



THE ADELSON UPPER SCHOOL SCIENCE DEPARTMENT READING LIST 2010

FOR AP ENVIRONMENTAL SCIENCE:

Each student in AP Environmental Science is expected to select at least one of the books below to be read over the summer. A term paper will be due shortly after the school year begins (on September 17th). Feel free to read more than one of them, as all are relevant to the topic we will study during the year. Titles with an asterisk (*) are especially worth reading or have significant historical value.

A Reason for Hope by Jane Goodall
A Sand Country Almanac by Aldo Leopold *
Beyond Malthus by Lester Brown *
Cadillac Desert by Marc Reisner *
Deep Ecology by Bill Devall
Desert Solitaire by Edward Abbey
Earth in the Balance by Al Gore *
Earth Under Siege by Richard P. Turco
Ecology, Economics, and Ethics: The Broken Circle by Bonnan and Kellert
Encounter With the Archdruid by John McPhee
First Along the River: A Brief History of the U.S. Environmental Movement, by Benjamin Kline
Gorillas in the Mist by Dian Fossey
Guns, Germs, and Steel by Jared Diamond *
How Many People Can the Earth Support? By Joel E. Cohen
In the Shadow of Man by Jane Goodall
Life in Balance: Humanity and Biodiversity by Niles Eldredge
Life on Earth, Edited by Heather Newbold
Living Down Stream: Cancer and the Environment by Sandra Steinberger
Our Choice by Al Gore
Our Ecological Footprint by Wackernagel and Rees
Silent Spring by Rachel Carson *
Small Wonder by Barbara Kingsolver
The 6th Extinction by Leakey and Lewin
The Burning Season by Andrew Revkin
The Coming Plague by Laurie Garret
The Control of Nature by John McPhee
The Diversity of Life by E. O. Wilson
The End of Evolution by Peter Ward*
The Future of Life by E.O. Wilson *
The Population Bomb by Paul Ehrlich *

The Stork and The Plow by Paul Ehrlich
Tinkering With Eden by Kim Todd
Tracking the Vanishing Frogs by Kathryn Phillips
Uncommon Ground: Rethinking the Human Place in Nature, Edited by William Cronon *

FOR PHYSICS/HONORS PHYSICS:

Students may wish to read one of the following books over the summer to prepare for their year in physics. All are interesting and some are challenging.

Brinteaser Physics: Challenging Physics Puzzlers by Göran Grimvall
A Brief History of Time by Stephen Hawking
Flatland: A Romance of Many Dimensions by Edwin A. Abbot
Surely You're Joking, Mr. Feynman! by Richard P. Feynman
The Isaac Newton School of Driving: Physics by Barry Parker
The Physics of Basketball by John Joseph Fontanella
The Physics of Star Trek by Lawrence Krauss

FOR CHEMISTRY:

Students may wish to read one of the following books over the summer to prepare for their year in physics. All are interesting and some are challenging.

A Civil Action by Jonathan Harr
A Short History of Chemistry by J. R. Parrington
A Short History of Nearly Everything by Bill Bryson
Absolute Zero by John Shachtman
Acid Tongues and Tranquil Dreamers: Eight Scientific Rivalries That Changed the World by Michael White.
Alice in Quantumland by Robert Gilmore
Beethoven's Hair by Russell Martin
Chemical History Tour: Picturing Chemistry from Alchemy to Modern Molecular Science (Lavishly illustrated) by Art Greenberg
Chemistry Imagined: Reflections on Science by Roald Hoffmann & Vivian Torrence
Crucibles: the Story of Chemistry from Ancient Alchemy to Nuclear Fission by Bernard Jaffe
Heisenberg's War: The Secret History of the German Bomb by Thomas Powers
Ideas in Chemistry: A History of the Science by David Knight
In Search of Schrodinger's Cat by John Gribbon
Invitation to Chemistry by Ira Dufresne Garard
Kepler's Witch: An Astronomer's Discovery of Cosmic Order Amid Religious War, Political Intrigue, and the Heresy Trial of His Mother by James A. Connor
Mauve: How One Man Invented a Color that Changed the World by Simon Garfield
Mendeleev's Dream by Paul Strathern
Molecular Origami by Bob Hanson
Napoleon's Buttons: 17 Molecules that Changed History by Le Couteur & Burreson
Old Wine New Flasks: Reflections on Science & Jewish Tradition by Roald Hoffmann & Shira Leibowitz Schmidt
Oxygen: The Molecule that Made the World by Nick Lane
Oxygen by Carl Djerassi & Roald Hoffmann
Salt by Mark Kulansky

Schrodinger's Kittens by John Gribbon
The Big Bang, a History of Explosives (no How-to's) by GI Brown
The Genie in the Bottle by Joe Schwarcz
The Last Sorcerers by Richard Morris
The Little Book Of Science by John Gribbin
The Making of the Atomic Bomb by Richard Rhodes
The Monkey's Wrench by Primo Levi
The Periodic Table by Primo Levi
The Radioactive Boy Scout: The true story of a boy and his backyard nuclear reactor by Ken Silberstein.
The Science of Harry Potter: How Magic Really Works by Roger Highfield
The 13th Element: The Sordid Tale of Murder, Fire and Phosphorus by John Elmsley
Uncle Tungsten: Memories of a Chemical Boyhood by Oliver Sacks
Why Things Break by Mark Eberhart.

