



Technology and Energy

Websites

Electricity Resources

[Articles about "Electricity"](#)

This site provides answers to a variety of questions associated with electricity and circuitry.
(<http://amasci.com/ele-edu.html>)

[The Energy Story](#)

An excellent educational web site sponsored by the California Energy Commission that provides comprehensive content information, as well as activities, videos, stories about the use and conservation of energy.
(<http://www.energyquest.ca.gov/story/index.html>)

Current Electricity

[Alessandro Volta](#)

This site provides information about Alessandro Volta, the inventor of the "voltaic pile," the forerunner of today's battery.
(<http://www.energyquest.ca.gov/scientists/volta.html>)

Thomas Edison

[The Great Idea Finder: Thomas Alva Edison](#)

(<http://www.ideafinder.com/history/inventors/edison.htm>)

[Edison's Lightbulb](#)

(<http://www.fi.edu/qa98/attic12/attic12.html>)

[History of Energy: Edison \(1847\)](#)

(http://www.eia.doe.gov/kids/energy.cfm?page=fp_edison)

These sites provide information about Thomas Edison and his invention of the incandescent light bulb.



Michael Faraday

[Faraday Follows in Franklin's Footsteps](http://www.fi.edu/franklin/scientst/faraday.html)

This site provides information about Michael Faraday and his discovery of electro-magnetic rotations, which led to the development of the electric motor.

(<http://www.fi.edu/franklin/scientst/faraday.html>)

Electric Generators and Transformers

[Electricity Basics](http://www.eia.doe.gov/kids/energyfacts/sources/electricity.html)

(<http://www.eia.doe.gov/kids/energyfacts/sources/electricity.html>)

[Fun with Electricity](http://www.jea.com/community/education/kidscorner/electricalfacts.asp)

(<http://www.jea.com/community/education/kidscorner/electricalfacts.asp>)

[Power Plant: From Our Plant to Your Door](http://www.kcplkids.com/pr_plant.html)

(http://www.kcplkids.com/pr_plant.html)

Communications Technology

[Kidswork: Telegraph and Telephone](http://www.knowitall.org/kidswork/etv/history/telegraph/index.html)

(<http://www.knowitall.org/kidswork/etv/history/telegraph/index.html>)

[The History of the Telephone](http://inventors.about.com/library/inventors/bltelephone.htm)

(<http://inventors.about.com/library/inventors/bltelephone.htm>)

Visit these kid-friendly sites for information about the telegraph, telephone, and other uses of electricity in communications.

Electrical Safety

[Electrical Safety World: What is Electricity?](http://www.sierrapacific.com/kids_safety/electric/html/kids1.html)

This site provides important information on electrical safety, with games and activities for students to engage in.

(http://www.sierrapacific.com/kids_safety/electric/html/kids1.html)



Design Project

[Blobz Guide to Electrical Circuits](http://www.andythelwell.com/blobz/guide.html)

Students experiment with electrical circuits on this educational website. Five different sections feature the following topics: What makes circuits work?, Conductors and insulators, All about switches, Changing circuits, and Circuit diagrams. Each section offers useful information, an activity or game, and a quiz.

(<http://www.andythelwell.com/blobz/guide.html>)

[Learning Circuits: Electricity and Circuits](http://www.learningcircuits.co.uk/)

This interactive website gives students a chance to learn about the basics of electricity (simple circuits, circuit diagrams, switches, changing circuits, insulators and conductors) and then put what they have learned into practice.

(<http://www.learningcircuits.co.uk/>)

[Science Games for Kids: Electricity Circuits](http://www.sciencekids.co.nz/gamesactivities/electricitycircuits.html)

Student will have fun with this interactive electricity game as they work through a variety of challenges such as changing circuits, moving switches, replacing bulbs, changing the voltage and adding longer wires.

(<http://www.sciencekids.co.nz/gamesactivities/electricitycircuits.html>)

[Changing Circuits](http://www.bbc.co.uk/schools/ks2bitesize/science/physical_processes/changing_circuits/play.shtml)

This interactive website allows students to see what happens when they make changes to a circuit.

(http://www.bbc.co.uk/schools/ks2bitesize/science/physical_processes/changing_circuits/play.shtml)

[Electrical Conductors](http://www.bbc.co.uk/schools/ks2bitesize/science/physical_processes/circuits_conductors/play.shtml)

Students test different materials on this website to see which materials conduct electricity.

