

# S.T.E.M. LINKS

There are so many outstanding websites containing individual activities, complete curricula and other cool resources around Science, Technology, Engineering and Math that we couldn't do them justice on the STEM episode of our TV show, "School's Out!" So, here are some of the best that we've come across to get you started. And if you have a favorite link of your own, please send it in to us at [pguttmacher@cyitc.org](mailto:pguttmacher@cyitc.org).

**COMPLETE CURRICULA : (These sites connect you to full collections of activities many of which follow a sequence. There is a varying cost associated with most of them.)**

- First, the best site for finding reviews on a wide variety of STEM curricula:  
**The Consumer's Guide to After School Science** from SEDL and the University of California, Berkeley Lawrence School of Science. <http://www.sedl.org/afterschool/guide/science/>
- For recommendations on STEM curricula with a gender equity focus:  
**Great Science for Girls** – [www.greatscienceforgirls.org](http://www.greatscienceforgirls.org)
- **National Institutes of Health** Office of Science Education --  
<http://science.education.nih.gov/home2.nsf/feature/index.htm>

## S:

- **NASA** (National Aeronautics and Space Administration) -- <http://education.nasa.gov> – or (Space Place) <http://spaceplace.nasa.gov/en/kids/> – or – (teaching materials) <http://search.nasa.gov/search/edFilterSearch.jsp?empty=true>
- Cornell Lab of Ornithology's "**Bird Sleuth**" -- <http://www.birds.cornell.edu/birdsleuth/>
- **National Center for Earth and Space Science Education** -- <http://ncesse.org/content/compendia-of-lessons/> and <http://ncesse.org/content/engaging-reading/>
- The Smithsonian's **National Science Resources Center** --  
[http://www.nsrconline.org/curriculum\\_resources/index.html](http://www.nsrconline.org/curriculum_resources/index.html)
- American Association for the Advancement of Science's "**Kinetic City**" --  
<http://www.kineticcity.com/>
- Federation of American Scientists "**Immune Attack**" Computer Game --  
<http://www.fas.org/immuneattack/players/download>

- Northeast Sustainable Energy Association -- <http://www.nesea.org/k-12/>
- After-School Science Plus & Science: It's a Girl Thing from the Educational Equity Center: <http://edequity.org/?q=programs/science-and-math-programs#83>
- Investigating the Climate System by NASA -- [http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/ICS\\_Weather.html](http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/ICS_Weather.html)
- Water on the Web -- <http://www.waterontheweb.org/curricula/index.html>

## T:

- LEGO "Mindstorms" Robotics -- <http://mindstorms.lego.com/en-us/Default.aspx>
- The National Center for Technological Literacy -- <http://www.mos.org/nctl/>

## E:

- Teach Engineering -- <http://www.teachengineering.com/>
- Try Engineering -- <http://www.tryengineering.org/lesson.php>
- NASA Engineering -- <http://userpages.umbc.edu/~hoban/BEST/>
- Engineering is Elementary from the Boston Museum of Science -- <http://www.mos.org/eie/>
- Building Structures from Red Leaf Press -- <http://www.redleafpress.org/productdetails.cfm?PC=924>

## M:

- Neufeld Learning Systems' "Understanding Math" and "Understanding Numeration" -- <http://www.neufeldmath.com/>
- About Learning's "4Mat Algebra," "4Mat Geometry" and "4Mat Biology" -- <http://www.aboutlearning.com/4mat-curriculum>
- "Think Math" from the Educational Development Center -- <http://www2.edc.org/thinkmath/Index.htm>

- **After-School Math Plus** from the Educational Equity Center -- <http://edequity.org/?q=programs/science-and-math-programs#83>

**ACTIVITIES:** (These sites hold collections of individual activities, most of which are free.)

**Education.com** has a cornucopia of both math and science activities – divided by grade level and topic – [www.education.com](http://www.education.com)

**New Zealand's Huge STEM Resource Compendium**, Science Kids: Bringing Science and Technology Together -- <http://www.sciencekids.co.nz/>

