

Energy Education Resources

Pre-kindergarten — High School





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Welcome to the Energy Education Resources Guide

Pacific Gas and Electric Company (PG&E) has assembled this guide to help you locate materials on the World Wide Web that can help your students learn about energy, energy efficiency, and the environment.

Throughout the pages of this booklet, educators will find many relevant websites from governmental, nonprofit, and private organizations.

Use this guide to find lesson plans you can print or download to your computer, order free and low-cost resources, and learn about upcoming workshops.



Web Surfer

Sites marked with this Web Surfer icon include special content for students to use on their own.

Remember:

Websites are continually updated and redesigned. Some addresses listed here may have changed. If you find that an address no longer works, try this:

Go to the site's home page. You may find a link there to the resource you are looking for, or the page may include a search box. You can also search for the material you want by entering its name into a search engine such as Google (www.google.com).



Sponsored jointly by Pacific Gas & Electric, Southern California Edison, Southern California Gas, and San Diego Gas & Electric, the PEAK Student Energy Actions and Energize Schools programs provide curriculum, teacher training, and hands-on support at no cost to teachers and students.



PEAK Student Energy Actions

peakstudents.org

PEAK Student Energy Actions (PEAK) is a standards-based, energy and environmental education program designed to empower students with the knowledge and skills to responsibly manage energy and water use in their homes, schools, and communities now and in their futures. Using energy and water topics as a foundation, PEAK instills a lifelong ethic of responsible resource management in K-8 students by engaging students in pro-environmental behaviors and core knowledge. PEAK creates an informed, proactive consumer population and helps to ensure an innovative and sustainable energy future for all. Utilizing a comprehensive approach to energy education, PEAK puts knowledge into action through activities and solutions that help students and their families improve existing environmental behaviors as well as build healthy, new practices.





ENERGIZE SCHOOLS

A Program of SEI

Energize Schools

energizeschools.org

Energize Schools provides holistic services to engage, inspire, and empower high school students to become environmental leaders in their communities, green their facilities, and conserve resources through experiential learning. The Energize Schools program offers standards-aligned, project based curriculum resources, instructional support, and direct instruction to engage students in impactful sustainability projects including zero net energy, solar design, and biomimicry. Energize Schools supports work-based learning initiatives including annual Green Careers Conferences and supports conservation efforts through annual Energy Conservation Competitions and Earth Day Contests.



The PEAK Student Energy Actions and Energize Schools programs are funded in part by California utility ratepayers and administered by Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company and SoCalGas under the auspices of the California Public Utilities Commission. In addition, the PEAK program is brought to schools served by Anaheim Public Utility and the Los Angeles Department of Water and Power through community partnerships.

Online Resources

AIRNOW

<https://airnow.gov/>

The AIRNow site provides quick access to national air quality information. A full-color map providing an overview of air quality in the USA is updated daily.

<https://airnow.gov/index.cfm?action=learning.forteachers>

The Teachers' page provides links to air quality and environmental curriculum resources, as well as state and local air quality websites designed specifically for teachers and students.

<https://airnow.gov/index.cfm?action=student.index>



AIRNow Students' page: Animations teach students about ozone and particle pollution. Smog City, an interactive air pollution simulator, shows how individual choices impact air quality.

https://airnow.gov/index.cfm?action=aqikids_home.index



KID'S AIR: An Air Quality Index and maps are available for children ages 7–10. Buster Butterfly helps explain air quality action days to kindergarten and 1st grade students.

Alliance to Save Energy

<http://ase.org/topics/education>

The Alliance's Education page describes the PowerSave Schools Program (<http://ase.org/projects/powersave-schools>) and provides links to other resources and interdisciplinary lesson plans such as a Home Energy Audit for students (<http://ase.org/resources/home-energy-audit>).

<http://ase.org/resources>

The Alliance's Lesson Plans resource page links to dozens of energy-saving curricula that can be sorted by grade level.



America's Home Energy Education Challenge (AHEEC)

<https://www.energy.gov/articles/america-s-home-energy-education-challenge>

AHEEC offers two detailed curriculum on the basics of energy in PDF form – one for grades 3 through 5, the other for grades 6 through 8. Each curriculum has five lessons, vocabulary pages, and student worksheets. The AHEEC is sponsored by the U.S. Department of Energy and administered by the National Science Teachers Association.

