



Chemists
in the Library



CHEMISTRY CONNECTIONS

"Air—The Sky's the Limit" eResources for K-12 Chemists Celebrate Earth Day - April 22, 2009



Levels: (E) Elementary (K-5), (I) Intermediate (6-8), (HS) High School (9-12), (C) College, and (G) General Public.



America's Climate Choices (HS,C,G)

<http://dels.nas.edu/basc/climate-change>

Concerns about climate change have prompted calls for action at every level of government and across many sectors of our economy and society. In response to a request from Congress, the National Academies are launching America's Climate Choices, a suite of coordinated activities that will examine the serious and sweeping issues associated with global climate change, including the science and technology challenges involved, and provide advice on actions and strategies the nation can take to respond. Provided by: The National Academies.



CarbonCounter.org - Fight Climate Change (I,HS,C,G)

<http://www.carboncounter.org>

Every time we drive, fly, run appliances at home and keep our houses lighted, warm and cool, we emit carbon dioxide, trapping heat in the atmosphere. Be part of the solution and offset your emissions! Your tax deductible donation contributes to the development of new technologies and alternative energy that reduce carbon dioxide emissions. Take the first step, and calculate your carbon footprint. Provided by: The Climate Trust.



Center for International Earth Science Information Network (HS,C,G)

<http://www.ciesin.org/index.html>

CIESIN's mission is to provide access to and enhance the use of information worldwide, advancing understanding of human interactions in the environment and serving the needs of science and public and private decision making. CIESIN continues to focus on applying state-of-the-art information technology to pressing interdisciplinary data, information, and research problems related to human interactions in the environment. Provided by: Earth Institute, Columbia University.



ClimateChangeEducation.Org (E,I,HS,C,G)

<http://www.climatechangeeducation.com>

Created by volunteers: docents, scientists, teachers, students, artists... Based at California science museums, K-12 schools and University of California campuses. Hands-on science demonstrations is our specialty -- our principal contribution to the body of original educational material. An example is the Global Warming Discovery Demo -- a favorite at science centers and museums, in K 12 schools, UC classes, and at large community events. Much of our work is bridge-building, encouraging partnerships in education. The California Catalog, an online resource center, is a web version of this.



Earth: A Graphic Look at the State of the World (I,HS,C,G)

<http://www.theglobaleducationproject.org/earth/index.php>

A few years ago a group of educators from BC, Canada set out to try to get an objective look at the state of the world. They wanted The Big Picture, not just this or that issue, but the most essential points of every important issue. The Executive Summary of the state of the planet. This web site is the result of that search. The site (and the accompanying wall chart) are here to show you - in as clear, objective, and accessible a format as possible - the condition of the world -- both its natural and human elements. Provided by: The Global Education Project.



Earth Day Network (E,I,HS,C,G) (Translate a page in 8 languages using BabelFish)

<http://www.earthday.org>

The EDN grew out of the original Earth Day in 1970. Earth Day Network is a driving force steering environmental awareness around the world. Through EDN, activists connect, interact, and have an impact on their communities, and create positive change in local, national, and global policies. EDN's international network reaches over 17,000 organizations in 174 countries. Our domestic programs engage 5,000 groups and over 25,000 educators coordinating millions of community development and environmental protection activities throughout the year. Earth Day is the only event celebrated simultaneously around the globe by people of all backgrounds, faiths and nationalities. More than a billion people participate in Earth Day each year.



Earth Day - U.S. Government Portal (E,I,HS,C,G)

<http://www.earthday.gov>

Earth Day is a time to celebrate gains we have made and create new visions to accelerate environmental progress. Earth Day is a time to unite around new actions. Earth Day and every day is a time to act to protect our planet. Earthday.gov is a cooperative effort across the entire U.S. government.



EarthTrends- Environmental Information (I,HS,C,G)

www.earthtrends.wri.org/index.php

EarthTrends is an online collection of information regarding the environmental, social, and economic trends that shape our world. Much of the environmental information on the internet is fragmented, buried, or only available at a price. EarthTrends gathers data from the world's leading statistical agencies, along with WRI-generated maps and analyses, into a single database for rapid searching and retrieving. To facilitate the comparison of data from different sources, EarthTrends supplements its content with detailed metadata that reports on research methodologies and evaluates the information's reliability. All of these resources are made available to the public at no charge. Provided by: World Resources Institute



EduGreen: Making Environmental Learning Fun for the Young. (E,I)
www.edugreen.teri.res.in/index.asp

Explore the environment around you through the Life on earth, Forestry, Energy, Water, Air pollution, and Climate change. Enrich your knowledge through quizzes, maps, a time line, environmental laws, multimedia resources, and an environmental calendar. Provided by: The Energy & Resources Institute, New Delhi, India.