**Education World** also has a range of activities -- <http://www.educationworld.com/>

**Kidz Sites** for Math and for Science -- <http://www.kidsites.com/>

## **S:**

**Science Netlinks** from the American Association for the Advancement of Science -- <http://www.sciencenetlinks.com/>

NASA's "**Solar System Exploration**" -- <http://sse.jpl.nasa.gov/kids/>

**CSI Science** at The Science Spot -- <http://sciencespot.net/Pages/classforsci.html>

**PBS** – [www.pbskids.org/zoom](http://www.pbskids.org/zoom) or [www.pbskids.org/scigirls](http://www.pbskids.org/scigirls) or [www.pbskids.org/dragonflytv](http://www.pbskids.org/dragonflytv)

**Newton's Apple** Science TV Program -- <http://www.newtonsapple.tv/>

Educational Broadcasting Corporation's "**Afterschool Exchange Activities**" for Science -- <http://www.thirteen.org/edonline/afterschool/activities/science/index.html>

**NOVA** -- [http://www.pbs.org/wgbh/nova/teachers/resources/subj\\_13\\_03.html](http://www.pbs.org/wgbh/nova/teachers/resources/subj_13_03.html)

**Energy Kids** from the US Department of Energy -- <http://www.eia.doe.gov/kids/index.cfm>

Education.com has a **cornucopia of both math and science activities** – divided by grade level and topic – [www.education.com](http://www.education.com)

Geography Awareness Week's "**My Wonderful World**" -- <http://www.mywonderfulworld.org/>

National Geographic Society's "**Science and Space**" Website -- <http://science.nationalgeographic.com/science/>

National Institutes of Health **Science Education Resources** -- <http://www.nih.gov/science/education.htm>

**Chemistry for Kids** from the American Chemistry Council --  
[http://www.americanchemistry.com/s\\_acc/sec\\_learning.asp?CID=224&DID=578&gclid=CMXAldbDm6MCFQxW2godISFepQ](http://www.americanchemistry.com/s_acc/sec_learning.asp?CID=224&DID=578&gclid=CMXAldbDm6MCFQxW2godISFepQ)

About.com's **Chemistry Activities for Kids** --  
[http://chemistry.about.com/od/chemistryactivities/Chemistry\\_Activities\\_for\\_Kids.htm](http://chemistry.about.com/od/chemistryactivities/Chemistry_Activities_for_Kids.htm)

Penn State College of Agricultural Sciences "**Food Science Activities**" --  
<http://foodscience.psu.edu/public/kitchen-chemistry/youth>

**One Inch Square Project: Looking Closely Without a Microscope** from the Howard Hughes Medical Center -- <http://www.hhmi.org/coolscience/forkids/inchsquare/>

## T:

Illinois Institute of Technology's **Science and Mathematics Initiative for Learning Enhancement** --  
<http://mypages.iit.edu/~smile/>

**Technology and Design** from Next: <http://www.next.cc/>

Microsoft's **Free Tools for the Classroom** --  
<http://www.microsoft.com/education/teachers/guides/freetools.aspx>

## E:

**Discover Engineering** -- <http://www.discoverengineering.org/>

Architecture and Math with **Math-Kitecture** -- <http://www.math-kitecture.com/index.htm>

**American Society for Engineering Education** -- <http://www.asee.org/k12/index.cfm>

PBS' **Design Squad** -- [http://pbskids.org/designsquad/?campaign=noflash\\_designsquad](http://pbskids.org/designsquad/?campaign=noflash_designsquad)

**The National Engineers Week Foundation** -- [www.discoverengineering.org](http://www.discoverengineering.org)

PBS' "**Building Big**" Labs -- <http://www.pbs.org/wgbh/buildingbig/lab/forces.html>

