**STEM Related News and Research**

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| USA Today | [www.usatoday.com/tech](http://www.usatoday.com/tech) | Includes latest headlines related to technology/science |
| MSNBC | [www.msnbc.com](http://www.msnbc.com) | Latest articles related to science and technology |
| EPA | [www.epa.gov](http://www.epa.gov) | Latest research on STEM |
| Reuters | [www.reuters.com](http://www.reuters.com) | Videos, news on technology, science, space, world, life |
| Physics Today | [www.physicstoday.org](http://www.physicstoday.org) | Science related articles/research ; best for older youth |
| Bloomberg | [www.bloomberg.com](http://www.bloomberg.com) | New on science, technology, the environment |
| Science Daily | [www.sciencedaily.com](http://www.sciencedaily.com) |  |
| Live Science | [www.livescience.com](http://www.livescience.com) | Resources for older youth on technology, planet earthy, health, space, ‘strange news’, 3D printing |

**STEM Lessons and Activities (Free)**

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| National Geographic for Kids | [**www.kids.nationalgeographic.com/kids**](http://www.kids.nationalgeographic.com/kids) | Grades K-3rd grade; games, activities, videos |
| The SMILE (Science and Math Informal Learning Educators) Pathway | [www.nsdl.org/partners/detail/PATH-000-000-000-011](http://www.nsdl.org/partners/detail/PATH-000-000-000-011) | Activities and resources specifically designed for OST learning environments |
| XP Math Games | [www.xpmath.com](http://www.xpmath.com) | Fun and educational math games for grades 2-9. The classroom set up tool allows educators to keep track of their students’ progress. |
| Opus | [www.opusmath.com](http://www.opusmath.com) | Free math problem bank where educators can search for problems aligned to the Common Core. |
| PBS Kids Design Squad | [www.pbskids.org/designsquad/parentseducators/](http://www.pbskids.org/designsquad/parentseducators/) | Activities, animations, video profiles, and episodes in classrooms and afterschool programs; LOTS of great activities! |
| Khan Academy | [www.khanacademy.org](http://www.khanacademy.org) | Free resource for educators, parents and students. Tons of lessons in math, science, economics, history and the arts. Special lessons tied directly to the common core as well as other useful resources. Students can create an account to log into each time; educators/parents can also create an account to monitor students’ progress. |
| eGFI | [www.egfi-k12.org/](http://www.egfi-k12.org/) | Engineering lessons for k-12 |
| The GLOBE Program (Global Learning and Observation to Benefit the Environment) | [www.globe.gov](http://www.globe.gov) | Resources for teachers, parents and students in elementary and secondary school. |
| Discovery Education | <http://stem.discoveryeducation.com/> | Free resource for teachers, parents, students; lessons and activities for K-12 graders |
| Kids Afterschool | [www.beyondthechalkboard.com](http://www.beyondthechalkboard.com) | Curriculum for k-12 in science, literacy, arts, culture, health, math and engineering |
| Mathalicious | [www.mathalicious.com](http://www.mathalicious.com) | Lessons that help teachers teach math in an engaging, fun way; aligned to common core |
| Math Moves U | [www.mathmovesu.com](http://www.mathmovesu.com) | Geared towards middle school youth; games, resources for the classroom and for parents |
| National Engineers Week Foundation | [www.eweek.org/EngineersWeek/Introduce.aspx](http://www.eweek.org/EngineersWeek/Introduce.aspx) | Includes activities specifically in engineering |
