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Tiny House Competition

We’re sponsoring a home building competition for really small homes—from 100 to 400 square feet of living space. Students from various California colleges are taking part in the California Tiny House Competition, which will culminate in fall 2016 when winners are chosen. The contest is to see which college team can design and build the best net-zero, tiny solar house.

So far the student teams have taken part in a two-day workshop, where they learned about sustainable building and solar technology. During the week of competition, slated in October 2016, students will exhibit their houses to the public, judges and the media. On the last day, they will be awarded trophies and monetary prizes.

smud.org/tinyhouse • #tinyhouse2016 •

Solar Decathlon

SMUD is proud to support California State University, Sacramento in the 2015 building competition, the U.S. Solar Decathlon, sponsored by the U.S. Department of Energy. The Sac State entry, titled the “Solar NEST” (Natural, Elegant, Sustainable, Tranquil), strives to exemplify the future of sustainable, energy-efficient and affordable housing.

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The students plan to design a user-friendly house without sacrificing the practicality of a typical home.

The Solar Decathlon will be held in Irvine, California from October 8-18, 2015. To learn more about this competition and how architecture and engineering can be integrated into your curriculum, please visit solardecathlon.gov.

This is Sac State’s first entry into the nationally acclaimed Solar Decathlon. To learn more about the students’ progress, please visit their Facebook site at facebook.com/solarnest.

Electricity Fair

On September 6, 2014, hundreds of fourth grade students spent the day by the American River with their families learning about the historical significance of the Folsom Powerhouse and experimenting with electricity. On display were electric cars, electric boats and lots of hands-on activities for everyone. Mr. Electricity showed students how to make portable speakers from party cups.

This event was held in partnership with California State parks, Sac EV and the Friends of Lake Folsom. To learn more about how your fourth grade class can learn about electricity while having lots of fun, email suzette.bienvenue@smud.org.

The historic Folsom Powerhouse is open to the public and for school tours. To learn more about this museum, visit parks.ca.gov/?page_id=501.

Project Wet

Area teachers spent a beautiful day learning how to integrate water science into the classroom. Presented by Linda DeSai of the Placer Nature Center, the workshop featured Project WET (Water Education for Teachers) curriculum. Effie Yeaw Nature Center in Carmichael was the perfect setting for outdoor activities and provided the location for water testing.

To learn about how you can incorporate topical water issues and science into your classroom, visit Project WET at projectwet.org.
Solar Regatta — College-level Openings

The Energy & Technology Center has five openings for colleges wanting to take part in the 2015 Northern California Solar Regatta. Competitors design, build and pilot their own boats, which have to be powered by solar panels. If you’re interested, email suzette.bienvenue@smud.org.

The 4th annual regatta on May 8 and 9, 2015 will sail at the lake in the Rancho Seco Recreational Area in Herald. Twenty middle- and high-school teams will compete on Friday, and colleges and universities will compete on Saturday. The winning high school team will get to race against the colleges as well.

The regatta deepens students’ understanding of engineering, physics, environmental stewardship and solar technology. Winners of the slalom, endurance, sprint and presentation categories will take away trophies and monetary awards. For more information, visit smud.org/solar-regatta.

Dry Ice Workshop

Teacher workshops don’t have to be boring. Using a Halloween theme, Davin Bowker presented GEMS® Dry Ice Investigations, helping teachers to engage students with the science of energy transformations and the particulate theory of matter. This class will be offered again in fall 2015.

Who Left the Lights On in the Zoo?

Lighting expert Connie Samla and SMUD’s Energy & Technology staff joined in the fun to help third grade students at Russell Ranch Elementary in Folsom solve the mystery of who left the lights on at the zoo. As they investigated, students learned about LED lights, the electromagnetic spectrum and UV rays.

The 2014 NCSR winning high school team from Elk Grove High was invited to participate in the international solar boat (SOLAR1) competition in Monte Carlo, Monaco.
**Science Olympiad**

The Sacramento Regional Science Olympiad will be held this year at California State University, Sacramento on Saturday, March 7. Division B is for grades 6-8 and Division C is for grades 9-12. Please contact James Hill at jdhill@sanjuan.edu and/or sacramentoscienceolympiad.com for additional information and forms.

For the first time in Sacramento, a Science Olympiad Division A competition for grades 3-6 will be held. Meet on Saturday, March 21, 2015, at Mira Loma High School in Sacramento. For more information and registration forms, please contact James Hill at jdhill@sanjuan.edu or sacramentoscienceolympiad.com.

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**Electric Circuit Workshop**

Yes, the human body can conduct electricity, as teachers showed when they made a human circuit at the GEMS® Electric Circuit workshop. The class is perfect for fourth grade teachers looking for new and interesting ways to not only teach electricity and electromagnetism but also integrate writing with science. This workshop will be offered again in the fall 2015.

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**Electric Vehicle Exhibit**

Have you been wondering if an electric vehicle (EV) is right for you? Come to the electric vehicle exhibit in SMUD’s Energy & Technology Center to kick the tires and sit in the driver’s seat. This electric car, donated by Nissan USA, shows how an EV works. Although from one side it looks like an ordinary car, the hood is open and the driver’s side has been cut away to allow for a closer look at the motor, battery casings and other features.

Customized fabrication and educational details were offered by the auto shop at American River College. The car charger has been donated by Clipper Creek.

For more information on electric vehicles, visit smud.org/pev.
SMUD’s Energy & Technology Center will sponsor several Solar Cooking workshops for families at Sacramento County libraries. Please check with us at (916) 732-6738 for dates and times. For more on solar cooking, visit solarcookers.org.