Bonneville Power Administration

www.bpa.gov/PublicInvolvement/CommunityEducation/Pages/default.aspx

BPA provides links to energy resources for elementary and secondary students. Teacher resources, including curricula on smart energy use (of electricity), hydropower, and wind power, are found at www.bpa.gov/PublicInvolvement/CommunityEducation/CurriculumActivities/Pages/default.aspx

California Air Resources Board

www.arb.ca.gov/knowzone/knowzone.htm



The Air Resources Board introduces students to issues of air quality and air pollution in California. The Know Zone's Kids' Stuff site has a coloring book that can be printed out (in English and Spanish) and interactive games. Teachers can download air quality lesson plans and materials from this site.

California Climate Change & Energy Education Resources Catalog

<http://energy-education.net/k12.htm>

This site provides a K–12 catalog of resources for teaching about climate change; conservation; energy alternatives; and basic principles about energy, electricity, and electrical power. It links to lesson plans, curriculum units, teacher training workshops, hands-on projects, and field trips.

California Department of Education—Office of Environmental Education

www.cde.ca.gov/pd/ca/sc/oeaintrod.asp

The California Department of Education's site provides information on environmental education programs and curricula. Links include the California Department of Education Curriculum Resources and the Environmental Education Grant Program (EEGP).

Pacific Gas and Electric Company does not necessarily endorse the specific websites cited in this guide, nor the programs or materials provided by the various organizations or agencies. Teachers should evaluate the websites and select those that best meet the needs of their own students.

California Education and the Environment Initiative

www.californiaeei.org/Curriculum/

The California Education and the Environment Initiative (EEI) curriculum portal gives teachers access to eighty-five K-12 curriculum units devoted to environmental literacy. Student workbooks, teachers' guides, maps, and visual aids accompany individual units. This curriculum has been approved by the State Board of Education and supports both the Common Core State Standards and Next Generation Science Standards.

California Energy Commission (CEC)

www.energy.ca.gov

The CEC portal site provides access to a number of energy resources on climate change, solar, greenhouse gases, energy-saving tips, and much more.

California Energy Commission—Energy Quest

www.energyquest.ca.gov

The California Energy Commission's interactive Energy Quest website contains a 20-chapter online "Energy Story" educational program, as well as 12-chapter "online energy adventure" entitled "Devoured by the Dark." Individual chapters of the Energy Story program address topics such as "Energy – What is it?" "Electricity," and "Stored Energy and Batteries." Each chapter is illustrated and many include detailed experiments.

www.energyquest.ca.gov/teachers_resources/index.html

The site's Teacher Resources section includes background material, recommended books, and extensive links to K–12 energy education lesson plans on other sites.

California Environmental Education Interagency Network (CEEIN)

www.cde.ca.gov/pd/ca/sc/oeeccein.asp

CEEIN provides resources for teachers to help them integrate environmental issues into their lesson plans.

California Environmental Protection Agency

www.calepa.ca.gov/Education

A portal to the agency's educational programs, including those from the Air Resources Board, Office of Environmental Health Hazard Assessment, and State Water Resources Control Board.

California Regional Environmental Education Community (CREEC Network)

www.creec.org

The CREEC Network links to environmental education resources and libraries in California. CREEC's searchable Resource Directory includes over

1,000 environmental education providers and over 2,000 programs/resources available to educators in California.

California Solar Schools

<http://californiasolarschools.org/>

Solar Schools Workshops are activity packed providing the most up-to-date information on all aspects of energy, including the science of energy, sources of energy, consumption, electricity, efficiency, and environmental and economic impacts. Work shops are available to K-12 public school teachers in PG&E's service area.

CalRecycle in the Classroom

<https://www.calrecycle.ca.gov/>

The CalRecycle site features environmental educational publications (elementary and secondary), including waste prevention curricula. Teachers will also find information on developing school waste prevention and recycling programs and funding sources for environmental, recycling, or science literacy projects.