| Project WET | [www.discoverwater.org](http://www.discoverwater.org) | Activities for younger kids related to the oceans, water cycles, using water wisely |
| Science 360 | [**www.science360.gov**](http://www.science360.gov) | STEM related video library; also includes radio as an option (great app for iPad or iPhone) |
| The Science Muse | [**www.sciencemuse.com**](http://www.sciencemuse.com) | Lessons for K-8th graders; tips for teachers; outdoor science activities for summer |
| Minnesota STEM | [**www.mn-stem.com**](http://www.mn-stem.com) | Information on STEM related careers; toolkits for teachers, study guides, activities, links to other resources and STEM related websites |
| Syvum | [**www.syvum.com/teasers**](http://www.syvum.com/teasers) | Includes ‘brain teasers,’ math, chemistry and biology sections that can be done on a SMART board with the whole class; activities can be found for any age |
| PBS | [**www.pbs.org/teachers/stem**](http://www.pbs.org/teachers/stem)  [**www.aetn.pbslearningmedia.org**](http://www.aetn.pbslearningmedia.org) | Resources for STEM related lessons for any age group  Lesson plans that incorporate STEM, language arts, social studies, etc. |
| PBS Kids | [**www.pbskids.org/lab/outofschool**](http://www.pbskids.org/lab/outofschool) | “The Electric Company” extending learning lessons; 18 weeks’ worth of lessons specifically designed for afterschool programs; 24 lessons for summer learning programs |
| You for Youth (Y4Y) | [**www.y4y.ed.gov**](http://www.y4y.ed.gov) | Variety of resources for educators, including STEM lesson ideas, ways to engage youth |
| 21st Century Afterschool Science Project (21st CASP) | [**www.state.nj.us/education/21cclc/casp**](http://www.state.nj.us/education/21cclc/casp) | Informal, hands-on science curriculum that provides an opportunity to practice language arts and math skills, reinforce science concepts in an OST setting |
| Change the Equation iON the Future | [**www.changetheequation.org/inspiring-youth-0%20**](http://www.changetheequation.org/inspiring-youth-0%20) | A suite of free online learning games designed for middle school to early high school-aged youth to spark their interest in STEM careers |
| The Coalition for Science Afterschool | [**www.afterschoolscience.org**](http://www.afterschoolscience.org) | Lessons, games, other activities |
| Afterschool Training Kit | [**www.sedl.org/afterschool/toolkits/about\_toolkits.html**](http://www.sedl.org/afterschool/toolkits/about_toolkits.html) | Features ideas for supporting learning after school in science, math, and technology |
| Teaching Engineering | [www.teachengineering.org](http://www.teachengineering.org) | Provides teachers with standards-based engineer activities for use in implementing Common Core standards in mathematics classrooms. |
| NBC Learn | [www.nbclearn.com](http://www.nbclearn.com) | Videos on various topics related to STEM to spark conversations and interest. |
| STEM-in-Sports | [www.connectamillionminds.com/campaigns/stem-in-sports/downloads](http://www.connectamillionminds.com/campaigns/stem-in-sports/downloads) | Provides information and lessons to inspire kids to learn more about math and science through sports. |
| Engineering is Elementary | <http://www.eie.org/outofschool> | Two different sets of curricula, developed by the Museum of Science in Boston, are available (over 45 lessons in each) - - one for grades 3-5 and another for grades 6-8. Each set includes downloadable educators’ guides complete with all of the components of the lesson, activity journals for students and audio recordings to accompany lessons. Lessons focus on different aspects engineering in the ‘real world’ to include topics on the environment, weather, food, biology and space and flight. |

