



January 2009 4-H SET UPDATES

Featured News:

- We are pleased to announce that California 4-H has been awarded a \$100,000 grant from CSREES/USDA to develop a new national **4-H SET curriculum**, “**There’s No New Water!**” It is a water conservation curriculum grounded in a simple yet powerful concept that water is a non-renewable, finite natural resource whose quantity and quality must be responsibly preserved, protected, used and reused. The curriculum is designed for high school age youth, with six sequential learning modules that follow the inquiry-based learning method and collectively build on the knowledge and content gains from each of the previous learning cycles. Technology plays a key role in the curriculum by introducing GIS/GPS technologies as tools for identifying and mapping natural local watersheds. Youth will learn to develop overlay maps that identify the locations of these structures and operations, and help them understand their potential impacts on water conservation and quality. Furthermore, cross-age mentoring activities are integrated into each of the learning modules, which effectively broaden the reach of the curriculum to younger audiences, ages 9-12, while also providing an authentic teaching experience for the teens. Watch for updates on the curriculum development process and how counties can be involved in the field testing and piloting of these new educational materials. Martin Smith, UC Davis Veterinary Medicine Extension Specialist, will be the lead author for the 18 month process.
- **4-H SET Service Learning Awards** have been awarded. Selected counties and projects include Butte County – Reforestation of Trees (\$3,500); Butte County – Fecal Flotation (\$3,460); Colusa County – Rocketry and Aerospace Project (\$500); Glenn County – Animal Science (\$900); Humboldt County – Tree Planting (\$400); Marin County – Naturalist Project (\$1,375); Modoc County – Wildlife Project (\$800); Modoc County – Rocketry Project (\$500); Sacramento County – On the Wild Side (\$1,500).

Training:

- The **Statewide 4-H YDP Winter 4-H SET County Team Training** is scheduled for Saturday, **February 7, 2009 from 9am - 4pm**. Lunch and curriculum will be provided. Locations for training will be Red Bluff, Davis, Merced, Riverside and Santa Barbara. Please contact the State 4-H Office at 530-754-8518 or one of the 4-H SET co-chairs if you have any questions.





- Steve Spangler will be hosting a **Hands-on Science Secrets training** in Los Angeles, on **March 12, 2009**. This will be a one-day training geared towards educators looking for inquiry-based activities that promote exploration and strengthen critical thinking skills at the pre-K and elementary grade levels. The seminar will focus on scientific themes of air, color, light, magnets, weather, states of matter, chemistry, force and motion among others. Click [here](#) for more information on Steve Spangler's Science Boot Camp tour.

Curriculum:

- The **Cornell Lab of Ornithology** has created **science curriculum** for elementary and middle school students. The curriculum is designed to help youth engage in bird observation, questioning and information gathering. Click [here](#) to view a full description of each of the bird curriculum modules available for purchase. You may order curriculum at www.birdsleuth.net.
- New curriculum, ***The Power of Wind***, has been added to the National 4-H Curriculum Collection. The Power of Wind is geared towards grades 6-8 and focuses on wind power, engineering, and renewable energy. For more information on this curriculum and purchase details, visit: <http://www.4-H.org/curriculum/wind>. ***The Power of Wind*** will be featured at the 4-H SET training in Riverside, **February 7, 2009**.

Resources:

- The (U.S.) National Research Council (NRC) released its highly-anticipated report ***Learning Science in Informal Environments: Places, People, and Pursuits***. According to the NRC, "tens of millions of Americans, young and old, choose to learn about science in informal ways - by visiting museums and aquariums, attending after-school programs, pursuing personal hobbies, and watching TV documentaries, for example. There is abundant evidence that these programs and settings, and even everyday experiences such as a walk in the park, contribute to people's knowledge and interest in science." The report outlines six "strands" of science learning that can happen in informal settings, and these strands could help refine evaluations of how well people are learning in these environments. For example, learners can experience excitement and motivation to learn about phenomena in the natural and physical world. They can come to understand and use concepts and facts related to science. They can learn how scientists actually conduct their work using specialized tools and equipment. And they can develop an identity as someone who knows about, uses, and sometimes contributes to science. For an overview of the report, which was sponsored by the





National Science Foundation, and a link to read it in its entirety, please visit:
<http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=12190>

