



Spring 2022

# Free Professional Development Online Workshops

For Educators

Visit [smud.org/Education](https://smud.org/Education)



**SMUD<sup>®</sup>**

Community Education  
& Technology Center

# Welcome

Welcome to SMUD's 2022 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 are offering a mix of virtual and live workshops at exciting locations like the Museum of Science and Curiosity and the Sacramento County of Education. As always, safety is the most important priority for SMUD. Until state and county guidelines change, we will be following strict safety measures at all of our live workshops, with social distancing, rooms at 25% capacity, furniture cleaned and disinfected and mandatory mask requirements. *Please note that SMUD will not provide meals at these workshops.*

If you plan on taking an online workshop, 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 SMUD sponsored workshop at your school district, you must also register at **smud.org/Education** so that we know you are 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 [etcmail@smud.org](mailto:etcmail@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.

# Free Workshops

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

**Tuesday,  
February 1, 2022**

4 – 6 p.m.

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

Presented by Amy Kraft

## **Stomata Imprinting Through the NGSS Lens** (Grades 3 – 12)

Come and learn about the secret life of plants! SMUD plans to be carbon free by 2030. Learn how you can introduce the study of carbon in your classroom by exploring how plants affect carbon in the atmosphere. Using a handheld microscope, you will investigate plant stomatas. Handheld microscopes and other materials will be provided for the workshop activity.



**Tuesday,  
February 8, 2022**

4 – 6 p.m.

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

Presented by  
Jonathan Rhodea

## **Wind Energy: Building Energy Efficient Windmills** (Grades 5 – 12)

Join us for Blowin' in the Wind! Renewable energy is one of the ways SMUD will meet its 2030 goal of being carbon free. Wind energy is an important part of that plan. Different cultures have been harnessing wind to do work for centuries using different designs. Give your students the gift of engineering windmills to accomplish a specific task and in the process draw out science, math and engineering concepts that can span many grade levels.



# Free Workshops

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

**Tuesday,  
February 15, 2022**  
4 – 6 p.m.

MOSAC  
400 Jibboom St.,  
Sacramento

Presented by MOSAC  
and SMUD staff

**Welcome to the Museum of Science and Curiosity (MOSAC) –  
Powering Change**  
(Grades K – 12)

Come and explore with us and learn how SMUD and MOSAC are working together to help our community reach zero carbon goals. You will tour MOSAC and learn about the opportunities available to teachers and students from MOSAC and SMUD. Get to know everyone as teachers will learn basic circuitry and make light up name tags.



**Tuesday,  
March 1, 2022**  
4 – 6 p.m.

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

Presented by  
Jonathan Rhodea

**The Storybook Phenomenon** (Grades K – 6)

Who doesn't like a good story? In this workshop, you will explore engaging ways to intersect reading and science through literature. Discover hands on activities that will turn a good story into a memorable experience for your students.



**Tuesday,  
March 8, 2022**  
4 – 5 p.m.

Online

National Energy  
Education Development  
(NEED) Project

Presented by NEED Staff

**Move It!**  
(Grades K – 12)

Did you know that transportation is one of the biggest contributors to carbon and other pollution in the atmosphere? Learn how SMUD can meet its zero carbon goals and learn the relationship between energy and transportation and how modern technology can help the environment. You will help your students Move It with fun ways to learn about transportation.





# Free Workshops

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

**Tuesday,  
March 29, 2022**

4 – 6 p.m.

MOSAC  
400 Jibboom St.,  
Sacramento

Presented by  
NEED staff

## **Splash! – It's Hydropower** (Grades K – 3)

SMUD will be carbon free by 2030 and hydropower is one of the ways we can get there. In this workshop, you will learn about the history of waterpower and how it helped shape the history of the Sacramento region as well as the basic science of potential and kinetic energy. You will tour a fascinating and fun water exhibit and learn how to incorporate renewable energy using water as the theme of the curriculum. This experience will focus on lessons and activities that appeal to younger students.



**Tuesday,  
April 5, 2022**

4 – 6 p.m.

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

Presented by Jonathan Rhodea

## **Developing Sensors: Detecting Moisture in the Soil** (Grades 7 – 12)

How does an engineering system make things work automatically? In this engaging workshop that uses soil moisture to teach about technology, you will learn how to teach engineering, coding and data collection using simple sensors. Designed for middle and high school students, this STEM curriculum will teach the importance of data collection, accurate journaling and technology. Please bring a laptop or notebook. Other materials will be provided for you.



**Tuesday,  
April 19, 2022**

4 – 6 p.m.

MOSAC  
400 Jibboom St.,  
Sacramento

Presented by Davin Bowker

## **The Reasons for Seasons – Science Versus Science Myth** (Grades 6 – 12)

To understand the fight against climate change, we all need to understand the science behind this phenomenon. How do you teach your students to understand critical thinking and use the scientific method? Using a study of the solar system, teachers will investigate common science misconceptions and how you can help your students overcome established myths. After the workshop, a Great Explorations in Math and Science (GEMS) teacher guide will be mailed to you at the address on your registration.



# Free Workshops

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

**Wednesday,  
April 20, 2022**

10 a.m. – 1 p.m.

Cosumnes River College  
8401 Center Parkway,  
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 holding a small Earth Science and Environment fair. Learn more at [smud.org/Solar-Car-Race](https://smud.org/Solar-Car-Race)



**Wednesday,  
April 27, 2022**

4 – 5 p.m.

Online

Presented by Joshua  
Zimmerman of Brown  
Dog Gadgets

## **Bristlebot Challenge** (Grades 4 – 12)

Go, Go Bristlebot! You will learn how to present basic circuitry with a simple and inexpensive "robot" made from easily accessible parts and a toothbrush. This is a fun way to teach the engineering method using a robot friend for your students. This STEM activity is fun for younger students and can also be a first introduction to engineering for students in the upper grades.

**Friday,  
May 13, 2022 and  
Saturday,  
May 14, 2022**  
9 a.m. – 3 p.m.

Rancho Seco  
Recreational Area  
14960 Twin Cities Road,  
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. Information on this exciting race event can be found at [smud.org/Solar-Regatta](https://smud.org/Solar-Regatta). If you would like to arrange a field trip to this event, email your request to [etcmil@smud.org](mailto:etcmil@smud.org).



**Friday,  
June 3, 2022**  
4 – 6 p.m.

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

## **Engineering Scientific Devices Using Scratch and Circuitry** (Grades 3 – 6)

Self-driving cars are coming! Bring your laptop or notebook to this class and explore circuits and data coding using Scratch. As an exercise, you will create a time trigger to measure how quickly an electric, motorized car drives once given different forces that are acting on it. In the process, you'll learn about the advantages of electric transportation. Materials for the workshop will be provided.

Presented by  
Stephen Callahan

# Free Workshops

Community Education & Technology Center  
Educator Workshops  
Register at [smud.org/Education](http://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](http://VisitMOSAC.org)



SMUD is eliminating all carbon emissions from our power supply by 2030 so we can all live in a Clean PowerCity<sup>SM</sup>.

Join the charge  
[CleanPowerCity.org](http://CleanPowerCity.org)

Contact  
[etcmil@smud.org](mailto:etcmil@smud.org)

Register for classes  
[smud.org/Education](http://smud.org/Education)

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