**Interactive Sites**

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| The Airforce Collaboratory | [www.collaboratory.airforce.com/](http://www.collaboratory.airforce.com/) | Students are engaged with airforce personnel and are able to submit their ideas for certain real projects the airforce is currently working on. |
| SCRATCH | [www.scratch.mit.edu/studios/15003](http://www.scratch.mit.edu/studios/15003) | Kids can post science projects, create stories, videos and animations to share with and interact with other kids around the world. |
| Discover Engineering | [www.discoverengineering.org](http://www.discoverengineering.org) | Cool videos related to engineering and what goes into making things move; students can read about these things and post their ideas to share with others. |
| Zoom Kids | [www.zoomkids.org](http://www.zoomkids.org) | Activity ideas; social forum for kids to post projects, ideas, learn from others |

**Other Resources**

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| 4-H Science in Urban Communities | www.urban4hscience.rutgers.edu/ | Guidebook that includes promising practices, case studies, and suggested resources in each of 15 content areas - all with a focus on expanding the quality and quantity of out-of-school science programming. |
| STEM 2: The Power of Discovery | [www.powerofdiscovery.org/](http://www.powerofdiscovery.org/) | Great resource for providers on topics that include assessment and planning of programs, funding, curriculum and activities |
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| EdTed | [www.edted.com](http://www.edted.com) | Educational videos/talks on a variety of topics with links to deeper discussions and lessons; probably best for older youth. |
| The Afterschool Corporation (TASC) – Science After School: How to Design and Run Great Programs and Activities | www.expandedschools.org/tools/science-after-school-how-to-design- and-run-great-programs-activities#sthash.9rujhfQC.dpbs | Guidebook for supporting STEM in OST programs |
| Center for Informal Learning and Schools | [www.cils.exploratorium.edu/](http://www.cils.exploratorium.edu/) | Research on informal science learning in out-of-school time |
| Center for the Advancement of Informal Science (CAISE) | [www.informalscience.org](http://www.informalscience.org) | Resources available; designed for STEM based professionals; users can collect and share projects from a wide-range of programs (nature centers, zoos, museums, afterschool programs). Also includes a collection of evaluation reports, journal articles. |
| Educate to Innovate | [www.whitehouse.gov/issues/education/educate-innovate](http://www.whitehouse.gov/issues/education/educate-innovate) | Information about the federal initiative to improve the participation and performance of American students in STEM |
| Frontiers in Urban science Resource Guide (FUSE) | [www.afterschoolsystems.org/content/document/detail/3040](http://www.afterschoolsystems.org/content/document/detail/3040) | Resource guide published by the Collaborative to Build After School Systems that offers strategies to advance informal science education in afterschool programs |
| Science Education for Public Understanding (SEPUP) | [www.sepuplhs.org](http://www.sepuplhs.org) | STEM related research |
| DIY | [www.diy.org](http://www.diy.org) | Different resources for kids and teachers; information on different types of careers and skills involved in each. Kids can learn about projects (not just STEM), share their own and leave comments on other kids’ pages |
| STEM Education Coalition | [www.stemedcoalition.org](http://www.stemedcoalition.org) | Research on STEM |
| Edubuntu | [www.edubuntu.org](http://www.edubuntu.org) | Free educational software that includes open source educational suites |

**Professional Development**

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| Click 2 Science | [www.click2sciencepd.org](http://www.click2sciencepd.org) | An interactive, professional development site for trainers, coaches, site directors and frontline staff/volunteers working in out of school time programs serving children and youth |
| National 4H | [www.4-h.org/resource-library/professional-development-learning](http://www.4-h.org/resource-library/professional-development-learning) | Professional development tools and opportunities for staff and volunteers |
| PBS | [www.pbs.org/teachers](http://www.pbs.org/teachers) | Teachers can engage in a learning module to learn more about topics in STEM as well as regarding available curriculum for PK-12 STEM topics and topics in the arts, social studies and health. |
| SEDL Center for Professional Learning | [www.sedl.org/cpl/afterschool.html](http://www.sedl.org/cpl/afterschool.html) | Series of online interactive courses designed to build the knowledge and skills of afterschool instructors |
| STEM Equity Pipeline | [www.stemequitypipeline.org](http://www.stemequitypipeline.org) | Resources for professional development; links to lessons |
| STEM Transitions | [www.stemtransitions.org](http://www.stemtransitions.org) |  |
| You for Youth (Y4Y) | [**www.y4y.ed.gov**](http://www.y4y.ed.gov) | Includes resources for ways to support staff in developing skills to facilitate student STEM learning |
| The Coalition for Science Afterschool | [**www.afterschoolscience.org**](http://www.afterschoolscience.org) | Resources for staff development |

