NGSS WORKSHOPS

Each attendee will get to select **two 2-hour hands-on science workshops** (see descriptions inside) and **two 1-hour long NGSS workshops**.

The two 1-hour long NGSS sessions may incorporate some hands-on science, but the main purpose is to delve deeper into specific aspects of NGSS. This includes sessions on the fundamentals of NGSS, modeling, engineering, assessments, and more. View our website for more information on all of our workshops.

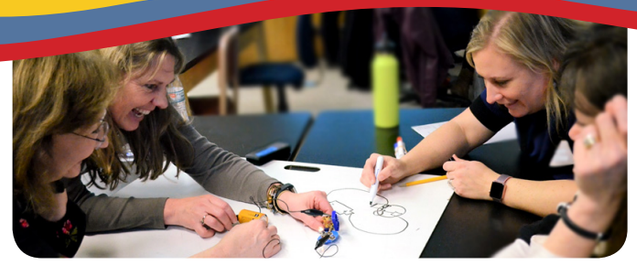
Cost:
$110 before May 5
$120 after May 5

Location:
Sacramento State, University Union

Includes:
4 workshops, workshop materials, 6 PD hours, raffle ticket, breakfast, and lunch

CEUs:
0.7 Continuing Education Units available for an additional $100

Visit www.sasp-science.org for more info!



Sacramento Area Science Project

Ways to Register:

- Register online at sasp-science.org/super-sirc
- Download a registration form from our website, and fax or mail it in
- If you are paying with a Purchase Order, visit our website for details

MASE Center (SQU #330)
6000 J Street
Sacramento, CA 95819-6125
(916) 278-4497
(916) 278-5487
sasp-science.org
(916) 278-5084

Avoid late fees:

Register by May 5th!

SUPER SIRC

science in the river city

FOR K-12 TEACHERS

Saturday ★ May 18, 2019

SATURDAY
MAY 18, 2019
SACRAMENTO STATE, UNIVERSITY UNION

8:30 - 9:00	Check-in & Continental Breakfast
9:00 - 9:10	Introduction
9:20 - 11:20	Morning Science Breakouts
11:30 - 12:30	Morning NGSS Breakouts
12:30 - 1:00	Buffet Lunch
1:00 - 1:30	Science Resources & Vendors
1:30 - 2:30	Afternoon NGSS Breakouts
2:40 - 4:40	Afternoon Science Breakouts

Join us at Next Generation Science Saturday, where you'll experience hands-on and dynamic workshops that are:

- **Designed and taught by local teachers** and professors with strong expertise in NGSS
- **Classroom-tested** or peer-reviewed
- **New and improved** each year
- Created with **Sacramento-area students in mind**

Elementary Science

Forces - Pushes and Pulls

Peggy Harte, Gretchen Higgins Elementary

In this workshop we will investigate what the practice of Planning and Conducting an Investigation might look like in a kindergarten classroom. Through the lens of a student we will explore our own understanding of forces and interactions while reflecting through the lens of a teacher on what that could look like in a kindergarten classroom. *(K-PS2-1)*

What Can We Learn From the Biodiversity on Earth?

Kelli Quan, Elk Grove USD

Let's explore the diversity of plants and animals in the world and learn how their adaptations can inform designs to improve our agricultural practices. *(2-LS2-2, 2-LS4-1)*

What Does a Seed Need?

Corinne Lardy, Sacramento State

How did that flower end up growing out of the middle of the sidewalk? In this workshop we will: plan and conduct an investigation; analyze data to explore what things a seed needs to sprout; engage in multiple forms of formative assessment; and explore ways to expand on the classic seed growing investigation to connect to your students' lives. *(K-ESS3-1, 1-LS3-1, 2-LS2-1, 2-LS4-1)*

Engineering While Looking Through the Energy Lens

Julie Harr, San Juan USD

Explore the energy cross cutting concept through a cheap and easy marble investigation and electricity exploration. Then use the scientific knowledge to solve a problem by...