(http://www.bbc.co.uk/schools/ks2bitesize/science/physical_processes/circuits_conductors/play.shtml)

[The Electricity Book: Part 1: Looking at Simple Circuits](http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/science/electricity_book1/index.htm)

This kid-friendly web site describes the basic concepts of a simple circuit. A variety of simple circuit designs are shown and students are challenged to predict and test whether each design will work.

(http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/science/electricity_book1/index.htm)



All About Circuits: Basic Concepts of Electricity

All About Circuits is a good resource for teachers who want to learn more about the basic concepts of electricity. The site also includes a forum where students, hobbyists and professionals from around the world share their knowledge and ideas about electricity.
(http://www.allaboutcircuits.com/vol_1/chpt_1/index.html)

Welcome to the Electronics Club

For students interested in enhancing their study of electrical circuits, use this website to introduce more advanced symbols used in electric circuit schematics. Click on the appropriate tabs at the top of the page to learn more about electronic components, possible projects, and different circuit symbols.
(<http://www.kpsec.freeuk.com/index.htm>)

Circuits Tutorial

This is a terrific, interactive website that allows students to design their own circuits on a circuit board. The following components are available for students to work with: batteries, light bulbs, wires, resistors, capacitors, volt meters, inductors, and ammeters. Once a design is identified as a valid circuit, students can turn the switch on to see how current flows through the circuit.
(<http://www.mhhe.com/physsci/physical/giambattista/circuits/circuits.html>)

Electric Circuits

This terrific website, designed for children between 7 and 11 years of age, allows students to develop their understanding of electricity and learn how electrical circuits are used in common appliances. Interactive topics found on this site include the following: Electricity in the Home, Introduction to Circuits, Circuit Components, Changing Circuits, Circuit Diagrams, and The Wire Experiment.
(<http://www.hyperstaffs.info/work/physics/child/index.html>)



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Books

Electrician (Career Exploration)

Karen J. Donnelly. (2001, Capstone Press)

This concise book introduces the career of an electrician, discussing educational requirements, duties, work environment, and other aspects of the job.

Electricity (DK Eyewitness Books)

Steve Parker and Laura Buller. (2005, DK Children)

With the photographs and other illustrations that make the Eyewitness Science series stand out, this book provides a comprehensive overview of electricity. It begins with early ideas and discoveries, and includes the many ways electric charges are collected and used.

Electricity (Science Around Us)

Darlene R. Stille. (2004, The Child's World, Incorporated)

This book gives an overview of electricity, including how it was discovered and how batteries are made. It includes a brief biography of Benjamin Franklin.

Electricity (Straightforward Science)

Peter Riley. (1999, Franklin Watts)

This book explains simple circuits, generating electricity, and motors, and their uses in everyday life. It also includes experiments to show how electricity works.

Electricity: A Question and Answer Book

Adele Richardson and Phillip W. Hammer. (2007, Capstone Press)

Written for ages 8 to 12, this book introduces electricity and its generation, components, movement, and function. Its question-and-answer format makes it a useful reference for the Science Center.



Electricity: Bulbs, Batteries, and Sparks (Amazing Science)

Darlene R. Stille; illustrated by Sheree Boyd. (2004, Picture Window Books)

Appropriate for ages 6 to 10, this book describes and illustrates how electricity powers the appliances in a house.

Faraday: Pioneer of Electricity (The Explosion Zone)

Ian Graham; illustrated by David Antram. (2003, Barron's Educational Series)

Michael Faraday discovered the relationship between electricity and magnetism, which led him to develop the first electric motor and electric generator. With cartoon-like illustrations, this book tells the story of Faraday's discoveries. Each two-page spread is supplemented with a sidebar called "Here's the Science."

Flick a Switch: How Electricity Gets to Your Home

Barbara Seuling; illustrated by Nancy Tobin. (2003, Holiday House)

In simplified terms, this book describes electricity and introduces some key inventors, including Benjamin Franklin, Thomas Edison, and Alessandro Volta.

The Magic School Bus and the Electric Field Trip

Joanna Cole; illustrated by Bruce Degan. (1999, Scholastic)

Ms. Frizzle and her class visit an electric power plant, and learn how electricity is generated and how it travels. The book is packed with information that goes beyond the scope of the unit, but it is entertaining and may stimulate students' further interest.

