

Physics

Resource List for Grades 5 through 8

The Resources in this document can be used with the Physics Curriculum Packet for grades 5 through 8.

Books

Nonfiction and Biography

- Albert Einstein (Giants of Science), 2015 by Kathleen Krull (Author), Boris Kulikov (Illustrator).
Einstein's wild case of bedhead and playful sense of humor made him the first scientist-celebrity. He didn't like the lab, but he did like to blow things up! This is a witty and fun look at a giant of science and the turbulent times in which he lived
- Albert Einstein and Relativity for Kids: His Life and Ideas with 21 Activities and Thought Experiments, 2012 by Jerome Pohlen (Author).
In addition to learning all about Einstein's important contributions to science, from proving the existence and size of atoms and launching the field of quantum mechanics to creating models of the universe that led to the discovery of black holes and the big bang theory, young physicists will participate in activities and thought experiments to bring his theories and ideas to life.
- Janice VanCleave's Physics for Every Kid: 101 Easy Experiments in Motion, Heat, Light, Machines, and Sound, 1991 by Janice VanCleave (Author).
Fun projects in this book include learning about gravity from funnels that seem to defy nature by rolling up hill, using a balloon as a power source to make a fluorescent light bulb glow and learn how electrons are used to produce light, and levitating a Ping-Pong ball to understand aerodynamics.
- Science Quest: Atomic Universe: The Quest to Discover Radioactivity, 2006 by Kate Boehm Jerome (Author).
Today radioactivity is widely used to treat cancer, to study fossils, and to power submarines, but until the late 1800s man's understanding of this scientific field was practically non-existent.
- Sports (Experimenting with Everyday Science), 2010 by Stephen M. Tomecek (Author).
An intriguing look at sports through physics and other sciences.

- Women in Physics | A Science Book for Kids! 2017 by Mary Wissinger (Author) and Danielle Pioli (Illustrator).
Concepts covered in this book include: Matter, Mass, Force, Gravity, Atoms, Elements, X-rays, Radioactivity, Observation, Research, Hypotheses, Experiments, ...and more!
Scientists profiled include Emilie du Chatelet, Laura Bassi, Marie Curie, Irene Joliot-Curie, and Chien-Shiung Wu.
- World History Biographies: Isaac Newton: The Scientist Who Changed Everything, 2013 by Philip Steele (Author).
This biography profiles the famed physicist as an acclaimed mathematician, astronomer, alchemist, philosopher, and inventor as well.

Fiction

- The Gates (The Samuel Johnson Series), 2011 by John Connolly (Author)
The Gates is about the pull between good and evil, physics and fantasy and the courage of a boy who is barely old enough to trick or treat on his own. First in a series of three.
- 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.

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>
- 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).

- Contraption Maker: Solve problems, puzzles, brain teasers while creating wacky machines. (For Mac and Windows).

Online Links

- Activities from the San Francisco Museum Exploratorium
<https://www.exploratorium.edu/explore/activities>
- Nasa Kids Club: a place to play games and learn about space.
<https://www.nasa.gov/kidsclub/index.html>
- Rader's Physics for Kids: Physics for everyone! <http://www.physics4kids.com/>

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.
- We Are Teachers Lesson Plans
<https://www.weareteachers.com/simple-physics-experiments-for-kids-pushing-and-pulling/>
Simple Experiments to Introduce Kids to Physics. It is never too early to start having fun with Physics!