

Physics

Resource List for Grades 9 through 12

The Resources in this document can be used with the Physics Curriculum Packet for grades 9 through 12.

Books

Nonfiction and Biography

- [Astrophysics for People in a Hurry](#), 2017 by Neil deGrasse Tyson (Author).
Tyson brings the universe down to Earth with sparkling wit, and in easy to understand chapters.
- [A Briefer History of Time: A Special Edition of the Science Classic](#), 2005 by Stephen Hawking (Author), Leonard Mlodinow (Author).
Hawking's worldwide bestseller *A Brief History of Time* remains a landmark volume in scientific writing. This is a more accessible version for less experienced readers.
- [The Disappearing Spoon: And Other True Tales of Madness, Love, and the History of the World from the Periodic Table of the Elements](#), 2011 by Sam Kean (Author).
These fascinating tales follow every element on the table as they play out their parts in human history, and in the lives of the (frequently) mad scientists who discovered them.
- [Genius: A Photobiography of Albert Einstein](#), 2015 by Marfe Ferguson Delano (Author).
This is an account Einstein's life from his privileged childhood in Austria through the crucial years during World War II, and his death 50 years ago in Princeton, New Jersey.
- [How the Hippies Saved Physics: Science, Counterculture, and the Quantum Revival](#), 2012 by David Kaiser (Author).
Quantum information theory is among today's most exciting scientific frontiers. But it wasn't always so. What do the CIA, Werner Erhard's EST, Bay Area hippie explorations, and the legacy of Einstein, Heisenberg, and Schroedinger have in common? Quite a lot, it turns out.

- The Manga Guide to Physics, 2009 by Hideo Nitta (Author), Keita Takatsu (Author), Co Ltd Trend (Author).
In this book you can follow the main character as she learns about the physics of everyday objects like roller skates, slingshots, braking cars, and tennis serves. In no time, you'll master tough concepts like momentum and impulse, parabolic motion, and the relationship between force, mass, and acceleration.
- Napoleon's Buttons: How 17 Molecules Changed History, 2004 by Penny Le Couteur (Author), Jay Burreson (Author).
This is the account of seventeen groups of molecules that have greatly influenced the course of history. They provided the impetus for early exploration and made possible voyages of discovery. They resulted in grand feats of engineering and spurred advances in medicine and law; they determined what we now eat, drink, and wear. A change as small as the position of an atom can lead to enormous alterations in the properties of a substance-which, in turn, can result in great historical shifts.
- Sports (Experimenting with Everyday Science), 2010 by Stephen M. Tomecek (Author).
An intriguing look at sports through physics and other sciences.

Fiction

- Max Axiom: Graphic Novel Series on Physics
 - Adventures in Sound with Max Axiom, Super Scientist, 2007 by Emily Sohn (Author), Anne Timmons (Author), Cynthia Martin (Illustrator).
 - The Attractive Story of Magnetism with Max Axiom, Super Scientist, 2008 by Andrea Gianopoulos (Author), Barbara Schulz (Author), Cynthia Martin (Illustrator).
 - The Shocking World of Electricity with Max Axiom, Super Scientist, 2007 by Liam O'Donnell (Author), Charles Barnett III (Author), Richard Dominguez (Illustrator).
 - A Crash Course in Forces and Motion with Max Axiom, Super Scientist, 2016 by Emily Sohn (Author), Charles Barnett III (Author), Steve Erwin (Illustrator).
 - The Solid Truth about States of Matter with Max Axiom, Super Scientist, 2009 by Agnieszka Biskup (Author), Michael Kelleher (Author), Cynthia Martin (Illustrator), & 1 more.
 - The Powerful World of Energy with Max Axiom, Super Scientist (Graphic Science), 2009 by Agnieszka Biskup (Author), Krista Ward (Author), Cynthia Martin (Illustrator), & 1 more.
- Quantum Space, 2017 by Douglas Phillips (Author).
Investigators draw on scientific strengths as they plunge into the strange world of quantum physics, with impacts not only to some missing astronauts, but to the entire human race. First in a series.
- Ready Player One, 2012 by Ernest Cline (Author).
It's the year 2045, and reality is an ugly place. The teen character in this novel has devoted his life to studying the puzzles hidden within this world's digital confines—

puzzles that are based on their creator's obsession with the pop culture of decades past and that promise massive power and fortune to whoever can unlock them.

- The Universe Builders: Bernie and the Putty, 2014 by Steve LeBel (Author).
A fascinating tale of good vs. evil and a young hero on a journey of self-discovery in an original, humorous, fantastic wrapper. First in a series.

Magazines, Journals, Miscellaneous

- Algodoo: Sandbox tool enables engaged, conceptual physics inquiry. (For Mac and Windows).
- Discover Magazine Online: Science and Physics
(Requires online registration) <http://discovermagazine.com/topics/space-physics>
- Physics Today: Online Magazine <https://physicstoday.scitation.org/journal/pto>
- Science News for Students: Online magazine. <https://www.sciencenewsforstudents.org/>
- Science Journal by Google: Science journal by google is a tool for gathering data using a cell phone, tablet, or Chromebook. Students start an "experiment" and fill it with virtual cards containing different types of information. They can have an observation, which is an open-ended text-based card, and can take pictures with the device and add those (Download the app for Apple and Androids).

Online Links

- Activities from the San Francisco Museum Exploratorium
<https://www.exploratorium.edu/explore/activities>
- The Physics Classroom: Physics Interactives <http://www.physicsclassroom.com/Physics-Interactives>
- Physics Games to Master Concepts.
<http://www.thephysicsaviary.com/Physics/Programs/Games/>

Background information for the Educator

- Lessons in Physics
http://teachengineering.org/search_results.php?simple=physics
Part of the Teach Engineering Web site, this section provides educators with fun and exciting lesson plans and activities to teach physics to elementary through high school students. Activities engage students of all ages in the science of physics.
- Physics Research Overview
<http://www.nsf.gov/news/overviews/physics/index.jsp>
Physics begins with the everyday physical world around us and goes on to give us many answers--along with a rich and detailed account of things like force, motion, gravity, heat, light, electricity and magnetism--that actually give rise to the everyday world. This overview page on the National Science Foundation's Web site provides insight through funded research that everyone can benefit from.