

SCIENCE & ENVIRONMENTAL LITERACY

MAY & JUNE 2021-SANTA CLARA COUNTY OFFICE OF EDUCATION

HAPPY SUMMER AND TIME FOR A REST AND RE-SET!

As you are all heading into your summer breaks, I wanted to take this opportunity to thank you all for the amazing work you have been doing and continue to do for all of our students across Santa Clara County. This last year and a half has been like no other and I am in awe of everything that you have been able to accomplish during this time. I hope that you all are able to take some well deserved time off for rest, relaxation and recuperation.

NGSS NOW NEWSLETTER FOR MAY 2021

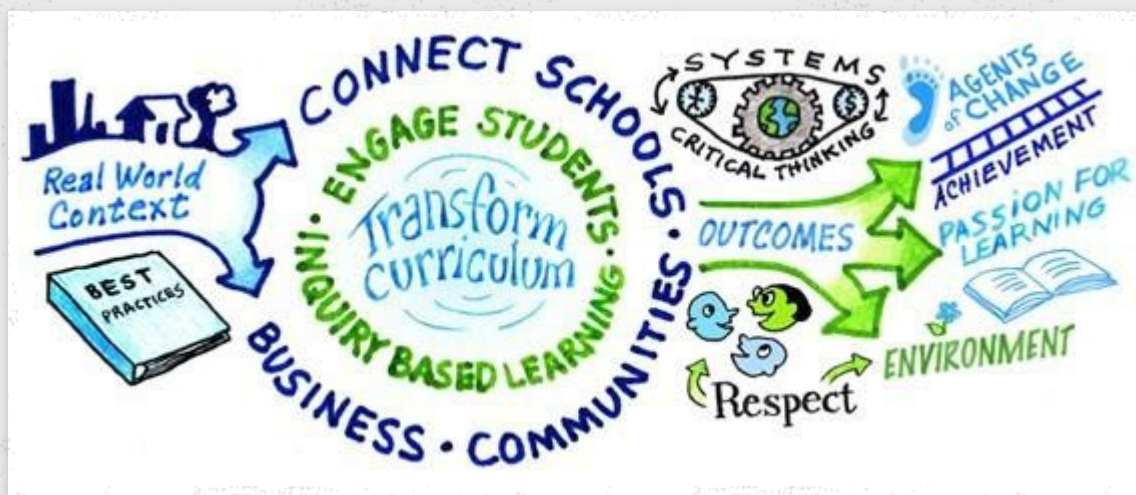
NGSS NOW

6 things to know about quality K-12 science education in May 2021

UPCOMING EVENTS

ENVIRONMENTAL SOLUTIONARY TEACHER FELLOWSHIP- 2021-2022

This is a knowledge-to-action program that builds teacher capacity for designing and delivering learning experiences that are student-centered, problem-project-based, solutions-oriented, and integrates real-world environmental justice issues.



ENVIRONMENTAL LITERACY COMMUNITY BASED PARTNER HUB

A new website that features Community Based Partners that provide environmental education based experiences.

ENVIRONMENTAL LITERACY LEADERSHIP COLLABORATIVE UPDATE

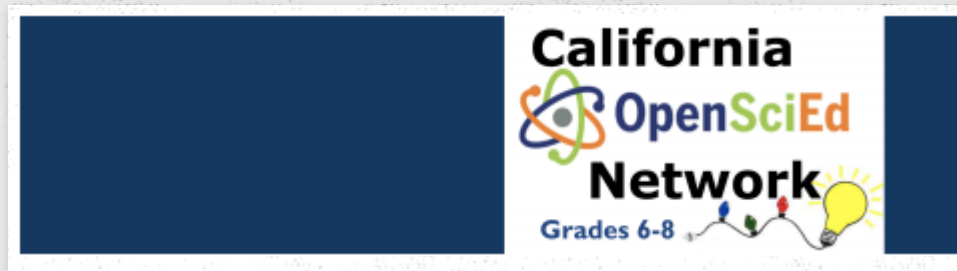
We have been moving forward with the development of the Microsite in partnership with Ten Strands and Green Guardians. Please look for information about the new website coming soon!