The Center for Green Schools

www.centerforgreenschools.org

This U.S. Green Building Council site promotes the greening of existing schools. Resources include an interactive diagram showing what makes a school green. Links to K–12, green educator curricula are found at:

<http://centerforgreenschools.org/guides/k12.aspx>

ClimateChangeEducation.Org

www.climatechangeeducation.org

ClimateChangeEducation.Org is a portal that provides links to a wide variety of educational and scientific resources on climate change, including K–12 lesson plans and ideas for student projects.

<http://globalwarmingkids.net>

ClimateChangeEducation.Org's portal to global warming for students links to interactive games and other Web resources and lists DVDs, videos, books, magazines, and science centers relevant to climate change.

Climate Kids/NASA

<https://climatekids.nasa.gov/climate-change-meaning/>

This site offers games, activities, videos and articles all related to climate change.

CoolCalifornia.org

www.coolcalifornia.org

CoolCalifornia provides resources for reducing environmental impacts and stopping climate change. The Schools section includes a tool kit with money-

saving actions for reducing greenhouse gas emissions in schools, saving energy, and recycling; climate change and carbon footprint calculators; financial resources for schools, featuring a funding wizard to search for rebates and incentives for projects; and links to climate change curricula and other resources.

Digital Chalkboard

www.mydigitalchalkboard.org/

The Digital Chalkboard is an online community of California public school and district educators. California educators collaborate through group participation and discussions, upload educational classroom and administrative resources that help other educators access what works best in California schools and districts. There are over 70,000 resources in a searchable database, organized by academic discipline and grade level.

Earth 911

<http://earth911.com>

This site links to information and tips on recycling, reducing, and reusing. It includes a search tool for state and local government recycling programs.

<https://earth911.com/?s=for+students>

The For Student section (elementary through high school) contains games, activities, and information on recycling and reuse, including what to do about electronic and hazardous waste.

Earth Day

www.epa.gov/earthday

The Environmental Protection Agency's portal to Earth Day events and information provides connections to various state government sites. Teachers can find ideas for classroom lessons and activities, as well as a history of Earth Day and related legislation from 1970 to the present.

Earth Team

www.earthteam.net

This site disseminates information on environmental education and "action projects" suitable for classrooms. Project descriptions include objectives and extensive links to other resources. Earth Team's Green News is an online newsletter by and for teens (<http://thegreennews.net>).

EEK! Environmental Education for Kids

<http://dnr.wi.gov/eeek>

This Wisconsin Department of Natural Resources site offers games and readings to teach grades 4–8 students about the environment and environmental issues. The Get a Job Careers Zone highlights environmental careers. Teacher Pages include links to educational resources and corresponding activities for science,

math, language arts, and social studies.

ENC Learning Inc.

www.goenc.com

The goENC site provides resource information for teaching K–12 science and math classes, including energy-related topics. The site features a searchable database and a descriptive catalog of resources from hundreds of organizations and publishers. Links to workshop materials, education periodicals, online teacher courses, and teacher talk sites. Resources available online by subscription.

Energy Hog

www.energyhog.org

The Energy Hog Challenge educates students in grades 3–6 on how to be responsible energy users. “The Challenge” helps develop student skills in science, math, technology, language arts, critical thinking, and social studies. A student guide and a teacher guide are available.



ENERGY STAR Kids

www.energystar.gov/index.cfm?c=kids.kids_index

This online interactive program’s “Your Planet Needs You” section explains in simple terms what energy is, where it comes from, the different forms of energy, and the consequences and drawbacks of energy use. The program explains climate change and suggests ways to save energy and help the environment. “Your Planet Needs You” is also available in both print and text-only versions.



Exploratorium Museum

www.exploratorium.edu

The Exploratorium provides a variety of interactive, online educational exhibits on science-related subjects and produces its own Webcasts (www.exploratorium.edu/tv). Over 500 “things to see and do” and 150 science websites are maintained by the Exploratorium.

www.exploratorium.edu/climate

The Exploratorium’s Global Climate Change Research Explorer pages display climate models and scientific data relating to the atmosphere, oceans, and polar caps.



Florida Solar Energy Center

www.fsec.ucf.edu/en/education/k-12/curricula

The K–12 program gives teachers online access to curriculum units focusing on alternative energy technologies and the understanding of natural systems. Topics include solar energy, alternative fuel, high-energy hydrogen, and building performance.

