ENERGY

Annotated Bibliography of K-12 Education Resources

Wisconsin Center for Environmental Education (07/08)

The following list consists of selected resources on the general topic of Energy. All materials are available for loan at the WCEE Resources Library. Many more resources on this and related topics are available. Wisconsin educators can request free delivery of selected items to a nearby Public Library. Here's how:

- *Point your web browser to **http://library.uwsp.edu***
- *Click on 'find books, videos and more' under the Library Catalogs heading*
  Limit your search to the WCEE EE Resources Library collection by selecting Center for Environmental Ed in the Quick Limits… box on the right side. Search by title or keyword and make a note of the titles and WCEE call numbers of the items you would like to borrow.
- *Request identified materials for free delivery to a library near you at **http://www.uwsp.edu/cnr/wcee/library/request.htm***

Please call or visit the WCEE for assistance and/or additional information. University of Wisconsin-Stevens Point, Learning Resources Center, 4th Floor. 715-346-4854 or wcee@uwsp.edu.

Teaching Activity Guides

Blueprint for Success by NEED Project, Manassas, VA. (2007).
The first in a series of activity guides designed to introduce students at different grade levels to energy and its sources. See also AC EN 108-111.
Grade levels: K-12 Length: 42 pages WCEE call number: AC EN 105

KEEP Energy Education Activity Guide and Student Book by K-12 Energy Education Program, et. al. Wisconsin Center for Environmental Education, Stevens Point, WI. (2005).
Makes the sometimes intimidating topic of energy understandable to students of all ages. Organized by themes and grade levels to facilitate use in finding appropriate activities. Comprehensive.
Grade levels: K-12 Length: 48 activities, 406 pages WCEE call number: AC EN 29, supp.

Doable Renewables by K-12 Energy Education Program, Focus on Energy and Wisconsin Center for Environmental Education, Stevens Point, WI. (2005).
A renewable energy education supplement to the KEEP activity guide and student handbook. This guide further explains and develops the concepts of renewable energy systems.
Grade levels: K-12 Length: 195 pages WCEE call number: AC EN 166.

Primary, Elementary, Intermediate, and Secondary Energy InfoBooks by NEED Project, Manassas, VA. (2007).
This is a series of energy education materials put out by the National Energy Education Development Project. It introduces a wide range of students to various energy resources and how they are put to use.
Grade levels: K-12 Length: varies WCEE call number: AC EN 108-111

Environmental Action: Energy Conservation by E2: Environment and Education, Dale Seymour Publications, Menlo Park, CA. (1998).
This is one of six modules in Environmental ACTION. This unit focuses on energy conservation. The school becomes research lab where students discover where energy comes from, how it's used, its effect on the environment and how to improve energy efficiency.
Grade levels: 5-9 Length: 165 pages WCEE call number: AC EN 144

Middle Level Energy Series by Linda Crow and B. Aldridge, National Science Teachers Association, Arlington, VA. (1995).
These materials are part of an NSTA project to reform science education. The overall goals of these activities are (1) to allow 7th grade students to study the patterns of change that living organisms undergo and (2) to allow students to study energy, work, and fuels in several different contexts.
Grade levels: 5-9 Length: 211 pages WCEE call number: AC EN 112

Energy For Keeps: Electricity from Renewable Energy by Educators for the Environment, Tiburon, CA. (2003).
This activity guide offers educators various curriculum and activities for youth, applicable resources and data for teachers, and presents many opportunities for discussion between students, teachers, community members, and politicians.
Grade levels: 5-12 Length: 233 pages WCEE call number: AC EN 76

Taking Charge: An Introduction to Electricity by Larry Shafer, National Science Teachers Association, Washington, DC. (1992).
Presents activities that help students understand electricity based on simple "everyday" electrical events.
Grade levels: 5-12 Length: 25 activities, 149 pages WCEE call number: AC EN 90

World Energy: Empowering the Future by Richard Thornton, Caroline Starbird and Samantha Ertenberg, Center for Teaching, International Relations, U of Denver, Denver, CO. (2004)
Using an international focus, students will learn to do research projects and think critically about energy use, including the use of nuclear power, oil, biomass, and renewable energy. All lessons and the final assessment are tied to national standards.
Grade levels: 5-12 Length: 8 activities, 58 pages WCEE call number: AC EN 149

Videos

Bill Nye the Science Guy (Series) by Disney Educational Productions, Elk Grove Village, IL. (1996).
Energy-themed specials from the popular and fast-paced children's show. Topics include "Friction," "Simple Machines," "Static Electricity," "Magnetism," and numerous others. Many experiments are demonstrated.
Grade levels: 4-9 Length: Approx.45 minutes each WCEE call number: AV EN 64-70