We have also created a folder to house all of our resources shared during our Environmental Literacy Leadership Collaborative Meeting. You can view this folder by following the link: <http://bit.ly/2MCcC2L>

PARTNER WORKSHOPS AND EVENTS

OPEN SCIED/K-12 ALLIANCE

Middle School Network starting July 2021



Join the Network!
We are excited to announce that this July, 2021, we kick off our California OpenSciEd Network for grades 6-8!

Informational Webinar
Join us on Tuesday, May 24th, 2021 from 4:00 - 5:00 PM to learn about the launch of the California OpenSciEd Network that will position your 6-8th grade students as sense-makers and investigators of science concepts through the use of high-quality instructional materials.

Register for the Webinar at:
<https://tinyurl.com/27xyxtp>

The K-12 Alliance, a World Science and Engineering program, is the California partner for the field test of OpenSciEd, and is proud to bring scientists and science teacher leaders together, with expertise in NGSS and OpenSciEd, to support school systems throughout implementation.



K-12 Alliance@WestEd



Join the Network!
This is an opportunity to launch the network that will position your 6-8th grade students as sense-makers and investigators of science concepts while utilizing high-quality instructional materials. Membership in the California OpenSciEd Network includes:

Virtual Kick-off!
Participate in a four-day virtual event for a leadership team of 5 per grade (25 total):

- Led by scientists and teacher leaders with NGSS and OpenSciEd expertise
- Gain experience with an OpenSciEd unit: Thermal Energy (TE), Molecular Reactions (TR), Sound Waves (SW)
- Learn key instructional shifts and pedagogical routines that enrich student learning experiences
- Dive deep into science content that forms the basis of the learning

Virtual Support through December of 2021

Kick-off participants have access to ongoing services designed to support implementation:

- Email support to meet individual needs
- Up to 2 follow-up virtual meetings for support and Q/A for district needs
- Choose 1 webinar event for support with OpenSciEd routines and to connect with others in the network

Options for Additional Services (extra fees):
Options include professional learning for all district teachers on units, deeper pedagogical dives into routines, leadership development for teacher leaders, professional learning and coaching for administrators, lesson study, and district technical assistance.

Membership Dates: July - December 2021 (through implementation of one unit)

Kick-Off Event: July 20-23, 2021

Cost for District Team of up to 15: \$12,000

Register: <https://tinyurl.com/26Gaf9he>

Contact: [Subeela Valdes](mailto:Subeela.Valdes@wested.org)
ivales@wested.org



HIGH SCHOOL FIELD TEST



K-12 Alliance
K-12 Alliance (K12Alliance.org)
K-12 Alliance
K12Alliance

California OpenSciEd High School Field Test

OpenSciEd High School
Long-awaited, high-quality, designed-for-NGSS instructional materials

Project Goals

- Implement quality three-dimensional instruction aligned to the NGSS
- Build teacher leadership and content/pedagogy expertise for implementing the NGSS
- Leverage teacher leadership in the development process

Project Description
The project is developing full-year courses in Biology, Chemistry, and Physics with the Earth and space science standards integrated fully. Teacher participants will field test instructional materials and participate in professional learning targeted in effective use of the materials to support student learning during the academic years of 2021-2022 and 2022-2023.

The K-12 Alliance, a WestEd Science and Engineering project, are leaders in the implementation of the NGSS and are the official California partner for OpenSciEd, providing the professional learning support for the field test in California.

Teams of 5+ preferred (openings made for rural settings)

Application deadline: April 16, 2021
Limited space in enrollment; applications will be accepted through May 28, 2021

INTRODUCTION

Although most states have adopted new science standards, instructional materials aligned to those have been hard to find. OpenSciEd is a project to develop free, high quality, standard-aligned instructional materials for high school science. California is currently a partner state in the project. This project is developing full-year courses in Biology, Chemistry, and Physics with the Earth and space science standards integrated fully into the courses. The project is seeking teachers to field test these instructional materials and participate in professional learning to learn how to use the materials to support equitable learning in science.

The K-12 Alliance, a WestEd Science and Engineering project based in California will support the field test teachers in order to assess the impact of the OpenSciEd materials and professional development on science teaching and learning. Participating teachers will be asked to participate in professional learning, teach the units and provide feedback about the instructional materials.

Field Test Teachers

The K-12 Alliance is currently recruiting teachers who are interested in field testing the Biology, Chemistry, and Physics instructional materials/professional learning and in joining a professional community focused on improving science learning for all students. We are prioritizing teams of teachers within an local Education Agency (LEA), recommending at least two for each course (with exceptions being made for rural settings).

