Jim", "Antonio", "Other Topics", "Tree", "Meteorology", "Barack", "Florida", "Puerto Rico", "James", "UCLA", "Atlanta", "Nigeria", "Burkina Faso", "Germany", "Alaska", "Bangladesh", "Human Health", "Disaster Risks", "Century", "Global Temperatures", "Energy", "Adaptation", "Permanent", "Impacts", "Effects", "Emissions", "Forest", "Risks", "Plan", "Energy", "Forest", "Risks", "Plan", "Energy", "Forest", "Risks", "Plan".

**Results**

Clicking on a topic wheel or tile narrows your original search results to the documents also containing that subject or term.

Click on a section to display results.

Selecting one of those begins to show articles on the right (I chose “Sea Level”, so the articles that appear will cover Climate Change and in some way incorporate issues in sea level)

[View Search Results](#)

Climate Change

Search

**Search Terms:** Climate Change

---

There are two ways to visualize below which words and subjects are found most often in the text of your search results.

**Visualization:** ☒ Wheel ☐ Tiles

[Reset](#) [Help](#)

**Results for topic:** **Sea Level** (28)

- Obama: We Can Reverse Climate Change
- Bangladesh reels from the Impact of Climate Change  
[Climate change] [Disaster planning] [Floods] [School build]  
[Schools] [**Sea Level**] [WorldFocus (Television program)]
- Dry me a river: what impact could an unprecedented incic  
'river piracy' have on Canada's Yukon territory?  
  
When Jim Best and Dan Shugar visited the Slims River in  
Canadas Yukon last summer they made a discovery that  
caused the world to sit up and pay attention to this remote  
corner of North America Instead of a flowing... [Climate of  
[Erosion (Geology))] [Rivers]
- The impacts of climate change in Latin America  
  
The latest Intergovernmental Panel on Climate Change re  
IPCC 2007 and other recent assessments Schellnhuber 2  
conclude that the planet will face dangerous climate chan  
consisting of irreversible and drastic... [Biosphere] [Coral  
[Global temperature changes] [Surface ice melting] [Melting]

**You can further refine your topic by continuing to select words from the word-graphic on the left.**





**Academic OneFile searches all databases across disciplines.**

A screenshot of the Academic OneFile website. The header is dark grey with the "GALE Academic OneFile" logo on the left and navigation links "Advanced", "Bookmark", and "More" on the right. Below the header is a "Browse by Discipline" section with a grid of blue buttons for various fields: Biology, Chemistry, Criminal Justice, Economics, Environmental Science, History, Marketing, Political Science, and Psychology. The main content area has a blue background with a search bar containing "Search..." and a "Basic Search" dropdown. Below the search bar are two buttons: "SUBJECT GUIDE SEARCH" and "PUBLICATION SEARCH". The bottom section is divided into two columns: "TOPIC FINDER" on the left, which includes a circular icon and text about discovering context, and "TOP SEARCHES" on the right, which features a grid of blue buttons for topics like "Affordable Care Act", "Climate Change", "Depression", "Police Brutality", "White Supremacy", and "Women in Technology".

The best use of Academic OneFile, aside from general searches, is to ‘Browse by Discipline’. By selecting a discipline, you’ll then see that discipline divided into several sub-categories:

Select a discipline and choose a topic to view articles.

<b>Biology</b>	Chemistry	Criminal Justice	Economics	Environmental Science
History	Marketing	Political Science	Psychology	

Amino acids and proteins Angiosperms Animal behavior Animal development Animal morphology and anatomy Bacteria Biodiversity Biogeography Brain Cambrian Explosion Carbohydrates Cell division Cell structure Cells Chordata Chromosomes	Ecology Enzymes Epigenesis Eukaryotes Evo-Devo Evolution Fossil record Gene expression regulation Genes Genetic disorders Genetic research Gymnosperm Hexapoda Inheritance patterns Marine ecosystems Meiosis	Mutation Natural selection Neural membrane potentials Nucleotides Origin of Life Photosynthesis Phylogeny Plant anatomy and morphology Plant development and growth Predation Prokaryotes Protists RNA Sensory receptors Speciation Symbiosis
--	--	--

Selecting any of these sub-categories will reveal articles:

Academic Journals | (102)

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Full-text: *REPORT*

**Simulating the origins of life: The dual role of RNA replicases as an obstacle to evolution**  
Natalia Szostak, Jaroslaw Synak, Marcin Borowski, Szymon Wasik, and Jacek Blazewicz.  
PLoS ONE.  
12.7 (July 10, 2017) pe0180827. Word Count: 12792. Reading Level (Lexile): 1410.  
Author(s): Natalia Szostak 1,2,3, Jaroslaw Synak 1, Marcin Borowski 1,3, Szymon Wasik 1,2,3,\*, Jacek Blazewicz 1,2,3 1  
Introduction The origins of life and their evolution are currently one of the hottest topics in...