FOR BIOLOGY/HONORS BIOLOGY/AP BIOLOGY:

Students in Biology and Honors Biology may wish to read one of the following books over the summer to prepare for their coming year. Students in AP Biology are expected to read at least one of the books before the start of the fall term.

A Short History of Nearly Everything (2003) by Bryson, Bill Reports how humans figured out major concepts in science, from the age of the universe continental drift to how cells work, complete with interesting dialogue from the world's most famous truth seekers.

Abortion: Opposing Viewpoints by Tamara L. Roleff

Bombardier Beetles and Fever Trees: A Close Up Look at Chemical Warfare and Signals in Animals and Plants (1997). By Agosta, William C. A book with excellent explanations of the use of chemicals in living organisms.

Chemical Communication: The Language of Pheromones (1992) by Agosta, William C. Pheromones are used in a variety of animals in reproduction, territory marking, signaling and other forms of communication.

Extinction: Bad Genes or Bad Luck (1991) by Raup, David M. Theories on extinction.

Fast Food Nation: The Dark Side of the All American Meal (2001) by Schlosser, Eric A disturbing look at the empty and excess calories, unhealthy menus, and dangerous practices and processing that may affect those who dine at fast food restaurants.

Future Bioethics: Overcoming Taboos, Myths, and Dogmas by Ronald A. Lindsay

Heredity and Hope: The Case for Genetic Screening by Ruth Schwartz Cowan

Killer Germs: Microbes and Diseases That Threaten Humanity (1996) by Zimmerman, Barry

E. A graphic treatment of emerging and reemerging diseases

Living with Our Genes: Why They Matter More Than You Think (1998) by Hamer, Dean A look at the possible connections between our genes and our personalities, orientation, high risk behavior, etc.

Mutants: On Genetic Variety and The Human Body (2003) by Leroi, Armand Marie Relates variability to human embryology and growth; discusses race and strange genetic conditions such as those of the ostrich footed people and conjoined twins.

Natural Obsessions: Striving to Unlock the Deepest Secrets of the Cancer Cell (1999) by Angier, Natalie The work of young scientists in the areas of molecular genetics and the genetics of cancer.

Origin of Species (1859) by Darwin, Charles Darwin's original work that presented natural selection as the mechanism for evolution.

Our Stolen Future (1997) by Colborn, Theo, et al. The impact that synthetic chemicals in the environment have on reproduction development, and disease.

Science and Human Values (1999) by Bronowski, Jacob Thought provoking essays on science as an integral part of our culture.

Serendipity: Accidental Discoveries in Science (1989) by Roberts, Royston M. A collection of stories about accidental discoveries that have changed science.

Surrogate Motherhood and the Politics of Reproduction by Susan Markens
The Antibiotic Paradox: How the Misuse of Antibiotics Destroys Their Curative Powers by Stuart B. Levy

The Clone Age: Adventures in the New World of Reproductive Technology (1999) by Andrews, Lori B. Reproductive technology and the law associated with it for the layperson.

The Demon Haunted World: Science As a Candle in the Dark (1996) by Sagan, Carl. A look at how science works and how scientific critical thinking skills can be used in disciplines.

The Devil's Workshop (1999) by Cannell, Stephen J. Prions are used as a bioweapons agent in this story by the man who directed The Files, The A Team, and The Commish.

The Growth of Biological Thought: Diversity, Evolution, and Inheritance (1982) by Mayr, Ernst Discusses man's attempts to classify and understand the diversity of life forms on Earth.

The Population Bomb (1976) by Ehrlich, Paul. A treatment of the population explosion without consideration of the possibility technological developments.

The Silent Sky: The Incredible Extinction of the Passenger Pigeon (1983), Eckert, Allan W. Eckert delivers a novel wrapped around man's role of the extinction of the passenger pigeon.

The Stem Cell Divide: The Facts, the Fiction, and the Fear Driving the Greatest Scientific, Political, and Religious Debate of Our Time by Michael Bellomo

FOR AP PSYCHOLOGY:

All students are expected to pick one of these books over the summer to read as an introduction to the everyday issues of psychology in our culture. None of them are technical or biographical, but rather all involve a major character with a psychological issue. You may always read more than one if you wish.

A Beautiful Mind by Sylvia Nasar

A Child Called It by Dave Pelzer

A Child Called Noah: A Family Journey by Josh Greenfield

Cassandra's Daughter, A History of Psychoanalysis by Joseph Schwartz.

Catch 22 by Joseph Heller

Don't Ask Miranda by Lila Perl

Flowers For Alegernon by Daniel Keyes

Girl Interrupted by Susanna Kaysen

I Am The Cheese by Robert Comier

Nobody's Child by Marie Balter & Richard Katz

One Flew Over the Cuckoos Nest by Ken Kesey

Ordinary People by Judith Guest.

Quitting The Nairobi Trio by Jim Knipfel.

So Much Unfairness of Things by C. D. Byran

Tales From A Traveling Couch by Robert U. Akeret

The Lost Boy by Dave Pelzer