The pilot project begins with a required 4-day virtual summer institute in July 2021. Each of the remaining units will be preceded by 1-2 days of required professional learning. In year 2 of the field test, teachers are expected to teach the entire course in order but data will only be collected on the units identified in black (see the next page).

We are designing a 3 course high school program that follows a Biology – Chemistry – Physics sequence. The NGSS Performance expectations taught in previous courses will be built upon in subsequent courses in the sequence, including the Earth and space standards that will be broached through the 3 courses. In addition, these courses are designed so that they can be taught in grades 9, 10, and 11 and will rely on the associated mathematics from the Common Core State Standards.

California OpenSciEd

OpenSciEd High School Field Test Schedule

Teachers would be asked to teach the courses in the order identified each year. In year 1, this involves 3 units (depending upon the course). In year 2, teachers would be asked to teach the full course in order with data only being collected from units in black.

	2021-2022 Academic Year	2022-2023 Academic Year
Biology Units	<ul style="list-style-type: none"> • Unit 1: Ecosystems, Interactions, Energy Dynamics • Unit 2: Matter & Energy in Organisms & Ecosystems • Unit 3: Inheritance & Variation of Traits • Unit 4: Natural Selection and Evolution of Populations 	<ul style="list-style-type: none"> • Unit 1: Ecosystems, Interactions, Energy Dynamics • Unit 2: Matter & Energy in Organisms & Ecosystems • Unit 3: Inheritance & Variation of Traits • Unit 4: Natural Selection and Evolution of Populations • Unit 5: Common Ancestry & Speciation
Chemistry Units	<ul style="list-style-type: none"> • Unit 2: Structure & Properties of Matter • Unit 3: Energy from Chemical Reactions and Nuclear Reactions 	<ul style="list-style-type: none"> • Unit 1: Thermodynamics in Earth Systems • Unit 2: Structure & Properties of Matter • Unit 3: Molecular Processes in Earth Systems • Unit 4: Chemical Reactions in Our World • Unit 5: Energy from Chemical Reactions and Nuclear Reactions
Physics Units	<ul style="list-style-type: none"> • Unit 1: Energy Flow from Earth's Systems • Unit 3: Electromagnetic Radiation 	<ul style="list-style-type: none"> • Unit 1: Energy Flow from Earth's Systems • Unit 2: Energy, Forces & Earth's Crust • Unit 3: Collisions & Momentum • Unit 4: Motion, Optics, & Gravity • Unit 5: Waves, Optics, & Gravity • Unit 6: Earth's History and the Big Bang

Please note, the scope and sequence was updated on April 13th. Please see [this link](#) for full details.

California OpenSciEd

How to Apply

If you are interested in supporting the OpenSciEd initiative by field testing the high school instructional materials and providing feedback on the materials and professional learning, please complete the [online teacher application](#) and [contact support team](#) no later than May 28, 2021.

If you have questions, contact: Sheila Valdez, K-12 Alliance Regional Director valdez@wested.org

Benefits
Participation and input on a research-based national project intended to transform high school science teaching and learning

School System Benefits

- Professional learning for your field test teachers, conducted by nationally trained, California leaders in science education (9-10 days)
- Early access to upcoming high school OpenSciEd materials that complement the high quality middle school materials that are [available from OpenSciEd](#).

Field Test Teacher Benefits

- Professional learning, conducted by nationally trained, California leaders in science education and NGSS (9-10 days)
- 2 to 4 re-creditation credits available
- Network with science teachers in California and nationally
- Invitation to participate in a co-design process of the field test units
- Field test units
- National recognition in the final teacher materials

California OpenSciEd

Field Test Teacher Commitments

Each teacher selected as a field test teacher must agree to all of the following:

- Attend all days of professional learning for the field test units (9-10 days per course).
- Participate in ongoing field test teacher support offered by the K-12 Alliance.
- Field test all OpenSciEd units in your course with fidelity.
- Provide feedback to OpenSciEd during and after each unit.
- Participate in the research data collection (i.e. interview/learning logs, collecting student work/exit tickets, pre/post surveys).
- Interested field test teachers may be invited to contribute additional data such as student work samples.

