

## The Science Department's Summer Reading List

F = Fiction    NF = Nonfiction

Ackerman, Diane. *The Moon by Whale Light: And Other Adventures among Bats, Penguins, Crocodilians, and Whales*. A blend of poetic essays and scientific descriptions, Ackerman balances animal lore, objective study, and conservation, and includes some hair-raising adventures such as riding an alligator bareback. (NF)

Adams, Douglas. *The Hitchhiker's Guide to the Galaxy*. Seconds before the Earth is demolished to make way for a galactic freeway, Arthur Dent is plucked off the planet by his friend Ford Prefect, a researcher for the revised edition of *The Hitchhiker's Guide to the Galaxy*, and the two get into horrible messes and generally wreak hilarious havoc. (F)

Asimov, Isaac. *Foundation*. At a time when humans live throughout the galaxy, Hari Seldon, a psychohistorian and mathematician, scientifically predicts a new Dark Age scheduled to send humanity into barbarism in 500 years. This is the first book in a series (*Foundation, Foundation and Empire, Second Foundation*) that chronicles Seldon's scheme to save the knowledge of the race of humans in an Encyclopedia Galactica. (F)

Bear, Greg. *Darwin's Radio: In the next stage of evolution, humans are history...* Molecular biologist Kaye Lang believes diseases encoded in the DNA of humans wait to infect again and now it looks as if her controversial theory is in fact chilling reality. (F)

Best, Joel. *Damned Lies and Statistics: Untangling Numbers from the Media, Politician's and Activists, and More Damned Lies and Statistics: How Numbers Confuse Public Issues*. Both of these books help explain how statistics can be interpreted and misinterpreted to prove a point. Become a critical consumer of information, and develop a basic understanding of statistics. (NF)

Chalker, Jack. *Midnight at the Well of Souls*. Well World, a planet entered by unsuspected gateways, turns beings of every kind into something else. (F)

Colapinto, John. *As Nature Made Him: The Boy Who Was Raised as a Girl*. Explore what it means to be male and female in this remarkable true story of a boy who suffered a traumatic injury and his parents were told to raise him as a girl. How much does our sense of our personal sexual identity come from our genes and how much from our experience? Consider the ethical issues that were involved in this compelling true story. (NF)

Crichton, Michael. *Andromeda Strain*. A scientific team mobilized to react to the crash of a satellite in an Arizona town as they scramble to understand and contain a strange and deadly outbreak. (F)

Crichton, Michael. *Jurassic Park*. Once extinct dinosaurs roam Jurassic Park, a soon-to-be opened theme park, until science proves a dangerous toy. (F)

Crichton, Michael. *Prey*. In the Nevada desert, a cloud of nanoparticles -- micro-robots -- has escaped from the laboratory. It is intelligent and learns from experience and we are its prey. (F)

Diamond, Jared. *Guns, Germs, & Steel*. This book traces the role disease, environmental invasion, and technology played (both inadvertently and deliberately) in the expansion of European cultures into the Western Hemisphere and the often imperialist policies that guided this expansion. It does a great job of showing how the scientific and historical understanding of cultures and societies can provide a deeper insight into human activity. (NF)

Diamond, Jared. *Collapse*. This book details the role environmental degradation has played in the collapse of nearly every civilization in human history (hence the title). He systematically documents how the exploitation of resources have contributed time and again to the breakdown of societies—from the level of the village all the way to entire cultures. (NF)

Doidge, Norman. *The Brain That Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Research*. Learn about the brain and neural plasticity and also about the personal qualities of perseverance and courage from these amazing true stories. (NF)

Dully, Howard and Fleming, Charles. *My Lobotomy*. The story of the youngest patient to receive a lobotomy is a gut-wrenching read. However, the story of how he forgives the man who did this procedure and his family is remarkable. (NF)

Flannery, Tim. *The Weather Makers: How Man Is Changing the Climate and What It Means for Life on Earth*. Mammalogist and paleontologist Flannery (Australian) has become well known for his controversial ideas on conservation, the environment and population control. In this book he presents a straightforward and powerfully written look at the connection between climate change and global warming. It is written for the non-scientist and presents complex information in a convincing and understandable manner. (NF)