- For those not participating in the Kids Science Challenge, we encourage you to visit the website, <http://kidschallenge.com>, for many great resources in building your 4-H SET program. The site will provide you access to videos about scientists and the work they do as well as ideas for science-based games and activities to use with your youth.
- If you are in need of new ideas for Science Fair projects to conduct, the [Steve Spangler Science website](#) has released their **Top 10 Science Fair projects**. The list includes topics exploring red cabbage chemistry, water absorbing crystals, and what bacteria may exist on that TV remote among others. The website also has a science library with hundreds of other ideas to choose from. Bookmark this site today!
- The **Environmental Protection Agency** (EPA) has released a website www.epa.gov/climateforaction, which serves as a valuable educational resource of information on climate change, children's health, energy and environmental health issues.
- A website full of ideas and activities you can use to encourage youth interest in science is <http://www.pbskidsgo.org/fetch>. To keep young students engaged in exploration during the winter months, you may visit the website for ideas on creating a science night with downloadable direction sheets and supporting materials. If you are looking for ways to start Kindergarten age students on the path to scientific discovery, visit: <http://www.pbskids.org/curiousgeorge/parentsteachers/activities/> for instructions on how to set up science-based "Curiosity Centers".
- For the latest research on the relationships identified between youth and digital media, the MacArthur Foundation has released a research study, ***Living and Learning with New Media: Summary of Findings from the Digital Youth Project***. Visit: <http://digitalyouth.ischool.berkeley.edu/report> for more information and to read the full report.





Events and Activities:

- A **Project WILD** workshop is being offered on **January 31, 2009** for educators interested in finding unique teaching strategies that focus on wildlife and natural resources. To register for the workshop, visit: http://ito.ocde.us/Home_1277.htm.
- An opportunity will be coming soon for nature and bird enthusiasts to help scientists understand bird population and activities. The Cornell Lab of Ornithology and National Audubon Society are looking for volunteers to participate in the **12th annual Great Backyard Bird Count** on **February 13-16, 2009**. Volunteers count birds for 15 minutes and report their sightings online at www.birdcount.org. Contact citizenscience@audubon.org for more information.
- 2009 is the International Year of Astronomy and to a fun and inexpensive science activity is available to acknowledge this for 4-H members and non-members alike. Consider participating in the **2009 Globe at Night** event from **March 16 – 28, 2009**. For more information on how you can participate in observing and recording the stars and learning more about light pollution, visit: <http://www.globe.gov/GaN/>. The website also offers many resources including lessons and instructions.
- If you are interested in robotics and would like to learn how you can incorporate it into teaching math and science as well as gain a better understanding of robotics, consider attending the **LEGO Engineering Conference, March 28, 2009** at LEGOLAND California. The conference will provide hands on workshops, ideas for robotics teams and the latest developments in robotics. Click [here](#) for more information and conference schedule. Registration deadline is **March 20, 2009**.

SET Incentives and Recognition Opportunities:

- 4-H is a partner for the **Kids' Science Challenge**, a national science competition for third – sixth grade students. Students will get to learn about scientists working on Extraterrestrial Intelligence, Skateboard Engineering and Water Quality and also create a scientific experiment of their own to submit for the challenge. If you are interested in signing up for the Challenge, visit: <http://kidsciencechallenge.com>. The deadline to enter is **January 31, 2009**.
- Citizen Science, an online journal honoring youth in science and technology programs, has announced the **2009 Citizen Science paper competition**. Youth ages 13-26 are eligible to submit a paper addressing natural or social science topics. Winners will be





selected from the following age groups: middle and high school, and undergraduate and graduate. Winning submissions will be invited to present their papers at the UN Commission on Sustainable Development's 17th session in NYC in May 2009. Applications are due **February 1, 2009**. Visit: <http://www.sustainus.org/citizenscience> for more information.

- The **Christopher Columbus Awards Program** is available to middle-school age youth who are interested in working in teams with an adult coach to use science and technology in providing solutions to an issue they care about. Teams will compete for a \$25,000 grant, a trip to the program's National Championship Week, and \$2,000 savings bonds amongst other prizes. Entries are due **February 9, 2009**. For more information, visit: <http://www.christophercolumbusawards.com>.

Funding:

- The [2009 Flex Your Power Community Outreach Campaign](#) is offering grant programs to community-based organizations who want to have an active role in educating their community on ways to save energy and the environment. Grants for \$12,000 will be awarded to as many as 20 non-profit agencies. One agency in the LA or San Diego area will be eligible for a \$24,000 grant being offered. Team members will be provided with training, handouts, exhibits and technical assistance with their outreach activities. If you are interested in applying, please contact Alanna Sloan at asloan@rs-e.com for more information, sample proposals and an application.
- **ExploraVision**, funded by Toshiba, is offering for team science competitions, prizes, including computers and savings ponds. Full-time students in grades K-12 currently enrolled and attending a public, private or home schools are eligible. The deadline is **January, 28, 2009**. Contact: <http://exploravision.org/entry-process>.
- The **Young Epidemiology Scholars (YES) Competition** for original student research is designed to inspire talented students to investigate the many factors that affect health and ways to improve the health of the public. The YES Competition awards up to 120 college scholarships each year to high school juniors and seniors who conduct outstanding research projects that apply epidemiological methods of analysis to a health-related issue. The deadline to apply is **February 2, 2009**. For more information, visit <http://www.collegeboard.com/yes/fs/atc.html>.
- The **University of California Energy Institute's** annual Request for Proposals for FY 2009-10 are available. The RFP covers California Energy Studies and Energy Science





and Technology programs. If you are interested, you may download the application at: <http://www.ucei.berkeley.edu>. Proposals are due by **February 9, 2009**.