**Girls and STEM**

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| Aspire | [www.aspire.swe.org/](http://www.aspire.swe.org/) | Information on engineering careers specially for girls; information on scholarships, competitions |
| Great Science for Girls | [www.greatscienceforgirls.org](http://www.greatscienceforgirls.org) | Links to different curricula resources designed specifically for interesting girls in STEM |
| DigiGirlz | [www.microsoft.com/en-us/diversity/programs/digigirlz/default.aspx](http://www.microsoft.com/en-us/diversity/programs/digigirlz/default.aspx) | Camps and online courses for girls on web design and podcasting |
| Center for STEM Education for Girls | [www.stemefg.org](http://www.stemefg.org) | Information on summer STEM opportunities for students, professional development resources for teachers, links to other STEM related websites |
| Engineer Girl | [www.engineergirl.org](http://www.engineergirl.org) | Information on women in engineering, types of work they do, the skills needed to get there |
| Engineer Your Life | [www.engineeryourlife.org](http://www.engineeryourlife.org) | Information on engineering careers; geared towards high school girls |
| The National Girls Collaborative Project | [www.ngcproject.org](http://www.ngcproject.org) | Funding, webinars, information on best practices for programs serving girls in STEM |
| National Center for Women and Information Technology | [www.ncwit.org](http://www.ncwit.org) | Offers several programs to encourage women to participate in technology based careers; programs target high school girls |
| Dot Diva | [www.dotdiva.org](http://www.dotdiva.org) | Information on technology based careers; lots of great resources for classes, afterschool opportunities, camps, college programs, and more |

**Evaluation**

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| Assessment Tools in Informal Science | [www.pearweb.org/atis](http://www.pearweb.org/atis) | Database of tools to measure performance of information and out-of-school STEM programs |
| Center for Informal Science Education (CAISE) | [www.informalscience.org](http://www.informalscience.org) | Website that shares informal science project impacts and evaluation findings |

**Paid Curricula**

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| Science After School | [www.sedl.org/cgi-bin/mysgl/afterschool/science.cgi?location=about](http://www.sedl.org/cgi-bin/mysgl/afterschool/science.cgi?location=about) | STEM related curricula |
| Educational Equity Center at FHI 360 | [www.edequity.org/programs/science-and-math-programs](http://www.edequity.org/programs/science-and-math-programs) |  |
| Life Through Time Gems | [www.lhsgems.org](http://www.lhsgems.org) |  |
| AIMS Education Foundation | [www.aimsedu.org](http://www.aimsedu.org) |  |
| Let’s Read Math | [www.letsreadmath.com](http://www.letsreadmath.com) | Information and books as well as other literacy resources to engage kids in mathematical concepts while supporting literacy instruction; includes links to some free lessons as well. |
| Middle Web | [www.middleweb.com](http://www.middleweb.com) | Designed specifically for grades 4-8; includes resources for teachers, leaders and parents |

**NASA Resources**

**Space / Aviation**

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| 3,2,1 Liftoff TG | [www.nasa.gov/audience/foreducators/topnav/materials/listbytype/3-2-1Liftoff.html](http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/3-2-1Liftoff.html) | k-2 educator guide on rockets |
| Exploration Design Challenge | [www.nasa.gov/audience/foreducators/spacelife/explorationdesign/k-4/index.html](http://www.nasa.gov/audience/foreducators/spacelife/explorationdesign/k-4/index.html) | k-4 grade appropriate; students study the effects of radiation on human space travelers and analyze different materials that simulate space radiation |
| Elementary GLOBE | [www.nasa.gov/audience/foreducators/k-4/features/F\_Elementary\_GLOBE.html](http://www.nasa.gov/audience/foreducators/k-4/features/F_Elementary_GLOBE.html) | Series of five story books designed to help k-4 teachers integrate earth science into their curriculum as they teach reading and writing; can be downloaded for free |
| Space Place | [www.spaceplace.nasa.gov](http://www.spaceplace.nasa.gov) | Includes a variety of activities, games and information that relate to the solar system, the sun, earth, space, people and technology |
| Buzz Light Year | [www.nasa.gov/audience/foreducators/topnav/materials/](http://www.nasa.gov/audience/foreducators/topnav/materials/Buzz_Lightyear_Connect_lt.html)  [Buzz\_Lightyear\_Connect\_lt.html](http://www.nasa.gov/audience/foreducators/topnav/materials/Buzz_Lightyear_Connect_lt.html) |  |
| Reading, Writing and Rings | [www.nasa.gov/audience/foreducators/k-4/features/F-Reading\_Writing\_Rings.html](http://www.nasa.gov/audience/foreducators/k-4/features/F-Reading_Writing_Rings.html) | Writing lessons for 1st-4th graders that enhance communication skills through learning about Saturn |
| Moon Munchies TG | [www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Moon\_Munchies.html](http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Moon_Munchies.html) | Educator guide and lessons for k-4; involves students figuring out how plants can grow on the moon |
| On the Moon Design Squad | [www.nasa.gov/audience/foreducators/topnav/materials/listbytype/On\_the\_Moon\_Guide.html](http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/On_the_Moon_Guide.html) | 3rd-12th grade appropriate; includes educator’s guide and lessons involving the moon |
| The Courage to Soar | [www.nasa.gov/audience/foredcuators/topnav/materials/listbytype/The\_Courage\_to\_Soar.html](http://www.nasa.gov/audience/foredcuators/topnav/materials/listbytype/The_Courage_to_Soar.html) | 3rd-5th grade; includes educator’s guide/lessons related to aviation |

