



Spring 2023

Free Professional Development Workshops and Events for Educators

In-person and Online

Visit smud.org/Education

 **SMUD[®]**
Community Education
& Technology Center

Welcome

Welcome to our 2023 Spring Educator Calendar. We've put together an exciting series of classes focusing on sustainability and the environment, taught by some of the most renowned presenters in their field, all for you! And don't forget, all of our classes are **free** and most provide materials you can use in your own classroom.

This spring, we're offering a mix of virtual and live workshops at exciting locations like the SMUD Museum of Science and Curiosity (MOSAC) and the Sacramento County of Education. As always, safety is the most important priority for us.* *Please note that we will not provide meals at these workshops.*

If you plan on taking online workshops, please register at least two weeks in advance so that workshop materials can be mailed to the address specified in your online SMUD registration.

If you registered for a workshop at your school district, you must also register at smud.org/Education so that we know you're attending and we have sufficient materials for your hands-on activities.

Please use your school email when registering. If you don't have an official email as a homeschool teacher or for any other reason, please send us a note explaining to etcmil@smud.org.

Thank you,
Community Education & Technology Center

* The COVID-19 pandemic remains a very fluid situation, for example recent spikes in virus variants. All SMUD Community Education & Technology Center events and workshops are subject to immediate change or modification, new or additional safety controls being implemented, event cancellations and other changes as needed. For the most up to date information regarding events and workshops, please visit smud.org/Education.

Free Workshops

Workshops are **free**, but registration is required.

**Wednesday,
February 8, 2023**

4 – 5 p.m.

Virtual

Presented by
Joshua Zimmerman of
Brown Dog Gadgets

Take over the world with paper robots (Grades 5 – 12)

Make a robot friend or a machine who plans on taking over the world! Using only paper and a simple circuit design, let your imagination be your guide. Help your students learn circuitry by incorporating art and simple paper folding techniques to make paper robots that move and vibrate.



**Wednesday,
February 15, 2023**

4 – 5 p.m.

Virtual

Presented by Tor Allen of
Solar Schoolhouse



The magic of solar cells (Grades 4 – 12)

Photovoltaics, also known as solar cells is a technology that converts sunshine into electricity with no moving parts. In this workshop, Tor Allen of Solar Schoolhouse, will highlight the various applications being powered by solar cells around the world. Teaching strategies will be shared along with research and presentation templates. A copy of The Magic of Solar Cells Poster will be mailed to all participants.

**Tuesday,
February 21, 2023**

4 – 5:30 p.m.

MOSAC
400 Jibboom St.
Sacramento

Presented by Davin Bowker

Bubbleology (Grades K – 12)

Not only are bubbles fun and fascinating, they also guide and light the way to students understanding important scientific concepts. From light and color to aerodynamics, technology and surface tension, this workshop will be bursting with chemistry and physics, not to mention math! A copy of the of the Lawrence Hall of Science Teacher Guide will be mailed to attendees after the workshop.



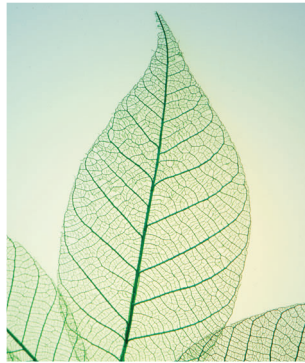
Free Workshops

Workshops are **free**, but registration is required.

**Tuesday,
March 7, 2023**
4 – 5:30 p.m.

Sacramento County
Office of Education (SCOE)
10474 Mather Blvd.
Mather

Presented by Amy Kraft



Stomata imprinting through the NGSS lens (Grades 5 – 12)

Did you know that even plants need clean air? Plants need to breathe just like humans do, but in a different way. Are you curious as to how plants breathe? Find out in the microscopic exploration of plant leaves.

STEM Event

**Saturday,
March 11, 2023**
10 a.m. – 2 p.m.

CA Aerospace Museum
3200 Freedom Park Dr.
McClellan



Spring STEM fling (Grades K – 12, Families)

Celebrate wind energy and the power of flight with family fun STEM activities. Enjoy amazing airplane exhibits, tour the museum, fly a flight simulator and engage in hands-on experiments as you learn about the science of air. There will be table exhibits and activities like making a wind chime or a kite. SMUD and community partners will be onsite to share how we're working towards our 2030 Zero Carbon Vision and how we can make our community more sustainable together.

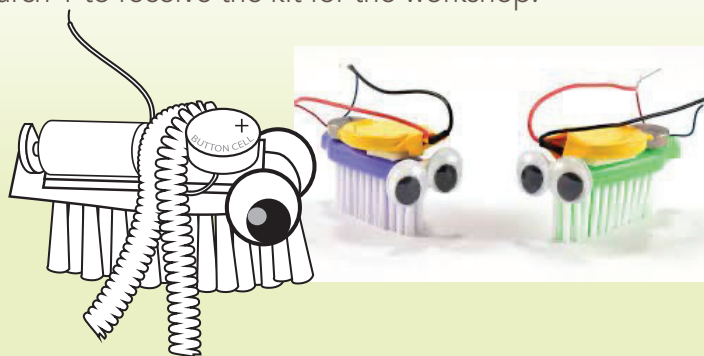
**Tuesday,
March 14, 2023**
4 – 5 p.m.