- The Cornell Lab of Ornithology is inviting all organizations and educators to apply for their **Celebrate Urban Birds project mini-grants**. The grants range in value from \$100-\$500. Grants will help fund neighborhood events that introduce the public to birds, collect and submit bird observation information to Cornell Labs and find ways to include the arts and gardening in their events. To apply visit: www.CelebrateUrbanBirds.org. Applications are due by **Feb. 15, 2009**. Contact Karen Purcell at urbanbirds@cornell.edu for more information.
- **River of Words** is poetry and art contest for youth ages 5-19, focusing on watersheds and the environment. The contest encourages students to explore the environmental history of their community and display their findings through mediums of poetry and art. Grand prize winners receive a trip to Washington, DC to attend the awards ceremony at the Library of Congress. The deadline to apply is **February 15, 2009**. Visit <http://www.riverofwords.org/contest/index.html> for more information.
- Fiskars is offering **Project Orange Thumb Grants** for community gardening projects. Community garden groups, schools, youth groups, community centers, camps, clubs and treatment facilities are eligible to apply. Applications are due **February 17, 2009**. Each winner will receive up to \$1,500 in Fiskars' garden tools and up to \$800 in gardening-related materials. Contact: <http://projectorangethumb.com/pot>.
- The **Pacific Forest and Watershed Lands Stewardship Council** have invited Northern and Central California non-profit organizations to apply for grants focused on getting youth in their communities outside. The Stewardship Council is offering between \$2-2.5 million in funding to programs that connect underserved youth, ages 13-18, to the outdoors. For more information and to apply for one of these grants, click [here](#).
- An **RFP** to submit for the **National 4-H Science Day Experiment** is being offered. Land-Grant Universities are encouraged to consider submitting experiment ideas for youth to conduct during 2009 4-H NYSD and providing leadership with experiment implementation. All proposals must be submitted based upon the attached Call for Proposals. To view information about the 2008 4-H National Youth Science Day, please visit <http://4-h.org/NYSD>. The LGU that submits the winning proposal will receive a \$10,000 award to be used to support the creation, leadership and implementation of the experiment. The top submission will be selected by March 30, 2009 and will be asked to finalize the experiment based on National 4-H SET Leadership feedback by the end of April. The final 4-H NYSD Experiment and materials will be shared with the 4-H System





in early June, 2009. If you are interested in submitting an idea and RFP, please send to the State 4-H office by **February 15, 2009**. The RFP can be viewed http://128.120.153.66/4hresource/updates/attach/2009/SET_Jan_09/4H_NYSD_Experiment_RFP_1_15_09.doc.

- The **Federal Junior Duck Stamp Conservation and Design Program (JDS)** is an arts curriculum that teaches wetlands and waterfowl conservation to students in kindergarten through high school. Contact the California Waterfowl Association for information at: duckstamp@calwaterfowl.org. The deadline is **March 15, 2009**.

What's Happening Around the State:

- **Los Angeles & Orange Counties:** An update on the series of trainings being offered to project leaders and afterschool program instructors on water quality: Orange County had one face to face hands-on training in October for project leaders. Since then the leaders have had successful and fun project meetings implementing the first 3 lesson plans. In December we held a phone-in training session and introduced 3 more lessons. January 31 will be the third and final leader training. Volunteers will go to a park to do water sampling and then do some analysis back in the classroom. We will be discussing ways to incorporate outreach, plan events such as clean-ups, and tips on how to get articles in local newspapers.
- **San Diego County:** 4-H staff will be reaching out to seven Naval Afterschool Programs in San Diego County. Afterschool staff and volunteers (retired military and master gardeners) will be trained in a variety of 4-H SET curricula including *Youth Experiences in Science, Power of the Wind, and Farm to Fork*. Funding from the California Communities Project will fund a student intern who will assist in the development of a new military retiree volunteer model.
- **Kern County:** A first focus for Kern County's 4-H SET programming is enhancing existing 4-H programs, projects, and events, including camp. Starting in 2009 each issue of the 4-H newsletter will also include a 4-H SET science activity for families to do together. Special events will complement these strategies and will be open to the public and also serve as a recruitment venue for new 4-H members and volunteers. Partners from Frito-Lay, Wind Wolves Nature Preserves, and local schools will be engaged in the local efforts.
- **Siskiyou County:** Siskiyou County is kicking-off a **Teens as Teachers Program** to help afterschool programs provide hands-on 4-H SET programming. Teens will receive training in science processes and inquiry as well as 4-H SET Ready curriculum.





Additionally, 4-H project volunteers will receive additional training and resources on 4-H SET. 4-H camp counselors will incorporate 4-H SET service learning projects into the Siskiyou County 4-H summer camp.