Exhibit Opening 2015

Our Energy & Technology Center soon will open a new exhibit—Teaching through Solar. You’ll see why our solar programs have been so successful with students in the Sacramento area. View examples of the Solar Grant program, Solar Regatta, Solar Car Race at American River College and more.

Solar Cooking

Comprehensive, Standards-based Program will Help You Teach Energy Management

Teach your students the science of energy and inspire them to contribute to a more sustainable world through the PEAK program, with training offered in January and February to teachers of 3rd through 7th grades. Using hands-on activities, your students will learn how to manage energy use in their homes, schools, and communities and begin to explore careers in green technologies.

Professional education hours and a $100 stipend are available through the Sacramento County Office of Education. The training takes place on Saturday, January 31, 2015 or Saturday, February 21, 2015 from 9 a.m. to 3 p.m. at the education center for the office of education at 10474 Mather Boulevard, Mather, CA 95655.

What you’ll receive:

- Teacher training and ongoing support.
- Curriculum correlated to 3rd – 7th grade standards.
- A toolkit for hands-on science labs.
- Fun, interactive software and online resources.

Sign up for the training online at peakstudents.org/teachers/norcal_register.asp or contact Audrey Knox at (510) 444-5060 (aknox@energycoalition.org).
Youth Energy Summit

January will ring in the 7th Annual Youth Energy Summit which will be held in the Roseville Utility Exploration Center in Roseville. This event is sponsored by Roseville Electric, SMUD, Lodi Electric Utility and Turlock Irrigation District. The 2015 theme is Powering Your Plate: Food and Agriculture. Twelve teams of high school students will spend two days learning about converting organic waste to power, urban agriculture and the many ways in which energy efficiency fits with agriculture and the food industry.

The students will then return to their communities where they will design and implement a service-earning project. The program will culminate in April when the student teams will present their projects and vie for scholarship awards.

Visit smud.org/youthenergysummit •

Solar Schoolhouse – Education Energized by the Sun

We have five openings for teachers and public outreach educators for the Solar Schoolhouse Summer Institute July 19-24, 2015. SMUD’s Energy & Technology Center will pay stipends for your lodging and attendance.

You’ll learn the science and history of heating, cooling and powering our homes with the sun. You’ll build solar cookers, model passive-solar homes, solar electric fountains, custom solar panels, and a portable solar power station (Lunchbox!). In addition to learning the science of building design (thermodynamics, electricity, seasonal changes) and how to fit these exercises into your curriculum, you’ll walk away with practical knowledge and solar equipment for your own use.

We’ll meet at the newly constructed Solar Schoolhouse headquarters in Sebastopol - a solar-powered, carbon-neutral, net-zero energy home and workshop. While solar energy is a multidisciplinary subject involving math, science, construction, history, and policy, the lessons will be tailored to your specific discipline.

To apply, visit solarschoolhouse.org/sie2015/ •

Wanted! Solar Champions

If you have a love for all things solar and have attended an Energy & Technology Center Solar Schoolhouse workshop within the last three years, you may be eligible for a classroom solar kit. If you have a current classroom, and are willing to write a lesson plan, email brent.sloan@smud.org to receive an application for your classroom solar kit. •
Free Teacher Development Workshops • Spring 2015

Sponsored by SMUD’s Energy & Technology Center. You must register online for the following workshops (even if you have previously registered through your school district’s website) at smud.org/workshops. Please note that all workshops are not held at SMUD.

February 19, 2015 – Chemical Reactions (Grades 5-12)
Folsom Powerhouse Museum
9980 Greenback Lane, Folsom
4:30 p.m. – 7 p.m. (appetizers and drinks)
Presented by Davin Bowker

An ordinary ziplock bag becomes a safe and spectacular laboratory as teachers have students mix chemicals that bubble, change color, get hot, and produce gas, heat, and odor. Chemical Reactions explores chemical change, demonstrates endothermic and exothermic energy reactions, and develops skills in observation, experimentation, and inference.

March 7, 2015 – Project WET (Grades 4-12)
Elk Grove Water District
9257 Elk Grove Blvd., Elk Grove
9 a.m. – 3 p.m. (breakfast and lunch)
Presented by Bryan Brown

Teachers will experience interdisciplinary activities to engage students in learning about water resources, water conservation, and key related science concepts. Engage in fun, hands-on, standards based outdoor activities including an introduction to water quality monitoring. This is STEM learning at its best. Participants will receive the new, Common Core Correlated Project WET 2.0 Guide.

March 19, 2015 – Invisible Universe (Grades 6-12)
Discovery Museum, Planetarium
3615 Auburn Blvd., Sacramento
4:30 p.m. – 7 p.m. (appetizers and drinks)
Presented by Davin Bowker

The electromagnetic Spectrum is the topic for intriguing activities which will deepen student understanding of energy in space, enabling students to detect and consider wavelengths other than visible light. Activities feature energy stations, including infrared (TV remote); microwave (pager); ultraviolet (black light) and other devices. Teachers will also receive a short presentation in the Planetarium.

March 21, 2015 – Energy and Me! (Grades Pre K-3)
Roseville Utility Exploration Center
1501 Pleasant Grove Blvd., Roseville
9 a.m. – 3 p.m. (breakfast and lunch)
Presented by Linda DeSai and Deb Bruns

This energizing workshop is directed at primary teachers in grades Pre K-3. In Energy and Me!, teachers will learn how to present energy concepts with playacting, singing and dancing. A classroom kit including curriculum and DVD will be provided.