**Rocket Science\***

\*Some of these sites come up with the message “NASA recommends discontinuation of rocket activity.”

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| Rockets TG | [www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Rockets.html](http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Rockets.html) | k-12 activities related to rockets |
| Adventures in Rocket Science | [www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Adventures\_in\_Rocket\_Science.html](http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Adventures_in_Rocket_Science.html) | Educator Guides for k-12 |
| NASA Exploration Design Challenge | [www.nasa.gov/audience/foreducators/spacelife/explorationdesign/5-8/index.html](http://www.nasa.gov/audience/foreducators/spacelife/explorationdesign/5-8/index.html) | 5th-8th grade appropriate; students explore the effects of radiation on human space travelers and recommend materials that best block harmful radiation. |

**Local Resources**

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| **Project Learning Tree** | [**http://arkforests.org/projectlearningtree.html**](http://arkforests.org/projectlearningtree.html) | Environmental Education program that includes curricula for several different age groups and free teacher/educator in-person trainings | Contact information: 501-374-2441 |
| **Arkansas Department of Environmental Quality – Project WET** | [**www.adeq.state.ar.us/poa/watershed\_outreach\_education/projectwet.htm**](http://www.adeq.state.ar.us/poa/watershed_outreach_education/projectwet.htm) | Provides interactive, science-based activities for kids of varying ages; professional development workshops for educators | Contact: 501-682-0024 |
| **Arkansas Game and Fish Commission – Project WILD** | [**www.agfc.com/education/pages/educationprogramsprojectwild.aspx**](http://www.agfc.com/education/pages/educationprogramsprojectwild.aspx) | Project WILD is an education program rooted in nature that helps educators bring the outdoors to their students. Free workshops matching state and national teaching frameworks offer valuable education and lesson plans about the natural world. Materials are available for teachers of any age group from kindergarten through 12th grade. | **Contact: 870-917-2085** |
| **4-H Afterschool** | [**www.kidsarus.org/go4it/Opportunities/afterschool/default.htm**](http://www.kidsarus.org/go4it/Opportunities/afterschool/default.htm) | Hands on activities covering a variety of topics for children and youth of all ages; professional development workshop for staff; outreach to afterschool programs | Contact: 501-671-2270 |
| **AETN** | [**www.pbskids.org/lab/outofschool/**](http://www.pbskids.org/lab/outofschool/)  [**http://www.aetn.org/educators/arkansasideas**](http://www.aetn.org/educators/arkansasideas) **(access given to certified teachers)** | *The Electric Company Extended Learning Program and Summer Learning Program*: weeks of free curriculum of all 52 Electric Company episodes, including decoding, vocabulary, connected text, motivation, and math words and concepts designed especially for afterschool settings. The summer learning curriculum six weeks worth of sessions (24 lessons). | See website |
| **Regional STEM Centers** | [**www.arkansasstemcoalition.com/partners/arkansas-stem-centers**](http://www.arkansasstemcoalition.com/partners/arkansas-stem-centers) | Regional STEM Centers offer professional development for educators; use of resources for STEM inspired learning | See website |