Folsom Powerhouse State Historic Park, Electricity Unit

www.parks.ca.gov/pages/501/files/unit.pdf

Folsom Powerhouse offers a downloadable curriculum guide on electricity in PDF format. The curriculum guide contains 14 individual lesson plans using the powerhouse and its history as a focus. It includes quizzes, scientific investigations, and handouts. Accompanied by a separate 35-page guide with explanations of the science (www.parks.ca.gov/pages/501/files/guide.pdf).

(Group tours of the Folsom Powerhouse are available throughout the week by special arrangement. Call 916-985-4843 for more information.)

Foundation for Environmental Education (FEE)

www.fee.global

This international environmental education foundation's programs and Eco-Schools (www.ecoschools.global), which report on international environmental education projects and methodologies for implementing them.

Foundation for Water and Energy Education (FWEE)

www.fwee.org/education.html

The FWEE offers a six-unit, hands-on curriculum entitled The Nature of Water Power for grades 4–8. The focus is on the Northwest states, where a large percentage of the electricity is generated by hydropower.

Franklin Institute Science Museum— Community Science Action Guides

www.fi.edu/learning-resources

The Franklin Institute has produced a series of detailed energy resources for both upper primary and upper secondary students, addressing energy efficiency, the oil supply, and global warming.

Green Education Foundation (GEF)

<http://www.greeneducationfoundation.org/institute/lesson-clearinghouse.html>

GEF provides standards-based curricula and resources to K–12 students and teachers about global environmental concerns and solutions. Membership is free, but registration is required for full access to the library of lessons and activities. Programs include The Green Thumb Challenge, National Green Week, and Green Energy Challenge.

Green Schools Initiative

www.greenschools.net

This site, developed by parent-environmentalists, provides tips for taking actions to green schools; green school quizzes; and links to resources, workshops, curricula, and green building buying guides.



How Stuff Works

www.howstuffworks.com



A searchable database that can be used by students and teachers to find answers to questions about the workings of science and technology. The company promises to provide a “source of credible, unbiased, and easy-to-understand explanations of how the world actually works.”

howtosmile

<https://www.howtosmile.org/topics/energy>

The site links to activities, curricula, and resources aligned to the U.S. Department of Energy’s Energy Literacy framework. The framework covers an incredible breadth of topics - basic physics, energy creation and use, energy use’s effects on climates and ecosystems, and government policies that determine energy use. The topics are relevant to a wide spectrum of courses from physics to environmental science, and ecology to policy.

Kids’ Safety

www.sce.com/wps/portal/home/safety/children-and-educators/

Southern California Edison’s Kids’ Safety page provides tips on electrical safety. Teachers can order free classroom booklets on understanding electricity and electrical safety for grades 4–5.

Marian Koshland Science Museum

www.koshland-science-museum.org/teacher-resources

The Teacher Resources section of the Marian Koshland Science Museum site offers inquiry-based student activities that adhere to National Science Education Standards.

www.koshland-science-museum.org/teacher-resources/webquests

Climate Change Webquest is a “virtual field trip” exploring the causes and impact of climate change. Includes pre-visit and follow-up teaching activities.

National Energy Education Development (NEED) Project

www.need.org/curriculum

The NEED Project provides a wide variety of energy education curriculum guides and supplemental materials in PDF form. Individual guides correspond to primary, elementary, intermediate and secondary grade levels. Curriculum topics include energy sources, electricity, energy efficiency and management, and energy in society. The curriculum material is searchable by grade level, topic or subject. NEED offers some materials in Spanish.

National Energy Foundation (NEF)

www.nef1.org

The National Energy Foundation's website provides curricula, training, and materials devoted to energy and natural resources issues. The Foundation's Student's page offers renewable energy activities (Think! Energy) for grades 2–7.

National Science Foundation (NSF)

<https://www.nsf.gov/news/classroom/earth-envIRON.jsp>

This site offers a collection of lessons and web resources about Earth and the environment and is aimed at classroom teachers, their students, and students' families.

Next Generation Science Standards (NGSS)

www.nextgenscience.org

This website helps educator understand the NGSS standards and why new science standards were needed in the first place. Resources in this section outline some key advances in science education research and describe how the NGSS reflect these advances by enabling students to learn science by doing science.