Salvadori Center's "Resource Center" -- <http://www.salvadori.org/>

# M:

- Wolfram's **MathWorld**, the Web's Most Extensive Math Resource: <http://mathworld.wolfram.com/>
- The Ed Tech Review's "**Ten Best Math Activity Pages**" -- <http://www.edtechreview.net/learning-software/the-10-best-math-activity-pages/>
- Sylvan Learning's "**Top Ten Math Websites**" -- <http://tutoring.sylvanlearning.com/newsletter/0704/math.cfm>
- TERC's "**Mixing In Math**" -- [www.mixinginmath.terc.edu](http://www.mixinginmath.terc.edu)
- Ron Eglash's **Teaching Math Through Culture** -- <http://www.rpi.edu/~eglash/csdt.html>
- **Symmetry and Pattern: The Art of Oriental Carpets** -- <http://mathforum.org/geometry/rugs/resources/>
- Math on the Street's **Origami Lesson Plans** -- <http://math.serenevy.net/?page=Origami-TeachingLinks>
- The Foundation for Investor Relations' **Stock Market Game** -- <http://www.smgww.org/>
- **Financial Literacy Activities** from The Mint -- <http://www.themint.org/>
- Visa's **Practical Money Skills** -- <http://www.practicalmoneyskills.com/>
- **Finance in the Classroom** -- <http://financeintheclassroom.org/student/activities.shtml>
- **Edutopia's Guide to Financial Literacy Resources** -- <http://www.edutopia.org/financial-literacy-resources>
- The Math Forum at Drexel University's "Math Tools" -- <http://mathforum.org/mathtools/sitemap.html>
- **Word Problems** from EdMath -- <http://www.edmath.org/>
- Canada's University of Regina's Resource Room's "**Math Central**" -- <http://mathcentral.uregina.ca/RR/main>
- Elaine Young's Website on **Mathematics in Children's Literature** -- <http://www.intute.ac.uk/cgi-bin/fullrecord.pl?handle=greig.1022594838>

**MUSEUMS, ZOOS AND BEYOND:** (For activities and curricula from great science museums, children's museums, zoos and planetariums, and other STEM education destinations.)

- Amgen Center for Science and Learning at the California Science Center, Los Angeles -- <http://www.californiasciencecenter.org/Education/Education.php>

- Baltimore's National Aquarium -- <http://www.aqua.org/>
- Boston Museum of Science -- <http://www.mos.org/educators>
- Chicago's Adler Planetarium -- <http://www.adlerplanetarium.org/educate>
- Chicago's Field Museum -- <http://www.fieldmuseum.org/education/default.htm>
- Chicago's Lincoln Park Zoo -- [http://www.lpzoo.com/edu\\_educators.php](http://www.lpzoo.com/edu_educators.php)
- Chicago's Museum of Science and Industry -- <http://www.msichicago.org/education/>
- Columbus Ohio Science Museum -- <http://www.cosi.org/educators/activities/>
- First, Armadillo Associates' **extensive list of websites for science museums and centers across the globe** -- <http://www.armadillosoft.com/trips/science.php>
- Jersey City's Liberty Science Museum -- <http://www.lsc.org/lsc/edprograms>
- Kennilworth Park and Aquatic Gardens -- <http://www.nps.gov/keaq/index.htm>
- Living Classrooms DC -- <http://livingclassroomsdc.org/>
- Marian Koshland Science Museum of the National Academy of Sciences -- <http://www.koshland-science-museum.org/teachers/index.jsp>
- Maryland Science Center -- <http://www.mdsci.org/>
- Minnesota Science Museum's online activities -- <http://www.smm.org/explore/>
- National Building Museum -- <http://www.nbm.org/schools-educators/>
- National Geographic Society -- <http://kids.nationalgeographic.com/kids/>
- New York City's Hayden Planetarium -- <http://www.haydenplanetarium.org/index.php>
- New York Hall of Science -- <http://www.nysci.org/>
- New York's Metropolitan Museum of Art's "Islamic Art and Geometric Design" -- [http://www.metmuseum.org/explore/publications/pdfs/islamic\\_geometric/islamic\\_art\\_and\\_geometric\\_design.pdf](http://www.metmuseum.org/explore/publications/pdfs/islamic_geometric/islamic_art_and_geometric_design.pdf)
- New York's Bronx Zoo -- <http://www.bronxzoo.com/>
- Philadelphia's Franklin Institute -- <http://www.fi.edu/learn/index.php>
- San Francisco's Exploratorium -- [www.exploratorium.edu](http://www.exploratorium.edu)
- Sci Port, Louisiana's Science Center -- [http://www.sciport.org/index.php?submenu=For\\_Educators&src=gendocs&link=TeacherResources&category=For\\_Educators](http://www.sciport.org/index.php?submenu=For_Educators&src=gendocs&link=TeacherResources&category=For_Educators)
- Smithsonian National Air and Space Museum -- <http://www.nasm.si.edu/education/?hp=m>

- Smithsonian National Museum of Natural History -- <http://www.mnh.si.edu/education/>
- Smithsonian National Zoological Park -- [http://nationalzoo.si.edu/education/default.cfm?hpout=education\\_link&xtr=](http://nationalzoo.si.edu/education/default.cfm?hpout=education_link&xtr=)
- St. Louis Science Center -- <http://www.slsc.org/>
- St. Louis Zoo -- <http://www.stlzoo.org/education/>

