



4-H Science, Engineering, and Technology E-News

July 2010

4-H science, engineering, and technology (SET) projects engage youth in hands-on, inquiry-based learning in a positive youth development context. Through participation, youth improve their science, engineering, and technology knowledge, skills and abilities. Through engagement in 4-H SET activities, youth will apply SET learning to all areas of their life, adopting and using new methods of approaching problems. Ultimately, the goal of the 4-H SET initiative is to increase the number of youth pursuing education and careers in science, engineering and technology. More information about 4-H Science, Engineering, and Technology is available at <http://www.ca4h.org/Projects/SET/>

FEATURED NEWS

The **State 4-H Website** has been updated! The new Science, Engineering and Technology webpage features valuable new resources, free online curricula, information on 4-H National Youth Science Day, and much more! Visit the new website at www.ca4h.org and click on "Science, Engineering, and Technology" under Project Areas. 4-H Staff can access additional support materials under "Resources" -> For Staff.



UPCOMING TRAININGS

The **2010 California Science Education Conference** is October 22 – 24, 2010 in Sacramento, California. This is the premier professional development event for science educators, with emphasis on all areas of science education from life science, environmental science, physical science, and more. The closing keynote address will be given by Jamie Hyneman and Adam Savage from Discovery Channel's MythBusters. Registration forms are due by **October 8**, and more information can be found online at http://www.cascience.org/csta/conf_home.asp.

The **2010 State 4-H Leaders' Forum** will be held November 5-7, 2010 at the Asilomar Conference Center. This year's theme, "Upgrade, S.E.T. Your System, GO!" emphasizes sharing ideas about the various ways that the 4-H Youth Development Program



educates its members in science, engineering, and technology. The Saturday evening science fair is one opportunity for 4-H adult volunteers to learn about the wide array of 4-H SET activities and curricula available for their 4-H projects. Register to lead an activity or display at the science fair by **October 1, 2010** at <http://www.ca4h.org/files/20560.doc>. Registration is due **September 1**. More information is available at <http://www.ca4h.org/Programs/Conferences/SLF/>.

The **California Agriculture in the Classroom Conference** is at Shell Beach, California from November 5 – 6, 2010. The conference will explore the cutting edge of agriculture through guest speakers, workshops, field trips, and hands-on demonstrations. For online registration and more information, please visit <http://www.cfaitc.org/conference/>.

NASA is sponsoring **Basics of Rocketry Workshops** throughout the country to promote rocketry as a means of engaging youth in science, engineering, technology, and mathematics. These hands-on workshops introduce educators to the basic concepts of rocketry, prepare them to teach these topics to their students, and assist them in building their own rocket! For additional information, contact Dr. Wendy Holforty at Wendy.L.Holforty@nasa.gov or visit <http://www.nasa.gov/audience/foreducators/teachingfromspace/educators/rocketry-workshops.html>.

CURRICULUM

4-H SET-Ready curricula are available for free electronic (PDF) download in the online library! Curriculum includes "It Came From Planted Earth", "Nature's Partners: Pollinator Protection", "Pond Mapping", "Quick 4-H SET Activities", and "Veterinary Science". Visit the library at <http://www.ca4h.org/Projects/SET/Curriculum/>

Tools of the Trade II Inspiring Young Minds to be SET Ready for Life! is a 4-H guidebook to assist afterschool programmers with the incorporation of science, engineering, and technology into their activities. Adults and teenagers working with youth can use this resource to incorporate hands-on, inquiry-based activities to engage youth in SET learning. For more information on the different tools available in this book or to order a copy of your Tools of the Trade II guidebook, please go to <http://www.ca4h.org/Projects/SET/Initiative/ToTII/>.

Understanding Science is an online resource for teachers and students, with a Resource Library and complete section of teacher resources to promote science activities in the classroom. Currently, an article about science and acupuncture is featured: <http://undsci.berkeley.edu/article/acupuncture>. Understanding Science is available online at <http://www.understandingscience.org>.

