

The Internet & Informal Science and Mathematics Education

Suggested Websites Inquiry-Based Activities in Math & Science

Kinetic City

<http://www.kineticcity.com/>

Kinetic City is a science adventure for children ages 8 to 11. Kinetic City: Mission to Vearth is a new web based, interactive science story game that has been developed for individual use or team play in after school clubs.

Science NetLinks

<http://www.sciencenetlinks.com/matrix.cfm>

Providing a wealth of resources for K-12 science educators, Science NetLinks is your guide to meaningful standards-based Internet experiences for students.

Science + Literacy

<http://ehrweb.aaas.org/scilit/>

The project's goal is to improve the scientific literacy of all adults by identifying and creating culturally sensitive materials for use in literacy programs and community-based adult substance abuse and mental health education programs.

TryScience.org

<http://www.tryscience.org/home.html>

TryScience.org is an online and offline interactivity with science and technology centers worldwide.

Science & Math Help Sites:

Ask Dr. Math ®

<http://mathforum.org/dr.math/>

Ask Dr. Math is an online question and answer service for math students and their teachers. A searchable archive is available by level and topic, as well as summaries of Frequently Asked Questions (the Dr. Math FAQ).

Science & Math Content

<http://www.erice.org/homework.html>

This website has listed resources related to doing homework in mathematics and science.

Resources for Parents & Children:

Online Books & Articles

<http://ericse.org/parents.html>

This website has online books & articles on math, science, and the environment and is a resource for parents and children.

Standards:

Science Benchmarks

http://www.sciencenetlinks.com/benchmark_index.htm

To help educators integrate Science NetLinks resources into a standards-based curriculum, all site content is organized around the Benchmarks for Science Literacy.

Math Standards

<http://www.illuminations.nctm.org/index2.html>

Internet resource to improve the teaching and learning of mathematics for all students based on the National Council of Teachers of Mathematics Principles and Standards for School Mathematics.

Best Books:

<http://www.sbfonline.com/bestlists.htm>

An online resource for librarians, teachers, parents, and others who work with children. This site has a comprehensive list of highly recommended resources in sciences from Best Books, Films and Software.

Radio Shows:

Science Update <http://www.scienceupdate.com>

Earth and Sky, <http://www.earthsky.com/>

EarthNews Radio, <http://www.earthnewsradio.org/>

Earth Watch Radio, <http://seagrant.wisc.edu/Earthwatch/default.html>

Everyday Science, <http://www.everydayscience.org/>

Nature Watch, <http://www.naturewatch.com/>

Pulse of the Planet, <http://www.pulseplanet.com/>

Our Ocean World, <http://www.ouroceanworld.com/2001/oceanworld.htm>

Animal Instincts, <http://www.animalinstincts.com/>

EnvironMinute, <http://www.nsc.org/ehc/minute/emindex.htm>

Science Today, <http://www.ucop.edu/sciencetoday/>

NPR Science Friday, <http://www.sciencefriday.com/>

Science and Technology News Network: <http://www.stn2.com/>

Engineering and Life: <http://www.engineerguy.com/>

TV Shows:

Kid Shows

Magic School Bus

<http://www.scholastic.com/magicschoolbus/home.htm>

Bill Nye the Science Guy

<http://www.billnye.com/>

Science Court

<http://www.tomsnyder.com/classroom/scicourt/>

PBS Science

<http://www.pbs.org/neighborhoods/science/>

PBS Kids: CyberChase

<http://pbskids.org/cyberchase/>

PBS Dragonfly TV

<http://pbskids.org/dragonflytv/>

Parent & Teacher Shows:

Discovery Channel

<http://www.discovery.com/>

National Geographic Channel

<http://www.nationalgeographic.com/channel/>

NOVA Online for Teachers

<http://www.pbs.org/wgbh/nova/teachers/>

PBS CyberChase: For Parents and Teachers

<http://pbskids.org/cyberchase/classroom/>

Discovery Channel

<http://dsc.discovery.com/>

Science News:

Science Update and Why is it? <http://www.scienceupdate.com>

Every week, Science Update brings you compelling science news and information.

AAAS Home Page <http://www.aaas.org/>

The American Association for the Advancement of Science,

(AAAS), is the world's largest general scientific society and publisher of the journal *Science*.