Frayn, Michael. *Copenhagen*. This Tony Award winning play explores the mysterious wartime meeting between two Nobel laureates, Niels Bohr and Werner Heisenberg, to discuss the atomic bomb. (Play)

Galison, Peter Louis. *Einstein's Clocks, Poincaré's Maps: Empires of Time*. The story of two giants at the foundation of the modern theory of relativity, Albert Einstein, a German physicist experimenting with measuring time using telegraph networks and with the coordination of clocks at train stations; and mathematician Henri Poincaré, president of the French Bureau of Longitude, mapping time coordinates across continents. (NF)

Gilmore, Robert. *Alice in Quantumland*. Alice travels to Quantumland, a wonderland amusement park smaller than an atom where the attractions demonstrate different aspects of quantum theory. (F) (Grades 11 and 12)

Gladwell, Malcolm. *Blink: The Power of Thinking Without Thinking, The Tipping Point: How Little Things Can Make a Big Difference, and Outliers: The Story of Success*. Gladwell is an excellent writer and thinker. He asks questions and challenges us to rethink what we think we know. Any of these three books will be good to read before AP Psychology. (NF)

Gleick, James. *Isaac Newton*. This short biography tells the amazing story of a scientist obsessively determined to find out how things worked. (NF)

Goldsmith, Barbara. *Obsessive Genius*. A biography of the life and work of Marie Curie. This narrative of Madame Curie's life illustrates her connection to other prominent scientists at that time and the challenges women faced in the scientific community during the first half of the 20<sup>th</sup> century. (NF)

Greenberg, Michael. *Hurry Down Sunshine*. This book is a gifted writer's memoir dealing with his teenage daughter's mental illness. It will give you a better understanding of how mental illness affects individuals and those they love. (NF)

Greene, Brian. *The Elegant Universe*. Greene uses everything from an amusement park ride to ants on a garden hose to illustrate the realities that modern physics is unveiling about a universe that consists of 11 dimensions where the fabric of space tears and repairs itself, and all matter is generated by the vibrations of tiny loops of energy. (NF)

Haddon, Mark. *The Curious Incident of the Dog in the Nighttime*. People love this book or hate it. It is written in the voice of a boy with autism and allows you to experience the world as he does. (F)

Hawking, Stephen. *A Brief History of Time*. Stephen Hawking, one of the most acclaimed theoretical physicists of our time, wrote this book to help nonscientists understand the questions being asked by scientists today: Where did the universe come from? How and why did it begin? Will it come to an end, and if so, how? (NF)

Heath, Chip and Dan. *Made to Stick: Why Some Ideas Survive and Others Die*. An interesting, engaging book, it shows how bland ideas can be made interesting and provides suggestions for effective communication. This is an easy read. (NF)

Herbert, Frank. *Dune*. Perhaps the most popular science fiction of all time, *Dune* is the story of one man and his quest to found the perfect society on the desert planet Arrakis. (F)

Herbert, Frank. *The White Plague*. The story of a scientist who unleashes a genetically engineered plague after witnessing his wife and children killed by a car bomb. (F)

Herken, Gregg. *Brotherhood of the Bomb: The Tangled Lives and Loyalties of Robert Oppenheimer, Ernest Lawrence and Edward Teller*. The story of these three men is one of loyalty-to the country, to science, and to each other-and about the choices that had to be made when these allegiances came into conflict. (NF)

Horton, Tom. *An Island Out of Time: A Memoir of Smith Island in the Chesapeake*. This book is the record of the two years Tom Horton, an environmental writer for the *Baltimore Sun*, spent on Smith Island, a 300-year-old fishing community 10 miles off Maryland's eastern shore. (NF)

Hutchings, Edward, editor. *"Surely You're Joking, Mr. Feynman!": Adventures of a Curious Character*. In this *New York Times* best seller Nobel Prize-winning physicist Richard P. Feynman recounts in his adventures trading ideas on atomic physics with Einstein and Bohr and ideas on gambling with Nick the Greek, and many other hilarious situations. (NF)