Virtual

Presented by
Brown Dog Gadgets

Bristlebot challenge (Grades 4– 12)

Help students explore their first experience with a circuit and a homemade Bristlebot robot. This activity is great for young children or older students' first engineering exercise. Registration is required by March 1 to receive the kit for the workshop.



Free Workshops

Workshops are **free**, but registration is required.

**Wednesday,
March 15, 2023**

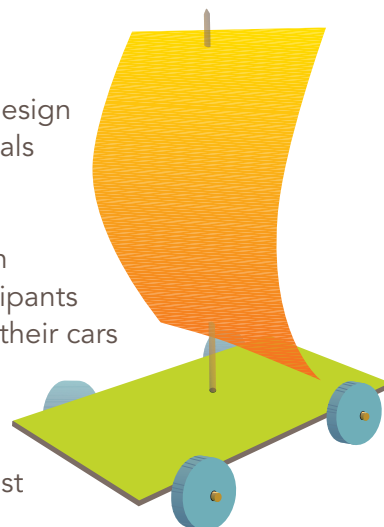
10 – 11:30 a.m.

SMUD
6301 S St.
Rubicon Room
Sacramento

Presented by
Jonathan Rhodea

Cars for sail (Grades 4 – 12)

In this hands-on workshop, participants will design a car that moves by wind power using materials found around the classroom or at home. Mathematical modeling extensions will have participants identifying relationships between variables that all cars have in common. Participants will engage in various challenges, modifying their cars as needed, and compete to see which car travels the farthest. Finally, participants will reflect on a natural lesson flow that works for students and teachers alike to get the most out of an engineering activity.

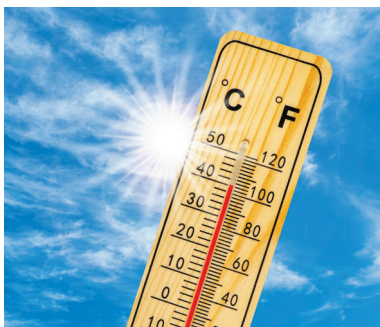


**Wednesday,
March 15, 2023**

4 – 5 p.m.

Virtual

Presented by
National Energy Education
Development (NEED)
Program



Hot enough for ya? (Grades 4 – 12)

Learn the basics of climate change and how energy production and usage impact the changes in our climate. See if you can really fry an egg on the sidewalk!

**Tuesday,
March 21, 2023**

4 – 5 p.m.

Virtual

Presented by
National Energy Education
Development (NEED)
Program



Driving to the future (Grades 3 – 12)

Gas vehicles are the top producers of carbon in California. How much carbon dioxide is released when you travel by car? Learn how SMUD can meet its zero carbon goals and help your students explore how electric vehicles can shape the future of transportation and provide cleaner air for everyone.

Free Workshops

Workshops are **free**, but registration is required.

**Wednesday,
March 29, 2023**
5 – 6:30 p.m.

Sacramento County
Office of Education (SCOE)
10474 Mather Blvd.
Mather

Presented by
Stephen Callahan



Video games with MakeCode

(Grades 6 – 12)

MakeCode Arcade is a block-based language for making video games. There isn't much difference between a scientific model and a video game except the data generated and the data on which it is based. We'll look at how we can make scientific models with this language and even write and run a program on a circuit board.

**Tuesday,
April 11, 2023**
4 – 5:30 p.m.

Virtual

Presented by
National Energy Education
Development (NEED)
Program



Fix or float (Grades 4 – 12)

Renewable energy is one of the ways SMUD will meet its 2030 goal of zero carbon emissions. Offshore wind farms could be a great source of energy to make zero carbon possible. In this workshop, teachers will learn about the different foundation types for offshore wind and construct an electrified wind turbine. NEED will provide a variety of classroom activities to explore this topic.



STEM Competitions

Workshops are **free**, but registration is required.

**Wednesday,
April 19, 2023**

9 a.m. – 1 p.m.

Cosumnes River College
8401 Center Pkwy.
Sacramento

SMUD Solar Car Race at Cosumnes River College

Are you searching for a fun and educational field trip for your students? Come and watch local high school students compete for the fastest car at the SMUD Solar Car Race in the quad at Cosumnes River College. Cosumnes River College will also be hold a small Earth Science and Environment fair. Learn more at smud.org/SolarCarRace.



**Friday,
May 5, 2023 and
Saturday,
May 6, 2023**
9 a.m. – 3 p.m.

Rancho Seco
Recreational Area
14960 Twin Cities Rd.
Herald

SMUD California Solar Regatta

Are you looking for a fun field trip? Visit a lovely lake setting and watch high school (Friday) and college (Saturday) teams race full-size, solar powered boats they designed and built. Learn more about this exciting race event at smud.org/SolarRegatta. To arrange a field trip to this event, email etcmil@smud.org.



Free Workshops

Community Education & Technology Center
Educator Workshops
Register at smud.org/Education

Introducing Sacramento's newest science center: SMUD Museum of Science and Curiosity, or simply MOSAC.

Venture into themed exhibition galleries on health, nature, energy, water, engineering and space. With over 100 exhibits, there are lots of interactive opportunities for hands-on learning! MOSAC is a great place for school field trips and for people of all ages to spend a fun-filled day.

Learn more at VisitMOSAC.org



We're eliminating all carbon emissions from our power supply by 2030 so we can all live in a Clean PowerCitySM.

Join the charge
CleanPowerCity.org

Contact
etcmil@smud.org

Register for classes
smud.org/Education

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