Resources for Parents and Children

CSMEE Web Companions

Homework Companion (<http://www.ericse.org/homework.html>)

Science Fair Companion (<http://www.ericse.org/scifair.html>)

African Americans Do Science (<http://www.ericse.org/bhm.html>)

Space Science Companion (<http://www.ericse.org/space/space1.html>)

Online Books & Articles

Mathematics Equals Opportunity (<http://www.ed.gov/pubs/math/>)

This book highlights research findings related to mathematics courses, course selections and career choices. It is suggested that students, parents and educators understand the significance of a solid foundation in mathematics as a key to college and career success.

Helping Your Child Learn Math (<http://www.ed.gov/pubs/parents/Math/index.html>)

This book focuses on the natural curiosity of children with activities for ages 5 through 13. The activities are based on the idea that teaching and learning occur naturally when parents and children do simple things together.

Helping Your Child Learn Science (<http://www.ed.gov/pubs/parents/Science/index.html>)

This book provides examples of simple science activities that parents can do with their children.

Cómo ayudar a sus hijos a aprender ciencia (<http://www.ed.gov/pubs/parents/Ciencia/index.html>)

Este libro sugiere formas en las que usted puede ayudar a sus hijos interesándolos en la ciencia, de los 3 a los 10 años de edad. Se incluye una breve información sobre ciencia y ejemplos de actividades para que los niños las hagan.

Helping Your Child With Homework (<http://www.ed.gov/pubs/parents/Homework/index.html>)

Helps answer the questions that parents and others who care for children in elementary and junior high school often ask about homework. Included are practical ideas for helping children complete homework assignments successfully. Some of the ideas in this book may also be helpful for high school students.

Cómo Ayudarle a su Hijo con la Tarea Escolar (<http://www.ed.gov/pubs/parents/TareaEscolar/>)

En ella se incluyen consejos prácticos que pueden ayudarles a los niños a hacer bien las tareas. Algunos de estos consejos pueden ser útiles también para estudiantes de High School.

Science and Math Are for Girls (<http://npin.org/library/pre1998/n00260/n00260.html>)

This paper discusses reasons why it is hard for girls to get good grades in science and mathematics. It lists some ways for parents to help.

Summer Home Learning Recipes (<http://www.ed.gov/pubs/Recipes/>)

This book offers reading, writing, math, and science activities developed by the Home and School Institute which are easy and enjoyable ways to develop children's skills.

Museums and Learning: A Guide for Family Visits (<http://www.ed.gov/pubs/Museum/>)

Provides basic information about museums and how they relate to learning. This book also suggests ways to make museum visits enjoyable learning experiences for families with children ranging in age from 4 to 12 years old.

Activities for Parents & Children

Exploring the weather: A fun way to learn (<http://npin.org/library/pre1998/n00409/n00409.html>)

This page provides activities related to studying the weather. It is suggested that when parents or care givers take the time to explore weather with children, they can help them work on many skills at once. There's something to learn for children of all ages, and adults, too!

The Learning Partners Series (<http://www.ed.gov/pubs/parents/LearnPttrs/>)

Consists of a number of fliers released by the National Institute on Student Achievement, Curriculum, and Assessment and the National Institute on the Education of At-Risk Students for use in school newsletters to parents and for parent conferences.

Let's Do Math! (<http://www.ed.gov/pubs/parents/LearnPttrs/math.html>)

Let's Do Science! (<http://www.ed.gov/pubs/parents/LearnPttrs/science.html>)

Let's Do Homework! (<http://www.ed.gov/pubs/parents/LearnPttrs/home.html>)

Let's Use TV! (<http://www.ed.gov/pubs/parents/LearnPttrs/tv1.html>)

Web Links for Families

Figure This! Math Challenges for Families (<http://www.figurethis.org/index40.htm>)

FunBrain.com (<http://funbrain.com/>)

Reprinted from Educational Resources Information Center (<http://www.ericse.org/parents.html>)

Internet Literacy

Teachers and parents use Cable in the Classroom's Web site as their gateway to the Internet because they know our member sites (<http://www.ciconline.com/section.cfm/3>) and favorite sites (<http://www.ciconline.com/section.cfm/6/58>) lead them to reliable educational resources. But how can we teach students and children to be selective about the sites they choose?

Typing a keyword in a search engine can easily result in over 50,000 hits. With so much data at their fingertips, how do kids decide which Web sites provide accurate information for a school report?

Adults are naturally skeptical of what's behind the glitzy graphics of the Web. Children need to learn how to evaluate their findings. Using the same techniques a journalist might use, they should begin by asking the five W's: Who? What? When? Where? and Why?