RESOURCES

The **American Society for Engineering Education** maintains a pre-engineering website designed for students and teachers. The website contains lesson plans, activities, and programs designed to enhance the math and science skills of students, grades kindergarten through twelve. Visit <http://teachers.egfi-k12.org/> for teachers' resources and lesson plans or the students' webpage at <http://www.egfi-k12.org/>

Balancing Acts in Science is a fun article that investigates the apparent contradictions in the field of science: skepticism and openness, logic versus creativity, and more. Found on the Understanding Science website, this article is an important and useful resource for educators in the field of science, engineering, and technology. The complete article can be found at <http://undsci.berkeley.edu/article/symmetries>.

Technology is a dual-edged sword that can both facilitate and detract from the quality education of today's youth; the Kaiser Family Foundation has released a report entitled **Generation M2: Media in**

the Lives of 8–18 Year Olds, which explores the interpersonal communication skills, educational success, and physical activity levels of children who are heavy media users, with some surprising results. More information can be found at <http://www.kff.org/entmedia/8010.cfm>.

A new survey from the **National Science Teachers Association** has found that more than half of all parents need assistance supporting their child's interest in science, and 94% of science teachers wish their students' parents engaged their children in science learning. Complete results of the survey can be found online at <http://www.nsta.org/about/pressroom.aspx?id=57403>, as well as ideas of experiments for families to do together.

The **Futures Channel** invites you into California's largest electronics recycling facility to take a look at the process of recycling disposed electronics. Globally, discarded electronics are growing by 40 million tons every year, representing the fastest growing type of waste in the world. Watch a video online at http://www.thefutureschannel.com/dockets/hands-on_math/recycling_computers/.

The **National After School Science Directory** is a searchable database designed to increase access to high-quality science, technology, engineering and math (STEM) education beyond the classroom for youth and families across the nation. The Directory houses thousands of STEM opportunities, submitted by science centers, museums, schools and other youth-serving organizations. Search our directory to view opportunities to connect the America's youth to high-quality STEM learning experiences at <http://afterschoolscience.org/directory/>

The **Center for Advancement of Informal Science Education (CAISE)** works to strengthen and connect the informal science education community by catalyzing conversation and collaboration across the entire field—including film and broadcast media, science centers and museums, zoos and aquariums, botanical gardens and nature centers, digital media and gaming, science journalism, and youth, community, and after-school programs. Visit CAISE at <http://caise.insci.org/>

EVENTS & ACTIVITIES

PBS Kids is hosting the **2010 Trash to Treasure Competition**, an opportunity for youth ages 5 through 19 to display their talent and creativity. The competition requires that applicants take old trash and recycle, reuse, or reengineer their everyday items into a new invention that can either protect the environment, move things or people, or be used for play. The competition deadline is **September 5, 2010** at 12:00 noon (ET). For more details, complete rules, and online registration, visit <http://pbskids.org/designsquad/contest/index.html>.

The **4-H booth at the California State Fair (July 14 - August 1)** provides the fair-going public an impression of the wide range of projects and leadership opportunities that are available to youth through participation in the 4-H program. 4-H members and leaders are invited to help staff the booth and share experiences and projects with the public. For each person that is scheduled for a two-hour shift, the State Fair provides a ticket for 1 day of admission and parking passes as needed. This is a great opportunity for 4-Hers to share their experiences with the public. For more information, and to sign up for a session, visit <http://ucce.ucdavis.edu/survey/survey.cfm?surveynumber=4887>. Information about the state far can be found at <http://bigfun.org/>.



INCENTIVES AND RECOGNITION

Have your members completed the **My 4-H Story** from their 2009-2010 Record Books? Have them submit their stories with an embedded photograph for a chance to win \$25 and be featured on the Member Highlights section of the new 4-H website. Stories with photographs are due by **July 31**. For more information and to submit a story, please visit <http://ucce.ucdavis.edu/survey/survey.cfm?surveynumber=4879>.