The NGSS integrate the three dimensions introduced in the National Research Council's A Framework for K-12 Science Education into its student performance expectations. As a result of this innovation, the NGSS look completely different than previous science standards and implementing them requires a major shift in classroom instruction and learning.

North American Association for Environmental Education (NAAEE)

www.naaee.org



The NAAEE is a network of professionals, students, and volunteers working in the field of environmental education. It offers publications for purchase that focus on guidelines for development of environmental education programs. Its EE-Link is a searchable database of environmental education resources on the Internet (requires membership).

The Northern California Solar Energy Association (NCSEA)

www.norcalsolar.org/solar-energy-resource-guide

NCSEA offers a Solar Energy Resource Guide for purchase (hard copy or downloadable) with articles on solar electricity, solar water heating, passive solar design, access laws, and additional solar energy resources.

Planet Polluto

www.planetpolluto.com



Save Planet Polluto is an interactive simulation game for kids about the effects of air pollution. It is available on CD-ROM free of charge throughout the Sacramento region or may be ordered in bulk at low cost.

Project Learning Tree

www.plt.org



This award-winning, interdisciplinary environmental education program for grades K–12 is administered by the American Forest Foundation. The site offers, for purchase, a multimedia Energy & Society Learning Kit that integrates music and dance to enhance the study of energy issues. The kit includes an activity guide, a music CD, a dance DVD, posters, and background material for teachers. Also available: Environmental Experiences for Early Childhood Ages 3-6, with an accompanying music CD, and the Pre-K–8 Environmental Education Activity Guide, with 96 hands-on interdisciplinary activities.

The Rachus Institute

www.rachus.org

An assortment of solar educational kits and guidebooks for projects may be purchased on this site, which is linked to two affiliated sites maintained by Rachus:

www.rachus.org/solarschoolhouse/

The Rachus Institute's Solar Schoolhouse Summer Institute offers a five-day program where educators learn about solar power and build solar-powered projects to prepare for teaching about solar energy. Other workshops year round are found on the Events page.

Rocky Mountain Institute (RMI)

www.rmi.org

This nonprofit organization works to foster efficient and restorative use of resources to create a more sustainable world. Web page fact sheets offer information about energy and how it is used. Includes a library of Rocky Mountain Institute publications available online. RMI's Reinventing Fire section proposes actionable solutions and supporting research for a 158%-bigger U.S. economy in 2050 needing no oil, coal, or nuclear energy.

PG&E Safe Kids

www.pge.com/myhome/edusafety/teach/safekids/

Teachers in the PG&E service area can order free booklets that teach students how to be safe around electricity and natural gas. Safe Kids materials are designed for students in grades K–8. Some of the materials are also available in Spanish.

Sacramento Municipal Utility District (SMUD)

<https://www.smud.org/en/Giving-Back-to-Community/Workshops-and-education-resources/Teachers-and-students/Classroom-resources>

SMUD offers a variety of free resources to help teachers inspire and encourage students to learn in fun ways. Engage your students in math and science with these interactive activities.

Science Buddies

www.sciencebuddies.org

This nonprofit organization has developed science project ideas with step-by-step guidelines and an online mentoring program for K–12 students. A team of volunteer scientists monitors the “Ask an Expert” forum, and teacher resources are provided for planning science fairs. The Science Fair Project Help page features a topic selection wizard and project kits.

Science NetLinks

<http://sciencenetlinks.com/>



The Science NetLinks website, produced by the American Association for the Advancement of Science, provides a searchable database for finding science lessons and science updates for grades K through 12. Searches can be filtered by grade, theme, and content.

SF Environment

www.sfenvironmentkids.org

The Kids section of the SF Environment site provides fact sheets on saving energy, composting, air pollution, global warming, and the 3 R's (reducing, reusing, recycling). The “Teacher’s Lounge” has links to lesson plans and activity sheets for these topics.