Veggie Van Voyage, The by Joshua Tickell, Joshua Tickell Productions/The Veggie Van Organization. (2003).
A college student learns to make biodiesel and uses it to drive his van across the country.
Grade levels: 4-6, 5-9, 9-12, adult Length: 12 minutes WCEE call number: AV DVD EN 11

Kilowatt Ours: Energy Conservation and Renewables by Jeff Barrie, The Video Project, San Francisco, CA. (2004).
This documentary looks at the consequences of our dependency on coal, including the health effects of air pollution, destruction of wildlife and topography, and global warming. It also walks the viewer through ways to be more energy efficient, including switching to various renewable sources.
Grade levels: 5-adult Length: 35 minutes WCEE call number: AV EN 86

Eyes of Nye, The: Nuclear Energy by Disney Educational Productions/ Elk Grove Village, IL. (2005).
Nye weighs the risks and advantages of nuclear power as an alternative energy and visits a nuclear reactor and a proposed nuclear waste site. DVD extras include printable educator's guide, web links, and correlated activities.
Grade levels: 9-12 Length: 25 minutes WCEE call number: AV DVD EN 9

Solar Energy: Saved by the Sun by NOVA, WGBH, Boston, MA. (2007).
This documentary explores solar power, its history, benefits and drawbacks. It explains how solar energy works, from silicon-based solar panels on homes, up to the mirror-based solar plant in the Mojave desert.
Grade levels: 9-12, adult Length: 56 minutes WCEE call number: AV DVD EN 19

Escape from Suburbia: Beyond the American Dream by Gregory Greene, Canada. (2007).
Examines how modern civilization is approaching the limits of growth and the end of cheap oil. Focuses on suburbs as both the symbol and cause of problems and examines several couples who have chosen to "opt out" of the "American Dream" to live more meaningful lives.
Grade levels: 9-12, adult Length: 95 minutes WCEE call number: AV DVD EN 20

Extreme Oil (Series) by Films for the Humanities and Sciences, Princeton, NJ. (2004).
A three-part series that examines the environmental, political, and ethical challenges of the oil industry and our consumption of oil-based products.
Grade levels: 9-12, adult Length: 57 minutes each WCEE call number: AV EN 82 part 1-3

Books for Youth

Pass the Energy, Please! by Barbara McKinney, Dawn Publications, Nevada City, CA. (1999).
Each of nature's creatures "passes the energy" in its own unique way. In this upbeat rhyming story, the food chain connects herbivores, carnivores, insects, and plants together in a fascinating circle of players. All beings on earth depend on the green plant, which is the hero of the story. The author shines again for presenting the science curriculum so creatively and cleverly.
Grade levels: PK-6 Length: 31 pages WCEE call number: BY EN 53

Sun Song by Jean Marzollo, Harper Collins. (1995).
This book follows the path of the sun through a young boy's eyes for a full summer day. Illustrates how animals and plants respond to the sun's changing light.
Grade levels: K-4 Length: 30 pages WCEE call number: BY EN 43

Magic School Bus and the Electric Field Trip in the Classroom, The by Joanna Cole and Bruce Degen. Scholastic, New York, NY. (1997).

Fiction. The energy installment of this popular series. An interesting story containing many "Energy Facts." Looks at the energy generation, safety, sources, mechanics, and more. See also the accompanying teachers' guide (AC EN 55), which includes science lessons, pre/post reading activities, and additional resource lists.
Grade levels: K-4 Length: 48 pages WCEE call number: BY EN 57

Alternative Energy Sources by Sally Morgan, Heinemann Library, Chicago, IL. (2003).
Covers fossil fuels and the problems associated with them. Then covers different alternative energy sources, providing background on how they operate, new research, how they are currently used, and any controversy associated with them.
Grade levels: 4-6 Length: pages WCEE call number: BY EN 46

Renewing Energy (Our World Our Future) by Sharon Dalgleish, Chelsea House, Broommal, PA. (2002).
Covers energy basics including the history of energy use, where it comes from, and why we need it. Briefly explains the greenhouse effect and global warming and then explains nuclear waste, transportation pollution, and acid rain. Shows how recycling can help and mentions the need for a global treaty (Kyoto).
Grade levels: 4-6 Length: 32 pages WCEE call number: BY EN 62

Green Musketeers and the Incredible Energy Escapade, The by Sara St. Antoine. Clarion Books, New York, NY. (1996).
Fiction. A chapter book about a group of students who form an environmental group and work on saving energy at their school.
Grade levels: 4-9 Length: 134 pages WCEE call number: BY EN 7

