

HS Biology (Textbook Alternative)

Collectively, the hyperlinks presented below provide an alternate to a traditional high school biology textbook. The nature of web pages provides for changes without notice to a user/viewer. These links were compiled during July 2018. Content of the pages may vary at the *time of consumption/usage* than content reviewed while *compiling the recommended pages*. Users of these recommended pages are advised to additionally and separately search key words within the topic using a trusted web-search engine.

Note that reading text online is NOT identical as a learning method to paper-based reading from a text. Generally, paper-based text is a slightly superior learning tool. In particular, (Mangen et al.) say that this is because paper gives spatio-temporal markers while you read. Touching paper and turning pages aids the memory, making it easier to remember where you read something. Having to scroll on the computer screen makes remembering more difficult.

<https://www.scientificamerican.com/article/reading-paper-screens/>

<https://insights.uksg.org/articles/10.1629/uksg.236/>

Screen vs. paper: what is the difference for reading and learning?

The paper readers generally got better results, but not under the interrupted time condition, for which the results were similar for both groups (see Figure 1), which is very interesting because if technology-related factors were what caused the inferior results for the screen-reading group, the results should have been the same under all studying conditions.

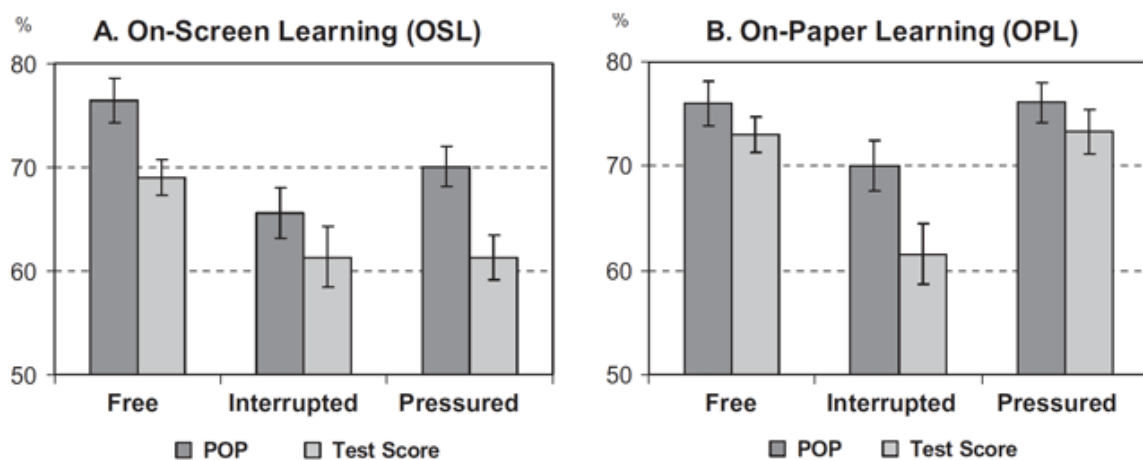


Figure 1

Mean test scores and predictions of performance (POP) for the three time conditions for screen and paper learning. Error bars represent the standard errors of the mean.⁸

If these pages are used entirely in-lieu of a textbook, the student would ideally be provided a structured note-taking guide for each topic (to provide evidence of completion, and to facilitate some tactile/kinesthetic learning). A one to four page guide is recommended with sections including general heading information (title, date, etc), major subtopic summaries, and key words identified. Encourage students to (1) first browse the entire article from the links provided here ... and only after having done so (2) further explore links launching from the recommended pages. Generally, students should invest a minimum of 15 minutes per each link listed here – and possibly up to 90 minutes total for each topic, exploring the recommended pages (here) along with links to supplemental other pages.

Biology 10 Student Expectations

https://en.wikipedia.org/wiki/Science_education

Biology 11 What is Biology?