Stem Ecosystem

<http://stemecosystems.org>

STEM learning ecosystems encompasses schools, community settings such as after-school and summer programs, science centers and museums, and informal experiences at home and in a variety of environments that together constitute a rich array of learning opportunities for young people. A learning ecosystem harnesses the unique contributions of all these different settings in symbiosis to deliver STEM learning for all children. Designed pathways enable young people

to become engaged, knowledgeable and skilled in the STEM disciplines as they progress through childhood into adolescence and early adulthood.

Solar Energy International (SEI)

www.solarenergy.org

SEI promotes renewable energy resources of solar, wind, and water throughout the world. The Students and Educators section

(www.solarenergy.org/resources-educators) includes answers to energy questions as well as related resources. Teachers can find renewable energy workshops and online training in the Workshops section

(www.solarenergy.org/solar-training-renewable-energy-workshops).

A free online course, Introduction to Renewable Energy, is available to teachers and high school students.

Thomas Edison and STEM

<https://www.thomasedison.org/stem-resources>

STEM education principles are a powerful paradigm to teach young people about the world. A free online course, Introduction to Renewable Energy, is available to teachers and high school students.

Union of Concerned Scientists (UCS)

www.ucsusa.org/clean_energy

The USC Clean Energy section features fact sheets on how energy works, clean energy technologies and impacts, and sustainable energy solutions and policies.

www.ucsusa.org/assets/documents/global_warming/calclimate.pdf

Confronting Climate Change in California: Ecological Impacts on the Golden State, an eight-lesson curriculum guide in PDF format for grades 9–12, is also available from the UCS.

The Urban Forest Ecosystems Institute

<http://selectree.calpoly.edu>

Planting trees can reduce energy costs by providing shade and protection from the elements. The Urban Forest Ecosystems Institute's tree selection guide provides an easy way to select a tree based on climate zone. Information is also provided on utility precautions, fire safety, root damage potential, invasive plants, hazardous trees, and tree maintenance.

U.S. Department of Energy (DOE)

DOE: Energy Information Administration (EIA) Energy Kids' Page

www.eia.doe.gov/kids

The EIA's Energy Kids' website offers a wide range of lesson plans and activities related to energy topics. Plans are tailored for, elementary, and secondary school students. Internet access by students is required for much of the material. Basic

categories include: What is Energy?, Sources of Energy, Using & Saving Energy, and the History of Energy. Games and activities, a history of energy page, and a teachers guide are also available on this website.

DOE: National Renewable Energy Laboratory Education Programs

www.nrel.gov/education



This site offers information to educators on research internships and fellowships, mentoring, tutoring, seminars, competitions, awards, special events, and after-school programs. In addition to instructional development opportunities, teachers are provided with renewable energy and energy efficiency curricula for grades K–12, aligned with national educational standards for science, mathematics, and technology.

DOE: Office of Energy Efficiency and Renewable Energy

www.eere.energy.gov

This government website provides a gateway to many online documents on energy efficiency and renewable energy.

DOE/EERE: Energy Education & Workforce Development: Green Your School

www.energy.gov/eere/education/education-homepage

This Department of Energy page provides links to programs that can help improve energy efficiency of school buildings, campuses, and buses.

DOE/EERE: Energy Education & Workforce Development: Teach and Learn

<http://www1.eere.energy.gov/education/lessonplans/>

The DOE's Energy Education and Workforce Development website contains searchable database of "green energy" and other energy curricula. Searches can be refined by keyword or phase, topic, and grade level. An energy awareness coloring book, a student activity book, an energy action list, and an energy awareness kit are available here in PDF form.

DOE: Operating and Maintaining EnergySmart Schools

<http://doe.cefpi.org>



Department of Energy, Web-based training for developing an energy management plan in schools. Includes an interactive school map with technical suggestions for energy-saving strategies room by room. Co-sponsored by the Council of Educational Facility Planners International (CEFPI).

U.S. Environmental Protection Agency (EPA)

EPA: Environmental Education

www.epa.gov/education

The EPA has a number of educational resource sites accessed through this page. All sections of the site link to pages on environmental issues, science, and technology.

EPA: Environmental Education Publications

www.epa.gov/enviroed/resources.html

The EE Publications page links to free, online EPA educational resources

compiled by environmental topic. A comprehensive list of K–12 EPA environmental education materials and resources is on this site.