WHO is the site's author? If the information sounds authoritative, children have a tendency to assume it's true. But anyone can create a web page. Look for links to the author's biographical information to evaluate their credibility. Or use a multi-search engine like Profusion.com to research the author's background.

WHAT is the site's purpose? What is it trying to do — sell products or services; present information; advocate ideas; or entertain. Is it ad supported or sponsored by an organization that is trying to exert influence in some way? Make sure kids understand the purpose of a Web site and that the purpose may not be obvious.

WHEN was the Web site last updated? If it hasn't been maintained, the data may be no longer accurate. Does the data jive with other sources on the Web or in print?

WHERE does the site originate from? Due to the global nature of the Web, you may want to dissect the URL or search for an address through the internal links to determine the country or organization of origin. Nationality may or may not have some bearing on the message.

WHY does the site exist? Designing a personal home, hobby, or class page can illustrate the editorial thinking behind presenting information on the Web. It reminds students to think critically about the motivations or marketing that can influence the messages they find on the Web.

Internet Literacy is a learned skill like reading or writing. Activities to teach children to become critical viewers of the Internet can be found at WebSmartKids (<http://www.websmartkids.org>). For web-based lessons on how to use the Internet, go to webTeacher (<http://www.webteacher.org>).

Reprinted from Cable in the Classroom (<http://ciconline.com/section.cfm/7/67>).

American Association for the Advancement of Science

Healthy People 2010 Library Initiative

The website <http://www.healthlit.org/> offers librarians resources to assist them as they provide health information materials and guidance to library users. Resources include information on developing and maintaining a health information library; Internet links for health information; a database of searchable health resource information; a bulletin board; health news information, and PDF versions of plain language booklets about various chronic illnesses and health care issues of particular significance to minority groups.

For more information about the Healthy People 2010 Library Initiative please go to the website, <http://ehrweb.aaas.org/ehr/books/index.html>.

THE SCIENCE + LITERACY FOR HEALTH: HUMAN GENOME PROJECT Your Genes, Your Choices

Written for a lay audience, *Your Genes, Your Choices*, provides accurate information about the Human Genome Project and genetic research in an easy-to-read and understand style and format. Each chapter in the book begins with a brief vignette, which introduces an issue within a human story, and raises a question for the reader to think about as the basic science and information are presented in the rest of the chapter. Now in its second edition, *Your Genes, Your Choices* has been widely disseminated in print and online. It has also been translated into several other languages, including Spanish and Icelandic.

The entire book, *Your Genes, Your Choices*, is also available on the website, <http://ehrweb.aaas.org/ehr/books/index.html>.

Science Books & Films (SB&F)

Science Books and Films (SB&F) gives you the expert information you need to make the best decisions when choosing science materials for your library, classroom, or institution. Published by the American Association for the Advancement of Science, SB&F is the only critical review journal devoted exclusively to print and non-print materials in all of the sciences and for all age groups. Every issue contains more than 150 evaluations of books, audiovisual materials, and software for general audiences, teachers, and students from kindergarten through college. Thousands of librarians, teachers, and administrators are already using SB&F as their standard guide to science materials. If you make decisions about science selections for your school library or educational institution, you will benefit from this valuable “tool of the trade.”

Visit the SB&F’s website <http://www.sbsonline.com>.

Parent & Teacher Tips from www.tryscience.org

TryScience supports providing the Internet community with responsible, kid-friendly sites.

This page is for parents, teachers, older siblings, mentors, or anyone who explores TryScience with a child. These general tips will help you and your children get the most from this site. Look for Parent/feacher tips throughout the site, especially in the Experiment! section.

- Let your kids “drive.” Let them control the mouse and their paths through the site. Offer to help if they’re stuck with a technical or content-related question.
- Encourage your children to ask questions. The point is not whether their answers are right or wrong, but to stimulate curiosity and expand their learning processes.
- Help your kids think. Ask them “why” they think what they think. Ask them to go through part of the site a second time and input different answers.
- Explore together! Discuss questions and go off on tangents. Help children relate what they’re doing on the site to personal experiences.
- Use the Web as a resource to find science centers near you. Museums, zoos, aquariums, parks, and botanical gardens are all great places to explore science.
- Take a walk together and discover science and technology in your neighborhood.
- Have fun! Share a positive attitude about science with your children. Play games and work on activities together.
- Encourage children to come back to the site! We regularly change content, so there will always be something new to discover.

To learn more go to the website <http://www.tryscience.org/whatstryscience.html>.

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