The **Kavli Science Video Contest** is looking for video entries that answer the question "Why is science cool?" Video entries will be featured at the USA Science & Engineering Festival in Washington D.C. on October 23 and 24. Winning video submissions will receive a \$500 gift card as well as a \$1,000 donation to their school. Winning videos should be fun, creative, surprising, and spread enthusiasm about science. All entries must be submitted before **July 15**. Complete rules and details can be found online at <http://www.usasciencefestival.org/2010festival/contests/kavli-science-video-contest>.



FUNDING OPPORTUNITIES

Through the **STEMester of Service Grants** program, middle schools throughout nineteen states are being given opportunities to assist local populations of disadvantaged youth. \$5,000 grants are available to help educators facilitate youth education through planning and implementing service projects that address local needs. Applications are due by July 15, 2010; questions about the program should be directed to STEMester@ysa.org. To apply, take the eligibility quiz online at www.cybergrants.com/ysa/stem/quiz.

AROUND THE STATE

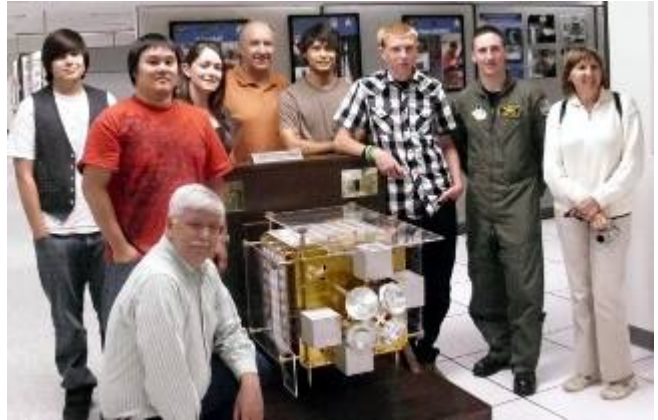
In Orange County: OABB 4-H Lego Robots has made it to the final challenge in the **MoonBots** competition, a Google Lunar X Prize LEGO Mindstorms Challenge. Participants in the MoonBots competition use Lego Mindstorms kits to perform simulated lunar missions in order to increase interest in science, engineering, and space travel. Phase II will finish on August 14, 2010. To learn more about the competition or check for contest updates, visit www.moonbots.org.



In Alameda County: 4-H member, Jessica Choi, was awarded a 2010 4-H Golden Clover Award in the Robert Brownlee Science category. Jessica serves on the Alameda County 4-H SET committee that helped plan the "Ready, SET, Go!" family science day. Along with her dad, she has presented workshops at the 4-H State Leadership Conference and other venues on cardboard automaton. 4-H members are challenged to learn about and build their own automaton. Congratulations Jessica!

In San Luis Obispo County: 4-H volunteer, Ashlyn Aiu, was awarded a 2010 4-H Golden Clover Award in the Special Events and Activities category. A current student at Cal Poly, San Luis Obispo in design, Ashlyn is a 4-H alumna from Solano County, and currently serves on the California 4-H Technology Leadership Team. Her emphasis in 4-H and on the Technology Team is creating films! View these videos at <http://www.youtube.com/user/California4H>

In Merced, Santa Cruz, and Kern Counties: California 4-H members, volunteers, and staff participated in the International Society for Technology in Education (ISTE) conference in Denver, Colorado. Those attending have been working on the development of the new national 4-H Robotics curriculum titled Junk Drawer Robotics. The California 4-H team, composed of Richard Mahacek, Spencer Downey, Danny Leong, Marcus Peck, Carolyn McLenn-Newton, Kyle Kern, and Tanner McLenn-Newton, exhibited at the National 4-H Robotics booth, where they talked with hundreds of ISTE participants about the 4H Robotics curriculum. The California 4-H group also presented at a workshop, called Birds of a Feather. More information about Junk Drawer Robotics is available at <http://www.ca4h.org/Projects/SET/Tech/JDR/>



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