Fueling the Future (Series: Coal, Oil, Nuclear Power, Natural Gas, Hydrogen, Biomass, Wind, Geothermal Power, Water, Solar) by Thomson Gale, Farmington Hills, MI. (2007).
Discusses the advantages and disadvantages of various energy sources and how they would potentially be implemented into our current society.
Grade levels: 9-12 Length: varies WCEE call number: BY EN 66-75

Reference/Background Books

Biodiesel: Growing a New Energy Economy by Greg Pahl, Chelsea Green, White River Junction, VT. (2005).
This book outlines the history of biodiesel, explains biodiesel technology, and explores its potential as an energy source.
Grade levels: 9-12, Adult Length: 281 pages WCEE call number: BA EN 79

American Energy: The Renewable Path to Energy Security by Worldwatch Institute and Center for American Progress. (2005).
This book shows that an energy future based on abundant and clean renewable resources is not only urgently needed, but achievable. The areas that it covers are Geothermal Energy, Solar Heating, and Hydropower.

Grade levels: Adult Length: 38 pages WCEE call number: BA EN 88

The Home Energy Diet by Paul Scheckel, New Society Publishers, Gabriola Island, Canada (2005).
Conveys every detail of how your home uses - and can potentially save - energy, in an understandable yet comprehensive and fun style.
Grade levels: Adult Length: 308 pages WCEE call number: BA EN 86

Solar Water Heating by Bob Ramlow, New Society Publishers, Gabriola Island, Canada. (2006).
Reviews the history of solar water & space heating systems from prehistory to the present, then presents the basics of solar water heating, including an introduction to modern solar energy systems, energy conservation, and energy economics.
Grade levels: Adult Length: 238 pages WCEE call number: BA EN 84

Energy-Environment Connection by Jack Hollander. Island Press, Washington, DC. (1992).
A compendium of essays that address connections between energy and the environment. The book is organized into three themes: 1) the environmental impacts of major energy sources, 2) the environmental and economic benefits of efficient energy use, and 3) policy statements and comprehensive issues, including environmental ethics and economic development.
Grade levels: Adult Length: 414 pages WCEE call number: BA EN 7

Homemade Money by Richard Heede. Brick House Publishing, Amherst, NH. (1995).
Gives homeowners and renters suggestions that are cost-effective in making the home more energy efficient. Projects suggested are inexpensive.
Grade levels: Adult Length: 258 pages WCEE call number: BA EN 41

Party's Over, The: Oil, War and the Fate of Industrial Societies by Richard Heinberg. New Society Publishers, Gabriola Island, BC. (2003).
Deals with the decline of cheap oil and how competition will likely lead to resource wars. Also covers how alternative energies can help compensate for oil and offers potential solutions for the future.
Grade levels: Adult Length: 274 pages WCEE call number: BA EN 73

Web sites

Wisconsin Focus on Energy www.focusonenergy.com
Focus on Energy works with eligible Wisconsin residents and businesses to install cost effective energy efficiency and renewable energy projects. This site offers fact sheets, case studies, information on financial incentives, cash-back rewards, and grant opportunities.

Energy Center of Wisconsin www.ecw.org
The Energy Center of Wisconsin is a private, non-profit organization dedicated to improving energy sustainability including support of energy efficiency, renewable energy, and environmental protection. This site has multiple resources including publications (assessments, research reports, policy recommendations, etc.), an interactive Carbon and Home Energy Use fact site, Infopacks, and calendar of events.

WPS Electric Appliance Calculator http://www.wisconsinpublicservice.com/home/appcalc.aspx
Visitors to this site are allowed to personally calculate the watt usage of their home or dwelling. The Wisconsin Public Service then generates a monthly and yearly bill total, which will depict what source inside a home uses the most electricity.

Wisconsin Green & Healthy Schools Program http://dnr.wi.gov/org/caer/ce/greenschools/
The Wisconsin Green and Healthy Schools program aims to increase the students' knowledge and awareness of Wisconsin's natural resources and the environmental, health, and safety concerns and challenges that face our schools, our communities, and our Earth.

Get Into Energy http://www.getintoenergy.com/
This site is designed to build awareness among students, parents, teachers, guidance counselors, as well as working adults who are considering a career change. CEWD's goal is to increase the number of diverse, qualified applicants who want to come to work for utilities.

Myths about Energy in Schools http://www.nrel.gov/docs/fy02osti/31607.pdf
This site describes steps that schools can take to decrease their energy expenditures.

50 Green Strategies that Cost Less http://www.innovativedesign.net/pdf/50G.pdf
Good web site for a reference to energy used in school buildings and grounds.