

The Complete Idiot's Guide to College Biology

Some Resources and Websites

General Biology

Access Excellence: OK, it's for teachers, but you're obviously an autodidact, or you wouldn't be reading this book. Be sure to check out The Living Skeleton link: <http://www.accessexcellence.org/>

The Biology Project, the University of Arizona:
http://www.biology.arizona.edu/cell_bio/cell_bio.html

Teachers Domain offers activities for grades K-12, broken down by topic within biology and labeled with the appropriate grade level. Many of these are interactive or videos:
<http://www.teachersdomain.org/collection/k12/sci.life/>

Continuing in the self-teaching theme, you can also find educational resources at BioEd Online, produced by the Baylor College of Medicine:
<http://www.bioedonline.org/>

Find anything and everything biology at Kimball's biology pages, the brainchild of John Kimball at Harvard:
<http://biology-pages.info>

The University of California, San Diego, brings you life science information via their television-show Website, Science Matters. Because it does:
<http://www.ucsd.tv/sciencematters/>

The Howard Hughes Medical Institute brings you BioInteractive, with video, animation, virtual labs, and other tools that "teach ahead of the textbook":
<http://www.hhmi.org/biointeractive/>

Cells

Cells Alive! All things cell, including animations and videos:
<http://www.cellsalive.com/>

Willingham, College Biology: Helpful Links

What is a cell? The National Center for Biotechnology Information can tell you:

http://www.ncbi.nlm.nih.gov/About/primer/genetics_cell.html

The University of Arizona's Biology Project, an online learning tool, has a section specific to cells:

http://www.biology.arizona.edu/cell_bio/cell_bio.html

Wiley offers these interactive animations of cells in the context of one of its biochemistry texts; you can even build your own cell:

http://www.wiley.com/college/boyer/0470003790/animations/cell_structure/cell_structure.htm

A color-rich tour of the cell, courtesy of the US National Science Foundation:

<http://www.nsf.gov/news/overviews/biology/interactive.jsp>

An 8-minute animation of the inner life of a cell. This is just flat-out cool, and I show it to my students frequently:

<http://www.studiodaily.com/main/technique/tprojects/6850.html>

Genetics

PBS has an online DNA workshop with interactives and information about the molecules and the people involved with it:

<http://www.pbs.org/wgbh/aso/tryit/dna/index.html>

The Teacher's Domain, which may require free registration, has an abundance of videos and other useful information. Here are a couple of links to interactive genetics activities, one on Gregor Mendel:

http://www.teachersdomain.org/asset/hew06_int_dominantgene/

http://www.teachersdomain.org/asset/hew06_int_mendelinherit/

Learn what we've learned about the human genome at the Human Genome Project Website:

http://www.ornl.gov/sci/techresources/Human_Genome/home.shtml

The Website of the Genetic Science Learning Center at the University of Utah pretty much has got it all, from gene expression to epigenetics. A beautiful site with a clear and visual presentation of information:

Willingham, College Biology: Helpful Links

<http://learn.genetics.utah.edu/>

A nice breakdown of a great two-hour NOVA episode on genetics into digestible video segments. Just pick your topic:

<http://www.pbs.org/wgbh/nova/genome/program.html>

Evolution

Access the original works of the man himself, Charles Darwin, at The Darwin Digital Library Website, based at the American Museum of Natural History library:

<http://darwinlibrary.amnh.org/>

This site from the University of California Museum of Paleontology and the National Center for Science Education bills itself as a “one-stop source for evolution,” so I guess I could stop here with providing evolution links (but I won’t):

<http://evolution.berkeley.edu/evolibrary/home.php>

The University of California Museum of Paleontology also has an amazing Website that covers aspects of evolution, taxonomy/systematics/diversity, the history of science, and, of course, fossils. Absolutely worth checking out:

<http://www.ucmp.berkeley.edu/help/topic.html>

Macroevolution.net offers evolution information, including specifics on human evolution, and lots of links to more:

<http://www.macroevolution.net/biology-websites.html>

Explore the creation/evolution controversy over at Talk Origins, the Web’s most comprehensive and scientific treatment of the topic:

<http://www.talkorigins.org/>

Diversity

The best place to go for an understanding of the diversity of life on Earth and the relatedness of species, the Tree of Life Web project:

<http://tolweb.org/>

Willingham, College Biology: Helpful Links

Oh, yes. Check out the University of Michigan's Animal Diversity Web and browse the kingdom:

<http://animaldiversity.ummz.umich.edu/site/index.html>

Absolutely relevant to issues of diversity are endangered species. Find out all about it here:

<http://eelink.net/EndSpp/>

I think "Diversity" is a good place to put the link to Action Bioscience, which addresses current knotty issues in biology:

<http://www.actionbioscience.org/>

The Encyclopedia of Life, the brainchild of E.O. Wilson, seeks to document in a free, online resource, each of the 1.8 million species we've currently identified. Pretty pictures and good information, so check it out:

<http://eol.org/>

Because fossils are part of the Earth's diversity, I also bring you the Paleobiology Database:

<http://paleodb.org/cgi-bin/bridge.pl>

Plants

A comprehensive site from the Botanical Society of America, including an ever-popular "Botany in the News" department:

<http://www.botany.org/>

An online hyperlinked botany textbook for people like you, and if you're interested, a good chance to practice your German:

<http://www.biologie.uni-hamburg.de/b-online/e00/default.htm>

For enthusiasts, I bring you Botany.com, an online encyclopedia of plants and flowers:

<http://www.botany.com/>

For real enthusiasts, I recommend the Smithsonian Institution's Index Nominum Genericorum:

<http://botany.si.edu/ing/>

Willingham, College Biology: Helpful Links

Learning about plants can be confusing. These two articles by David Hershey from Action Bioscience lay out and clear up a few confusions and misconceptions about plants. I like these because there's a lot of good information that I simply couldn't fit into the confines of this book:

<http://www.actionbioscience.org/education/hershey.html>
<http://www.actionbioscience.org/education/hershey3.html>

An online virtual library of plants and botany, courtesy of the University of Oklahoma:

<http://www.ou.edu/cas/botany-micro/www-vl/>

Body Systems

Gray's Anatomy, the real book, not the TV show:

<http://www.bartleby.com/107/>

A virtual anatomy textbook! Learn your systems visually:

<http://www.acm.uiuc.edu/sigbio/project/index.html>

The Visible Human Project--get a peek into the human body, slice by slice:

<http://www.madsci.org/~lynn/VH/>

Get Body Smart. Really, that's the Website. It offers interactive flash animations about body systems, a great resource if you need or want more detail:

<http://www.getbodysmart.com/>

More on the senses from the Howard Hughes Medical Institute:

<http://www.hhmi.org/senses/>

Developmental Biology

A Website associated with Scott F. Gilbert's excellent developmental biology text, essentially a dev bio textbook online:

<http://8e.devbio.com/>

The Virtual Embryo offers another comprehensive at developmental biology, including in-depth information on different animal models:

http://people.ucalgary.ca/~browder/virtualembryo/db_tutorial.html

Willingham, College Biology: Helpful Links

The Visible Embryo, pretty much self explanatory--a tour of human development:

<http://www.visembryo.com/baby/>

Developmental biology studies rely heavily on a specific set of animal models. Learn more about those models here:

<http://www.ceolas.org/VL/mo/>

No learning experience in developmental biology is complete without real movies of real development. Find some here at Dynamics of Development 2.0, courtesy of Jeff Hardin at the University of Wisconsin, Madison:

<http://worms.zoology.wisc.edu/dd2/>

Ecology

The Ecological Society of America offers up a comprehensive Website of facts, publications, and information about actual ecologists:

http://www.esa.org/education_diversity/

Learn more about invasive species and what's being done about them at the Global Invasive Species Program Website:

<http://www.gisp.org/>

Not sure about which biome you occupy? Check out the Biomes of the World Website, courtesy of the Missouri Botanical Garden, and find out:

<http://www.mbgnet.net/>

Ecosystems present and future, brought to you by PBS and Bill Moyers in association with the Earth on the Edge series:

<http://www.pbs.org/earthonedge/ecosystems/index.html>

Get the global skinny on ecosystem health and prognosis from the United Nations and partners in the Millennium Ecosystem Assessment:

<http://www.millenniumassessment.org/en/index.aspx>