Energy Information Administration - Official Energy Statistics from the U.S. Government (E,I,HS,C,G)
www.eia.doe.gov

The Energy Information Administration (EIA), created by Congress in 1977, is a statistical agency of the U.S. Department of Energy. Our mission is to provide policy-neutral data, forecasts, and analyses to promote sound policy making, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment. Includes a "Energy Kid's Page." Provided by: U.S. Department of Energy.



Global Footprint Network (I,HS,C,G) (Also in German)
www.footprintnetwork.org/en/index.php/GFN

Humans are the most successful species on the planet. But we are using more resources than the Earth can provide. An essential step in creating a one-planet future is measuring human impact on the Earth so we can make more informed choices. That is why our work aims to accelerate the use of the Ecological Footprint - a resource accounting tool that measures how much nature we have, how much we use, and who uses what. Provided by: Global Footprint Network.



The Greens - A Site for Kids About Looking After the Planet (E,I)
www.meetthegreens.org/

The GREENS is a site for kids about sustainability and green living. With The GREENS, we get kids thinking about the world and their place in it. The GREENS project is upbeat and optimistic. We encourage kids to make informed choices and meaningful changes. Through the animated episodic adventures, a blog, kids' mail, and regular updates, we explore green living, sustainability, ecology, environmental care, and social equity. We nudge kids to research, to challenge, to discover, and to take action wherever and whenever they can. Green Business named us as one of the "Ten Best Environmental Sites on the Web." Provided by: WGBH.



Intergovernmental Panel on Climate Change (HS,C,G) (Some content in 6 languages)
www.ipcc.ch/

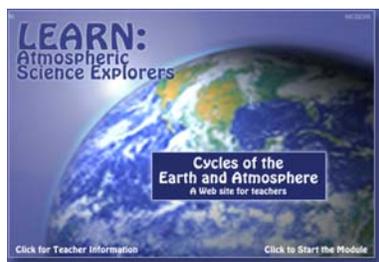
The IPCC was established to provide the decision-makers and others interested in climate change with an objective source of information about climate change. The IPCC does not conduct any research nor does it monitor climate related data or parameters. Its role is to assess on a comprehensive, objective, open and transparent basis the latest scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change, its observed and projected impacts and options for adaptation and mitigation.



Koshland Science Museum - Global Warming Facts & Our Future (I,HS,C,G)

www.koshland-science-museum.org/exhibitgcc/index.jsp

Is the climate warming? Are we the cause? These questions are at the heart of today's public debate about global warming. Conflicting opinions are everywhere, but now is your chance to cut through the noise and discover the facts. This exhibition explores issues related to global warming, including possible implications of this phenomenon for the quality of life worldwide. Provided by: Marian Koshland Science Museum of the National Academy of Sciences.



LEARN: Atmospheric Science Explorers -- Cycles of the Earth and Atmosphere: A Web Site for Teachers (I)

www.ucar.edu/learn

The fundamental goal of both LEARN is to increase middle school science teacher knowledge of and interest in the atmospheric sciences. The three modules include background information, hands-on activities using simple materials, and authentic assessment tools. The modules were not designed to replace existing curricula or textbooks. Rather, they were intended to enhance earth and physical science programs by incorporating atmospheric science concepts. These modules were created by teachers for teachers. Provided by: University Corporation for Atmospheric Research.



LearnNet (E,I,HS,C)

www.rsc.org/education/teachers/learnnet/index.htm

LearnNet is for the use of teachers and students of chemistry at all levels. The network provides access to products and information relevant to the study of chemistry. Many resources are available free only on LearnNet. The entries are classified by experts in chemistry teaching to ensure that the best interests of the users are attended to at all times. Provided by: Royal Society of Chemistry.



Next Generation Earth - Stop Climate Change (I,HS,C,G)

www.nextgenerationearth.org

Commit to the Next Generation and join the fight against climate change. Join governments, companies, universities and individuals like yourself throughout the world to endorse a clean energy future. Provided by: Earth Institute, Columbia University.

Interactive Map Tool/U.S. Emissions Data (I,HS,C,G)

www.nextgenerationearth.org/maps



RealClimate – Climate Science from Climate Scientists (HS,C,G)

www.realclimate.org

RealClimate is a commentary site on climate science by working climate scientists for the interested public and journalists. We aim to provide a quick response to developing stories and provide the context sometimes missing in mainstream commentary. The discussion here is restricted to scientific topics and will not get involved in any political or economic implications of the science. All posts are signed by the author(s), except 'group' posts which are collective efforts from the whole team. This is a moderated forum.