Huxley, Aldous. *Brave New World*. A classic science fiction novel, this book is set in a utopian World State where everyone consumes daily grams of soma, to fight depression, babies are born in laboratories, and the most popular form of entertainment is a "Feelie," a movie that stimulates the senses of sight, hearing, and touch. (F)

Jamieson, Kay Redfield. *Exuberance: the Passion for Life, The Unquiet Mind: A Memoir of Moods and Madness, and Touched by Fire: Manic-Depressive Illness and the Artistic Temperament*. Dr. Jamieson is a professor at Johns Hopkins and an international expert on Bipolar Disorder. She also suffers from the disorder and *An Unquiet Mind* is her personal story. (NF)

Junger, Sebastian. *The Perfect Storm: A True Story of Men Against the Sea*. Meteorologists called the storm that hit North America's eastern seaboard in October 1991 a "perfect storm" because of the rare combination of factors that created it. This is the true story of that storm and the people caught in it. (NF)

King, Ross. *Brunelleschi's Dome: How a Renaissance Genius Reinvented Architecture*. Describes how a fifteenth-century goldsmith and clockmaker, Filippo Brunelleschi, came up with a unique design for the dome to crown Florence's magnificent new cathedral, Santa Maria del Fiore. (NF)

Kuhn, Thomas. *The Structure of Scientific Revolutions*. A historical look at the social and psychological factors in science that have had profound effects on historians, scientists, philosophers, critics, writers, and even artists. (NF)

Kurzweil, Ron. *The Singularity is Near: When Humans Transcend Biology*. Kurzweil is an incredible inventor, thinker and futurist. Every once in a while you should read a book by someone like him to exercise your brain. I like to think that reading books like this makes me smarter. It challenges me to think in a way that I wouldn't otherwise. (NF)

Livio, Mario. *The Golden Ratio*. Discovered by Euclid, the phi, 1.6180339887, also known as the Golden Ratio, this book tells the human story of numerous phi-fixated individuals, including the followers of Pythagoras, astronomer Johannes Kepler, mathematician Leonardo Fibonacci of Pisa, as well as Goethe, Cezanne, Bartok, and physicist Roger Penrose. (NF)

Mezrich, Ben. *Bringing Down the House: The Inside Story of Six M.I.T. Students Who Took Vegas for Millions*. This is inside story about a gambling ring of M.I.T. students who beat the system in Vegas. (NF)

Miller, Ken. *Only A Theory: Evolution and the Battle for America's Soul*. Miller's book is the latest salvo in the battle over teaching evolution in this country and is a tour de force of rational thought. In prose that is lucid and straightforward, he shows why the "theory" of Intelligent Design is fundamentally not scientific and therefore has no place in a biology classroom, and he tackles the bigger issue at the root of ID's appeal by decisively explaining why a Darwinian understanding of the world does not preclude nor is it at odds with an understanding of life that has meaning and purpose. (NF)

Moore, Janice and Randy. *Evolution 101*. From its thorough history of the development of the theory over the course of the 18th and 19th Centuries to its painstaking analysis of how evolution works and the evidence for it, this book explains in simple but accurate language everything any person needs to know to grasp the essence of one of the most important scientific explanations of all time. Detailed appendices on everything from the geologic ages to this theory's legal legacy in American schools simply add to the book's value, and a final chapter showing the impact of on-going evolution in daily lives (e.g. pathogen drug resistance) simply adds the terminal punch to a presentation that is very much a "knock out." (NF)

Philbrick, Nat. *In the Heart of the Sea: The Tragedy of the Whaleship Essex*. This is the true story of the sinking of the whaleship *Essex* by a boisterous sperm whale which inspired Herman Melville's classic *Moby Dick*. (NF)

Pink, Daniel. *A Whole New Mind: Why Right Brains Will Rule the Future*. An easy to read book that discusses how our society is evolving and what this means for schools, businesses, and people in the future. (NF)

Plotkin, Mark. *Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in the Amazon Rain Forest*. Mark Plotkin has spent more than a decade serving as an apprentice to shamans in the Amazon rain forest. Some of the devastating diseases of today may be cured by the knowledge of the curative power of plant species growing in the rain forest. In this book, Plotkin tells of his adventures tracking down the plants and the shamans who hold the key to the curative powers of these plants. (NF)