EPA: Students

www.epa.gov/students

The EPA's webpage for students and teachers links to a number of engaging energy-related games, quizzes and videos. Links to community service and science fair projects are also provided. A Homework Resources section provides students with online help for science and environmental subjects.

U.S. Green Building Council

Learning Lab

<https://learninglab.usgbc.org/>

Learning Lab is USGBC's online education platform for K-12 teachers and school leaders to find lessons, activities and resources that encourage student leadership, sustainability literacy and real-world action.

Watt Watchers of Texas

<https://www.watt-watchers.com/>

This program provides all the information and materials necessary for forming and implementing a school energy patrol with hands-on, online energy related activities for students K–12.

Wisconsin K–12 Energy Education (KEEP)

<https://www.uwsp.edu/cnr-ap/KEEP/Pages/default.aspxKEEP>

KEEP initiates and facilitates the development, dissemination, implementation, and evaluation of energy education programs. The site provides teacher-developed, hands-on, interdisciplinary lessons on energy and links to other resources.





Energy-Saving Tips for Teachers

- > Turn off all lights when you are the last to leave a room.
- > Set computers and printers to their energy saving mode and turn them off when not in use.
- > Encourage your school and district to always purchase energy-efficient, ENERGY STAR-labeled equipment and appliances.
www.energystar.gov.
- > Watch for leaking faucets—both water and energy are wasted.
- > Provide lessons and activities on energy efficiency and conservation.
- > Organize a classroom or school recycling program.
- > Select student energy monitors for your classroom who will make sure that energy is used wisely and efficiently.

Organize a Green Team

See these sites for more information:

- > [Alliance to Save Energy](http://ase.org/index.php?q=topics/education)
<http://ase.org/index.php?q=topics/education>
- > [Center for Green Schools](http://www.centerforgreenschools.org)
www.centerforgreenschools.org
- > [Go Green Initiative](http://www.gogreeninitiative.org)
www.gogreeninitiative.org
- > [Green Education Foundation](http://www.greeneducationfoundation.org)
www.greeneducationfoundation.org
- > [Green Schools Initiative](http://www.greenschools.net)
www.greenschools.net
- > [Natural Resources Defense Council \(NRDC\), The Green Squad](http://www.nrdc.org/greensquad)
www.nrdc.org/greensquad

School Energy Audit Resources

A school energy audit involves students in a real-world activity to save energy, protect the environment, and save money too. The purpose of this energy audit is to analyze how energy is being used in schools and to identify options to reduce consumption. Elementary and secondary students, as age appropriate, can analyze how their classroom or school uses energy each day.

Analysis and Action

Results from student energy audits are used to report findings of waste, make recommendations, and take actions to save energy and conserve natural resources.

The sites listed are a sampling of the many school energy audit resources available on the Web.

Energy Pathway—Energy Audit

<https://www.nwf.org/Eco-Schools-USA/Become-an-Eco-School/PathwaysEnergy/Audit>

The National Wildlife Federation's Eco-Schools-USA site offers a school energy audit with a sample action plan, online energy audit forms, and downloadable carbon calculator.

Energy Walkabout

www1.eere.energy.gov/education/pdfs/efficiency_energywalkabout.pdf

A basic school-wide energy audit lesson plan for grades 9–12, developed by the National Energy Foundation, with suggestions for reporting and promoting recommendations. The Energy Audit Checklist that accompanies this lesson is found at www1.eere.energy.gov/education/pdfs/efficiency_energyauditchecklist.pdf.



The School Energy Audit: A Bright Idea

www.countdownyourcarbon.org/SchoolEnergyAudit.pdf

A classroom school-wide energy audit program developed by Earthday Network for collecting and analyzing data, reporting, and making recommendations. Lighting, water use, food services, and recycling are audited. Supplemental materials include the environmental cost of energy now and in the future; a historical, global perspective on energy; and additional actions for conserving energy.

What's Up in the Environment

www.thirteen.org/edonline/wue/energy2_procedures.html

A six-step energy audit class project from Thirteen ed online. The procedures include energy research resources for students and links to sites where online survey forms can be created. Environmental science is the main subject matter focus of the audit, with connections to language arts and social studies. This class project is designed for middle school students, but can be adapted for other grade levels.