Stabilization Wedges: A Concept and a Game (HS,C)

www.princeton.edu/wedges

To get on track to avoiding dramatic climate change, the world must avoid emitting about 200 billion tons of carbon, or eight 25 billion ton "wedges," over the next 50 years. This is the heart of CMI's "Stabilization Wedges" concept, a simple framework for understanding both the carbon emissions cuts needed to avoid dramatic climate change and the tools already available to do so. The Stabilization Wedges Game is a team-based exercise that teaches players about the scale of the greenhouse gas problem, plus technologies that already exist to dramatically reduce our carbon emissions and get us off the path toward dramatic and damaging climate change. Provided by: Carbon Mitigation Initiative, Princeton University



Take Action - Calculate Your Impact (I,HS,C,G)

www.conservation.org/act/live_green/Pages/default.aspx

Living green means knowing, acting, and sharing. To make responsible choices, you have to know about your impact. Then you can start making positive changes in your lifestyle. As you start to see the benefits of your decisions, share your stories with your friends and family. Living green can be an individual choice, but it can also be a community goal. Excellent site with many multimedia features. Provided by: Conservation International



Tiempo Climate Cyberlibrary (I,HS,C,G) (Translate a page in 12 languages using BabelFish)

www.tiempocyperclimate.org

Includes Tiempo Climate Portal that provides access to carefully selected documents, websites and other resources concerned with climate and sustainable development. This site includes Tiempo Climate Newswatch, a weekly on-line magazine with news, features and comment on global warming, climate change, sea-level rise and development issues. Check out the Theme Sites which has annotated list of links on a variety of environmental, weather, and climate-related topics. Hosted by Climatic Research Unit, School of Environmental Sciences, University of East Anglia.



UN Cyberschoolbus (E,I,HS,G) (Some web pages are available in 6 languages)

www.cyberschoolbus.un.org

The UN Cyberschoolbus captures the growing potential of the Internet as an educational tool and provides an effective medium with which to disseminate information and resources about international affairs, as well as bring together diverse communities of students and educators from around the world. Within the Cyberschoolbus site there are a number of activities and projects that teach students about global issues in an interactive, engaging and fun way. Their interactive database, InfoNation, contains accurate, official, and up-to-date information and statistics on the countries of the world. Provide by: United Nations.



U.S. Environmental Protection Agency - Climate Change (I,HS,C,G) (Some EPA Content in 7 languages)

www.epa.gov/climatechange/index.html

EPA's Climate Change Site offers comprehensive information on the issue of climate change in a way that is accessible and meaningful to all parts of society - communities, individuals, business, states and localities, and governments

Climate Change for Kids (E,I)

www.epa.gov/climatechange/kids/index.html



The University Corporation for Atmospheric Research (I,HS,C,G)

www.ucar.edu

The University Corporation for Atmospheric Research (UCAR) promotes partnership in a collaborative community dedicated to understanding the atmosphere-the air around us- and the interconnected processes that make up the Earth system, from the ocean floor to the Sun's core. UCAR serves as a hub for research, education, and public outreach for the atmospheric and Earth system science community.

Kids' Crossing (E,I)

<http://www.eo.ucar.edu/kids/index.html>



World Meteorological Organization (I,HS,C,G)

www.wmo.int/pages/index_en.html

The WMO is a specialized agency of the United Nations. It is the UN system's authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources.



Worldchanging - Change Your World (I,HS,C,G)

www.worldchanging.com

Worldchanging was founded on the idea that real solutions already exist for building the future we want. It's just a matter of grabbing hold and getting moving. Worldchanging is a media organization that comprises a global network of independent journalists, designers and thinkers covering the world's most intelligent solutions to today's problems. They inspire readers around the world with stories of the most important and innovative new tools, models and ideas for building a bright green future. Provided by: Worldchanging, Seattle.



WorldWatch Institute (I,HS,C,G)

www.worldwatch.org

The Worldwatch Institute is an independent research organization recognized by opinion leaders around the world for its accessible, fact-based analysis of critical global issues. Its mission is to generate and promote insights and ideas that empower decision makers to build an ecologically sustainable society that meets human needs



Zerofootprint: Footprint Kids Calculator (E,I)

www.zerofootprintkids.com/kids_home.aspx

The Zerofootprint Kid's Calculator measures the direct impact of a child's lifestyle on the planet. Their measurements are made in terms kids understand: carbon, land, water and trees. Provided by: ZeroFootprint.net