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Full-text: *BRIEF ARTICLE*

**Cosmic rays breed organics in space**  
Nature.  
535.7811 (July 14, 2016) p203. Word Count: 141. Reading Level (Lexile): 1380.  
Cosmic rays help to form the Universe's complex organic molecules--the building blocks of life on Earth. The interstellar gas clouds that give birth to stars and planets are rich in organic molecules, but scientists have...

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---

Full-text: *REPORT*

**For certain projects or groups of students, it makes sense to skip the academic articles altogether and utilize the magazine articles, which provide more engaging readings that summarize important implications of various studies:**

## Magazines (86)

Search Terms: Topic Search (Origin of Life) Sort by: Relevance

Full-text: *ARTICLE*  
**Where did it all begin? A new geological finding stirs questions--and controversy--about where and when earliest life emerged**  
Kat McGowan.  
Popular Science.  
289.5 (September-October 2017) p38. Word Count: 3122. Reading Level (Lexile): 1140.  
The rock is deep rusty red, shot through with gray stripes, it rises above shrubby tundra, part of a hummocky terrain that slopes down to the Hudson Bay in northern Quebec, as it has for a very long time--maybe almost as...

Save

Full-text: *ARTICLE*  
**Science's confusion concerning the origin of life**  
Moshe Averick.  
USA Today.  
145.2862 (Mar. 2017) p46. Word Count: 1955. Reading Level (Lexile): 1070.  
ALTHOUGH the general public disconcertingly is unaware, the simple scientific fact is that scientists do not have even the slightest clue how life could have begun through an unguided, natural process absent the...

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### Content Types

Academic Journals (102)

**Magazines (86)**

News (26)

### Search within results

Search within results

### Limit Search by:

☐ Full Text  
☐ Contains Images

### Publication Dates:

Past Week  
Past Month  
Past Year  
Custom Date Range

### Subjects

Origin of life (86)  
RNA (7)  
Chemical evolution (... (6)

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**Narrow your search to...** [Show Less](#)

Location: Milford High School








Material Type: Any Type

Reading Level: From  to

Interest Level: From Unlimited to Unlimited

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Search by keyword (e.g. “Global Warming”):

<b>Behind the Curve : Science and the Politics of Global Warming</b> <a href="#">Details</a>  Call #: 363.73 HOW Joshua P. Howe. Published 2014	<b>1 of 1 available</b> <a href="#">Add to this List</a>
<b>Cheap and Clean : How Americans Think About Energy in the Age of Global Warming</b> <a href="#">Details</a>  Call #: 363.73 ANS Stephen Ansolabehere; David Konisky. Published 2014	<b>1 of 1 available</b> <a href="#">Add to this List</a>
<b>Climate Change : The Science of Global Warming and Our Energy Future</b> <a href="#">Details</a>  Call #: 363.73 MAT Edmond Mathez. Published 2009	<b>1 of 1 available</b> <a href="#">Add to this List</a>
<b>Climate Confusion : How Global Warming Hysteria Leads to Bad Science, Pandering Politicians and Misguided Policies that Hurt the Poor.</b> <a href="#">Details</a>  Call #: 363.73 SPE Published 2008	<b>1 of 1 available</b> <a href="#">Add to this List</a>
<b>Climate of Corruption : Politics and Power Behind the Global Warming Hoax</b> <a href="#">Details</a>  Call #: 363.73 BEL Larry Bell. Published 2011	<b>1 of 1 available</b> <a href="#">Add to this List</a>
<b>Economic Theory and Global Warming</b> <a href="#">Details</a>  Call #: 363.73 UZA Hirofumi Uzawa. Published 2003	<b>1 of 1 available</b> <a href="#">Add to this List</a>
<b>Unstoppable Global Warming : Every 1,500 Years</b> <a href="#">Details</a>  Call #: 363.73 SIN S. Fred Singer; Dennis T. Avery. Published 2007	<b>1 of 1 available</b> <a href="#">Add to this List</a>

Print books will have a  icon, eBooks will have a  icon, videos will have a  icon.

To access an eBook, you will have to sign up for an account (select “create account” in the top right corner)

Some eBooks have unlimited access, meaning an entire class can look at the same book at the same time. Others limit the amount of users to as few as one at a time.



If you notice a shortcoming in the library's collection, you can use Follett's Titlewave to find books, videos, and eBooks, and recommend them for purchase.

Follow the steps online to create an account. Once you have, use the search functions to locate titles. For the example, I searched for "diet drugs".

A multi-user eBooks is only \$49.43.



[Preview](#)

### Conquering diet drug abuse (#516GMS7)

by [Faulkner, Nicholas](#)

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1 item



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Follett eBook (multi-user access) — Rosen Publishing, 2016  
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