Elementary Science (cont.)

...building a energy transfer machine using the engineering design process. *(4-PS3-2, 4-PS3-3, 4-PS3-4, 3-5-ETS1-3)*

Let's Stay Together

Nancy Ludu and Emily Lambert, Isabelle Jackson Elementary

Many species of animals increase their chances of survival because they are part of a group or pack. We will use evidence from text and videos to construct and argument that when they form groups animals are able to survive. *(3-LS2-1)*

Gotta Make Things Go but Whoa! What About Our Earth?

Barbara Woods, Galt Joint Union Elementary SD

Enter an NGSS scientific practices journey into natural resources used for energy and fuel while discovering the resulting environmental impacts. Engage as detectives solving an environmental mystery that reveals the interconnectedness of earth's spheres. Participants will employ scientific practices, CCC's, DCI's to relate and connect NGSS standards, EP&C's, and ELA standards from one grade level to the next. *(4-ESS3, 5-ESS2, & EP&Cs)*

6-12th Life Science

Trees and Me: Follow the Flow of Matter and Energy

Megan White & Sarah Caves, Stonegate Elementary

How does a tree get its mass? Follow the cycle and flow of matter and energy through hands on modeling of photosynthesis and respiration, and exploration of...

6-12th Life Science (Cont.)

...macromolecules through digestion. *(MS-LS1-6-7, MS-LS2-3-4)*

Biomimicry: Use Nature's Adaptations to Design Possible Solutions to a Local Human Problem

Heather Parker, Yuba City USD

Why reinvent the wheel? Biological organisms are a great resource for ideas on how to solve human problems. See how students can find possible solutions to a local human problem using biomimicry. *(MS-ESS3, HS-ESS3, ETS1.B, LS1.A, & LS2.A)*

6-12th Physics

Solar Notebook Charger

Aaron Silberman, Orangevale Open

What do we do when the power is out? If we had a solar notebook we could charge our phones, read, and see throughout the night. This project could lend itself to a school developing a portable emergency charging station. *(MS-PS3-3, HS-PS3-3, ETS1.A, & ETS1.B)*

A Different Rube Goldberg Device

Steven Ramsay, Laguna Creek High School

Using the engineering design process to make an energy transformation device. The device must meet very specific criteria to also demonstrate student understanding of energy transfers and Newton's laws. Includes conceptual and mathematical representations. *(HS-PS3-3)*

6-12th Chemistry

Phase Transitions: A Sticky Topic

Mike Payne, American River College

Why is water a liquid at room temperature...

6-12th Chemistry (Cont.)

...while methane is a gas at the same conditions? Why does water melt at 0 degrees C, but dry ice doesn't melt at all? Using hands-on sense making and a model based approach, we will investigate what is going on when a substance changes state. (A rudimentary knowledge of the particle model will be assumed.) *(MS-PS1-4, PS-PS3-1, MS-PS3-4, HS-PS1-3, HS-PS3-2)*

6-12th Earth And Space Science

Using a Phenomenon-Question-Model (PQM) to Understand Seafloor Spreading

Amy Burke, Laguna Creek High School

Take a trip to the ocean floor to observe phenomena that encourage students to develop questions and revise their original models to explain their observations. Students will analyze and interpret data as a means to either support or refute their student-driven models about seafloor spreading. *(MS-ESS2-3 & HS-ESS2-1)*

Global Warming to Climate Change: Changes on Earth and What We Can Do About it

Ingrid Salim, SASP Teacher Leader

This workshop will explore the 6th grade performance expectations around what causes weather and climate, and evidence suggesting the climate is changing due to anthropogenic sources. Participants will engage in modeling ideas based on observations of phenomena and analysis of data, and will have access to a lesson sequence for these topics online. *(MS-ESS2-5, MS-ESS2-6)*