**OTHER STEM RESOURCES:** (Games, puzzles, optical illusions, books, films, careers, all related to STEM)

- TED: **Riveting Talks Given By Remarkable People Free to the World** -- <http://www.ted.com/>

## **S:**

- **Astronomy & Space Classroom Resources** from the National Science Foundation -- <http://www.nsf.gov/news/classroom/astronomy.jsp>
- California Department of Education's **Recommended Literature for Science and Mathematics:** <http://www.cde.ca.gov/ci/sc/ll/>
- NASA Education's "**Central Operation and Resources for Educators**" -- <http://education.nasa.gov/edprograms/core/home/index.html>
- **National Science Teachers Association** -- <http://www.nsta.org/>
- Kids On-Line **Resources for All Kinds of Science** -- <http://www.kidsolr.com/science/page11.html>
- Animal Planet Television Show Resources -- <http://animal.discovery.com/>
- The Discovery Channel Network -- <http://www.yourdiscovery.com/>
- NASA's "**Informal Education Programs**" -- <http://www.nasa.gov/audience/foreducators/informal/programs/index.html>
- NASA's "**Kid's Club**" -- <http://www.nasa.gov/audience/forkids/kidsclub/flash/index.html>
- **Articles on Biodiversity, the Environment, Genomics, Biotechnology, Evolution and New Science Frontiers** from Action Bioscience -- <http://www.nsta.org/>
- **A Guide to Science Books and Films** from the American Association for the Advancement of Science -- <http://www.sbsonline.com/Pages/welcomesplash.aspx>

## T:

- **Profiles of Young Women in Engineering Fields** “Engineering Your Life” -- <http://www.engineeryourlife.org/>
- Edutopia’s Big **List of Technology Integration Topics** -- <http://www.edutopia.org/big-list-technology-integration>
- Dot Divas “Showcasing the **Diversity of Careers in Computing for Women**” -- <http://www.dotdiva.org/>
- From the National Center for Quality Afterschool’s “**Afterschool Training Toolkits**” in Math, Science and in Technology -- <http://www.sedl.org/afterschool/toolkits/>
- **Discover the Secrets of Everyday Stuff** with Strange Matter -- <http://www.strangematterexhibit.com/>
- Recommended literature with themes of science and mathematics from the California Department of Education -- <http://www.cde.ca.gov/ci/sc/ll/>
- A Companion Site for the PBS Special on Learning Differences -- <http://www.pbs.org/wgbh/misunderstoodminds/index.html>

## E:

- Utah State University’s “**National Library of Virtual Manipulatives**” -- <http://nlvm.usu.edu/en/nav/vlibrary.html>
- Google’s 3-D Modeling Program, “**Sketch Up**” -- <http://www.google.com/sketchup/training/videos.html>

## M:

- **The Mathematical Art of M. C. Escher** -- <http://www.mathacademy.com/pr/minitext/escher/>
- ArtPromote’s **Mathematical Art** -- <http://www.artpromote.com/mathematical.shtml>
- Alex Bateman’s Page of **Origami Listings** -- <http://www.cln.org/themes/origami.html>
- University of Tennessee at Knoxville’s **Compendium of Sites on All Kind of Math Topics** -- <http://archives.math.utk.edu/popmath.html>
- Drexel University’s Math Forum’s “**Non-English Math Resources**” -- <http://www.mathforum.org/teachers/nonenglish.html>

- **Math Magic** Vast Archive of **Problem Challenges** -- <http://www.mathforum.org/mathmagic/>
- **Math Puzzles and Games from the UK** -- <http://www.mathsnet.net>
- Archive of **Mathematical Fun Facts** from the Harvey Mudd College Mathematics Department -- <http://www.math.hmc.edu/funfacts/>
- **Math and Science Activities from the BBC** -- <http://www.bbc.co.uk/schools/>
- **Optical Illusions and Puzzles** from Planet Perplex -- <http://www.planetperplex.com/en/index.html>
- **Optical Illusions** at Sandlot Science -- <http://www.sandlotscience.com/>
- Alex Chasman's List of **Mathematical Fiction**: <http://kasmana.people.cofc.edu/MATHFICT/>