<https://simple.wikipedia.org/wiki/Biology>

<https://simple.wikipedia.org/wiki/Life>

Biology 12 Scientific Method and Safety

https://simple.wikipedia.org/wiki/Scientific_method

https://en.wikipedia.org/wiki/Laboratory_safety

Biology 13 Connections Across Content

<https://socratic.org/questions/how-do-chemistry-and-biology-relate>

<http://education.seattlepi.com/relationship-between-physics-biology-4698.html>

Biology 14 Cell Organization

https://simple.wikipedia.org/wiki/Cell_nucleus

<https://simple.wikipedia.org/wiki/Chromosome>

<https://en.wikipedia.org/wiki/Organelle>

Biology 15 Plant Cells

https://simple.wikipedia.org/wiki/Plant_cell

Biology 16 Prokaryotic and Eukaryotic Cells

<https://simple.wikipedia.org/wiki/Cell>

<https://simple.wikipedia.org/wiki/Prokaryote>

<https://simple.wikipedia.org/wiki/Eukaryote>

Biology 17 Mitosis and Cytokinesis

<https://simple.wikipedia.org/wiki/Mitosis>

<https://simple.wikipedia.org/wiki/Cytokinesis>

Biology 18 DNA and Heredity

<https://simple.wikipedia.org/wiki/Heredity>

<https://simple.wikipedia.org/wiki/Trait>

<https://simple.wikipedia.org/wiki/Genetics>

<https://simple.wikipedia.org/wiki/DNA>

Biology 19 Genes Genetics and Chromosomes

<https://simple.wikipedia.org/wiki/Gene>

[https://simple.wikipedia.org/wiki/Transcription_\(genetics\)](https://simple.wikipedia.org/wiki/Transcription_(genetics))

<https://simple.wikipedia.org/wiki/Category:Chromosomes>

Biology 21 Organization of Living Things

[https://en.wikipedia.org/wiki/Kingdom_\(biology\)](https://en.wikipedia.org/wiki/Kingdom_(biology))

[https://en.wikipedia.org/wiki/Taxonomy_\(biology\)](https://en.wikipedia.org/wiki/Taxonomy_(biology))

Biology 22 Animal Classification

<https://en.wikipedia.org/wiki/Animal>

https://simple.wikipedia.org/wiki/Biological_classification

Biology 23 Interdependence of Living Things

<https://www.ck12.org/biology/interdependence-of-living-things/lesson/Interdependence-of-Living-Things-BIO/>

<https://www.ck12.org/biology/Interdependence-of-Living-Things/lesson/Interdependence-Advanced-BIO-ADV/>

Biology 24 Theory of Evolution

https://simple.wikipedia.org/wiki/Charles_Darwin

https://simple.wikipedia.org/wiki/On_the_Origin_of_Species

https://simple.wikipedia.org/wiki/Modern_evolutionary_synthesis

Biology 25 Protist Evolution

<https://simple.wikipedia.org/wiki/Protist>

<https://simple.wikipedia.org/wiki/Category:Protozoa>

Biology 26 Adaptations and Natural Selection

https://simple.wikipedia.org/wiki/Natural_selection

<https://simple.wikipedia.org/wiki/Adaptation>

Biology 27 Populations and Genetics

https://simple.wikipedia.org/wiki/Population_genetics

https://en.wikipedia.org/wiki/Population_genetics

Biology 28 Use of a Light Microscope Lab

https://simple.wikipedia.org/wiki/Light_microscope

<https://sciencing.com/make-simple-microscope-5459723.html>

Biology 31 Darwin, Evolution and Fossils

<https://simple.wikipedia.org/wiki/Fossil>

<https://simple.wikipedia.org/wiki/Evolution>

Biology 32 Animal Characteristics

<https://simple.wikipedia.org/wiki/Animal>

<https://simple.wikipedia.org/wiki/Mammal>

<https://simple.wikipedia.org/wiki/Bird>

<https://simple.wikipedia.org/wiki/Reptile>

<https://simple.wikipedia.org/wiki/Amphibian>

<https://simple.wikipedia.org/wiki/Fish>

<https://simple.wikipedia.org/wiki/Invertebrate>

Biology 33 Animal Behaviors

<https://simple.wikipedia.org/wiki/Ethology>

<https://simple.wikipedia.org/wiki/Behavior>

Biology 34 Science Observation and Measure

<https://simple.wikipedia.org/wiki/Observation>

<https://simple.wikipedia.org/wiki/Thermometer>

<https://simple.wikipedia.org/wiki/Oscilloscope>

<https://simple.wikipedia.org/wiki/Ruler>

https://simple.wikipedia.org/wiki/Weighing_scale

https://en.wikipedia.org/wiki/Volumetric_flask

Biology 35 Science Models

<https://study.com/academy/lesson/scientific-models-definition-examples.html>

<http://www.dictionary.com/browse/model>

https://simple.wikipedia.org/wiki/Scientific_model

Biology 36 Interpretation and Communication

<https://www.visionlearning.com/en/library/Process-of-Science/49/Data-Analysis-and-Interpretation/154>