Preston, Richard. *The Hot Zone: A Terrifying True Story*. This dramatic and true story of an Ebola virus outbreak in a suburban Washington, D.C. laboratory, chronicles the appearance of this deadly virus and the mobilization a secret military SWAT team of soldiers and scientists to stop the outbreak. (NF)

Rymer, Russ. *Genie: A Scientific Tragedy*. Every year the students in AP Psychology are captivated by the story of Genie, a young girl who was discovered at the age of 13 who had been kept in severe isolation, with minimal human contact, and punished for speaking. Her discovery came at the same time that a debate was raging about whether there was a critical period for

language development. Would Genie learn language? Read this amazing story about Genie and the scientists who worked with her. Consider the ethical issues of her story. (NF)

Sacks, Oliver. *Anthropologist on Mars*. Short story portraits of individuals such as a surgeon consumed by the compulsive tics of Tourette's syndrome unless he is operating and a man who confronts the challenges of having his vision restored after more than forty years of blindness. (F)

Sacks, Oliver. *Island of the Colorblind, Musicophilia: Music and the Brain, The Man Who Mistook his Wife for a Hat, Island of the Colorblind and An Anthropologist on Mars*. Any of the books written by Oliver Sachs provide insight into the brain and the way it works. Besides being a neuroscientist, he is a gifted writer and story-teller. He helps us understand the brain and the way it works through compelling stories of individuals whose brains work differently than ours. (NF)

Schein, Elyse and Bernstein, Paula. *Identical Strangers: A Memoir of Twins Separated and Reunited*. Have you ever wondered what it would be like to find someone who looked just like you? This true story details the lives of identical twins separated at birth and adopted by different families. How alike are they? How different? What part of who we are is dependent on our genetic make-up and how much is dependent on our life experiences? How did they respond to discovering (as adult) that they had a twin? What are the ethical issues raised by this fascinating true story? (NF)

Sebold, Alice. *Lucky: A Memoir*. This book is by the author of *The Lucky Bones*. It has mature themes and is not for the faint of heart (recommended for 11<sup>th</sup> and 12<sup>th</sup> graders). This memoir describes her rape at the end of her freshman year at Syracuse University and her life before and after. It looks at alcoholism, addiction and how profound violence can change your life. (NF)

Sobel, Dava. *Galileo's Daughter: A Historical Memoir of Science, Faith, and Love*. Dava Sobel writes about Medici era Italy, Galileo's scientific discoveries and his trial by Church authorities, and a touching portrayal of a father--daughter relationship by drawing upon the surviving letters from Sister Maria Celeste, Galileo's illegitimate daughter. (NF)

Tallamy, Douglas. *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants*. Everyone with access to a patch of earth can make a significant contribution toward sustaining biodiversity. (NF)

Vonnegut, Kurt. *Cat's Cradle*. Scientist, G-men, and ordinary people chase each other around in search of the world's most important and dangerous substance, a new form of ice that freezes at room temperature. (F)

Watson, James. *The Double Helix: A Personal Account of the Discovery of the Structure of DNA*. This is a firsthand account of James Watson's and Francis Crick's race solve one of the world's greatest mysteries, the structure of DNA, the molecule of life. (NF)

Weiner, Jonathan. *The Beak of the Finch: A Story of Evolution in Our Time*. This is the story of Peter and Rosemary Grant who, for the past 20 years, have studied the continuing evolution of the beaks of finches in the Galapagos Islands. (NF)

Wilson, Edward. *The Diversity of Life*. Edward Wilson traces the processes that create new species, the five cataclysmic events that have disrupted evolution over the past 600 million years, and how humans are destroying diversity at a projected rate of 20 percent over the next 30 years. (NF)

Wright, Robert. *The Moral Animal: Why We Are, the Way We Are: The New Science of Evolutionary Psychology*. This book reveals the genetic strategies behind everything from our sexual preferences to our office politics--as well as their implications for our moral codes and public policies. (NF)

Zelazny, Roger. *Lord of Light*. On a colony planet, Earth is now a dead, one man dares to oppose a band of men who gained control of technology, made themselves immortal, and now rule their world as the gods of the Hindu pantheon. (F)