My Light

Molly Bang (2004, Blue Sky Press)

Beautifully illustrated, and narrated by "your sun," this book focuses on four scenarios in which the generation of electricity can be traced back to the sun: a hydroelectric dam, wind turbines, a coal-burning plant, and solar cells.

Nikola Tesla and the Taming of Electricity

Lisa J. Aldrich. (2005, Morgan Reynolds Publishing)

Appropriate for grades 5 and up, this book describes Tesla's discovery of the rotating magnetic field and includes his great inventions, such as early remote controls, radio, and alternating current equipment.



The Story of Thomas Alva Edison

Margaret Cousins. (1981, Random House)

This biography tells the story of inventor Thomas Edison. By the end of his career, Edison had invented the light bulb, motion pictures, and the phonograph, and made improvements in almost every other means of communication used today.

Switch On, Switch Off

Melvin Berger; illustrated by Carolyn Croll. (1990, HarperCollins Children's Books)

Recently reissued, this book explains in simple terms how electricity is produced and transmitted, how generators supply electricity for cities, and how electricity works in homes.

Thomas Alva Edison (Rookie Biographies)

Wil Mara: (2004, Children's Press)

This middle grade biography describes the life of Thomas Edison, the inventor of the light bulb, phonograph, and movies with sound. It includes a "Words You Know" section that highlights terms and concepts from the text, and illustrates them with photos.

Thomas Edison (First Biographies)

Lola M. Schaefer. (2002, Capstone Press)

Appropriate for early elementary students, simple text and photographs highlight major events in the life of Thomas Edison. A timeline feature at the bottom of each spread captures details one at a time, culminating in a complete summary of his life on the final page.

Using Energy (Designs in Science)

Sally Morgan and Adrian Morgan. (1993, Facts on File)

This book describes how energy is extracted from its sources and put to use when it is transformed from one form to another. Electrical circuits are discussed throughout.

Where Does Electricity Come From? (Clever Calvin)

C. Vance Cast. (1992, Barron's Educational Series)

"Hi. I'm Clever Calvin.... We all use electricity every day, but we hardly ever stop to think about what it is or where it comes from." Accompanied by humorous illustrations, Clever Calvin finds out how electricity is generated and brought to our homes.



Batteries, Bulbs, and Wires

By David Glover (1993, Kingfisher)

In addition to discussing static electricity, magnets, and simple circuits, this book outlines some projects for students to build or get ideas from, such as a burglar alarm activated when someone completes a circuit by stepping on a surface, or a winch made with a motor, rubber band, and spool on a spindle.

Electric Mischief: Battery-powered Gadgets Kids Can Build

By Alan Bartholomew; illustrated by Lynn Bartholomew (2002, Kids Can Press)

This book outlines several projects of varying complexity. For example, an illuminated fork built with a handful of materials in nine steps, or a robot hand built with many materials in 25 steps). Whether students in your class build any of the objects or not, they can get good ideas about different ways to build switches and use motors.

Electrical Circuits and Currents

By Barbara Somervill (2009, Raintree)

In this age-appropriate book, the author describes a number of concepts related to electricity in graphic and entertaining ways. She explains that electricity is a form of energy and describes various ways that electricity is created and used. Basic and complex circuits are described, as well as various concepts related to electricity such as voltage, current, power, and resistance.

Electricity

By Jackie Ball and Richie Chevat (2003, Gareth Stevens, Inc.)

This graphic book with a comic twist uses a variety of writing styles to describe concepts of electricity. The book includes such varied treatments as a mock interview with an electron, an historical vignette starring Benjamin Franklin, a timeline of scientific and technological progress, and a variety of simple experiments.



Electricity (Eyewitness Books)

By Steven Parker (2005, DK Publishing)

This graphic guide to electricity contains a host of information about its discovery and use. The author vividly describes discoveries and technological advances made by a wide variety of scientists and engineers throughout history.

Electricity and Magnetism: Real World Science

By Dana Meachen Rau (2009, Cherry Lake Publishing)

In this simple, yet well written book, the author describes various concepts of electricity and magnetism. The book begins with a lively discussion of static electricity and moves on to other important topics such as the role of electrons in the flow of electric current, the way current flows through electrical circuits, and the creation of electro-magnets.

Electricity and Magnetism (Physics in Our World)

By Kyle Kirkland (2007, Facts on File, Inc.)

Although designed for older readers, this book is a useful teacher resource. You might search for answers to difficult student questions, or read it before teaching the project to gain a deeper understanding of the concepts of electricity and magnetism.