https://en.wikipedia.org/wiki/Data_science

https://en.wikipedia.org/wiki/Data_analysis

https://en.wikipedia.org/wiki/Data_visualization

Biology 37 Dissection Preparation

<https://en.wikipedia.org/wiki/Dissection>

Biology 38 Dissection in Lab

<https://simple.wikipedia.org/wiki/Frog>

<https://www.wikihow.com/Dissect-a-Frog>

<https://learning-center.homesciencetools.com/article/frog-dissection-project/>

Biology 41 Fields in the Life Sciences

<https://www.ck12.org/c/life-science/fields-in-the-life-sciences/lesson/Fields-in-the-Life-Sciences-MS-LS/>

https://en.wikipedia.org/wiki/List_of_life_sciences

<https://en.wikipedia.org/wiki/Zoology>

<https://en.wikipedia.org/wiki/Botany>

Biology 42 Physiology and the Human Body

<https://en.wikipedia.org/wiki/Physiology>

<https://en.wikipedia.org/wiki/Anatomy>

<https://www.thoughtco.com/animal-organ-systems-4101795>

Biology 43 Ecology and Sustainable Development

<https://simple.wikipedia.org/wiki/Ecosystem>

<https://simple.wikipedia.org/wiki/Ecology>

<https://simple.wikipedia.org/wiki/Biosphere>

https://simple.wikipedia.org/wiki/Sustainable_development

Biology 44 Deep Dive – the Cell

[https://en.wikipedia.org/wiki/Cell_\(biology\)](https://en.wikipedia.org/wiki/Cell_(biology))

https://en.wikipedia.org/wiki/Cancer_cell

<https://en.wikipedia.org/wiki/Mutation>

<https://en.wikipedia.org/wiki/Cloning>

Biology 45 Deep Dive – Heredity

<https://en.wikipedia.org/wiki/Heredity>

https://en.wikipedia.org/wiki/Asexual_reproduction

https://en.wikipedia.org/wiki/Sexual_reproduction

Biology 46 Deep Dive – Biological Diversity

<http://www.biodiversitya-z.org/content/biodiversity>

http://www.biodiv.be/biodiversity/about_biodiv/biodiv-what

<http://www.globalissues.org/article/170/why-is-biodiversity-important-who-cares>

Biology 47 Scientific Inquiry Review

<https://study.com/academy/lesson/scientific-inquiry-lesson-for-kids-process-definition.html>

https://en.wikipedia.org/wiki/Models_of_scientific_inquiry

<https://www.wikihow.com/Use-the-Scientific-Method>

Biology 48 Organisms and Living Systems

<https://kids.britannica.com/students/assembly/view/90132>

https://en.wikipedia.org/wiki/Living_systems

[https://en.wikipedia.org/wiki/Energy_flow_\(ecology\)](https://en.wikipedia.org/wiki/Energy_flow_(ecology))

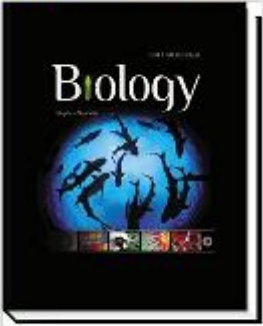
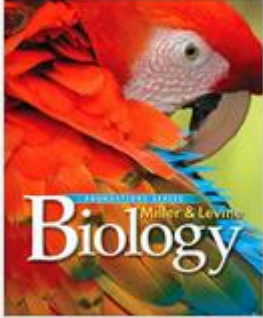
Biology 49 Year-End Capstone

<https://www.brainscape.com/blog/2015/06/human-biology-basics/>

<http://www.homeschoolsciencepress.com/2010/04/what-every-biology-student-should-know.html>

<https://quizlet.com/5919924/biology-regents-100-important-things-to-know-flash-cards/>

If budget permits for spending \$45-\$75 for a used or gently used textbook, either of these serve sufficiently well. Use this in addition to the hyperlinks listed on this document. The user/reader will necessarily need to “match” the appropriate chapters/sections with the topic headings listed here.

<p>Recommended</p>	<p>by HOLT MCDUGAL (Author) ★★★★★ 74 customer reviews</p>  <p>ISBN-13: 978-0-03-091636-9 ISBN-10: 0547586663</p>	<p>https://www.amazon.com/Holt-McDougal-Biology-Student-2012/dp/0547586663/ref=sr_1_3?s=books&ie=UTF8&qid=1530643065&sr=1-3&keywords=9780547586663</p>
<p>Less Strong Readers</p>	<p>Biology 0th Edition by PRENTICE HALL (Author) ★★★★☆ 77 customer reviews</p>  <p>ISBN-13: 978-0-13-036696-0 ISBN-10: 0133669610</p>	<p>https://www.amazon.com/Biology-PRENTICE-HALL/dp/0133669610/ref=sr_1_3?s=books&ie=UTF8&qid=1530642635&sr=1-3&keywords=high+school+biology</p>