"To me, this is the true way science should be taught. This is the way we would like to see all of our classrooms become."
-Principal

"The materials are a huge equalizer in the classroom, especially for students with special needs and English learners. Students are figuring things out and actually doing science rather than just being 'told' about science."
-Teacher

California OpenSciEd

Principal Commitments and Support of the Field Test

Each LEA selected as a field test location must agree to all of the following:

- \$6,000 participation fee per teacher for the two years, teams of 5-6 teachers give preference, exceptions made for rural settings).
- Pay all travel costs for field test teachers to attend any face-to-face professional learning (PL) for each unit (dates and locations TBD).
- Provide substitute pay for all PL during school calendar time and/or pay necessary stipends for PL outside of contract hours/days.
- Support the teachers in field testing the pilot units with fidelity. This may include, but is not limited to, instructional coaching support.
- Work with the project researchers to provide access and permissions for observations and classroom data collection associated with field tests. This will involve helping the researchers navigate any system-specific Institutional Review Board (IRB) processes.
- Provide devices for digital access to student handouts or cover the costs of printing any necessary student handouts.
- Purchase any materials/supplies not already available in the school.
- Ensure students can complete surveys/assessments online (minimum of 1 device per 3 students needed).

Anticipated LEA Expenses
Information is provided on developers on [funding models](#). All PL may be face-to-face unless otherwise noted.

Biology (per teacher)

- 4 days PL in 2021-2022
- 4 school year
- 4 days PL (2022-2023)
- 2 school year
- Approximately \$1000 in kit costs*

Chemistry (per teacher)

- 4 days PL (2021-2022)
- 4 school year
- 4 days PL (2022-2023)
- 2 school year
- Approximately \$1000 in kit costs*

Physics (per teacher)

- 4 days PL (2021-2022)
- 4 school year
- 4 days PL (2022-2023)
- 2 school year
- Approximately \$1000 in kit costs*

Other:

- \$6,000 participation fee/teacher for the two years, teams of 5-6 teachers given preference, exception made for rural settings.
- Devices for digital access or printing costs for student handouts (printed books available for \$4,000/teacher).
- 6 device/3 students

*this does not include materials that can be requested already exist in a high school science lab class.

California OpenSciEd

CLICK HERE FOR MORE INFORMATION

BAY AREA ENVIRONMENTAL STEM INSTITUTE (BAESI)

The Bay Area Environmental STEM Institute (BAESI) presents...



Climate Change: Science and Solutions



July 29 and July 30, 2020
9 am - 4 pm

It's BAESI's 30th anniversary!

In celebration we are pleased to announce an online teacher professional development workshop focusing on climate science and strategies for engaging your students in solutions-oriented, NGSS-based inquiry-based learning. **The workshop will be completely online and will include both synchronous and asynchronous learning as well as small group experiences.**

Who: Teachers of grades 6-12

What:

In this workshop keyed to the Next Generation Science Standards, you'll:

- examine natural and human-caused climate change and its environmental, social, and economic impacts
- explore ways to engage students in everyday environmental awareness and stewardship
- discover BAESI-created and recommended teaching resources
- engage in collaborative learning activities and participate in breakout sessions by grade level and discipline



Why?

- Earn a \$150 stipend (you must attend the entire session and complete a follow-up activity).
- Earn 1 unit of Geology 104 for \$50 (optional)



Instructors:

LeAnne Teruya and Ellen Metzger (SJSU Geology)

To Apply: The application form is available [here](#).

Questions?

Contact Ellen Metzger at ellen.metzger@sjsu.edu.

CALIFORNIA ACADEMY OF SCIENCES

Low Floor, High Ceiling: Making Science Tasks More Spacious (Grades K-12)

Tuesday, June 15, 2021

9:30 - 11:30 am PT

How might we design tasks for students that involve easy access points for all learners, and the potential for extended thinking? How can this approach foster a positive science identity for all students? In this workshop, participate in example activities and consider how to bring these ideas into your own classroom.

This workshop is designed for teachers of grades K-12, and to be valuable for educators teaching online, hybrid, and in in-person situations. All educators are welcome.



Poster Contest for Bay Area High Schoolers

From now through September 7, 2021, Bay Area high school students are invited to create a poster that celebrates diversity in science, focused on one of five themes:

- **The beauty of diversity**
- **My favorite Academy exhibit**
- **Including me in science**
- **Envisioning a bright future**
- **Science call-to-action**

Winning posters and honorable mentions will be displayed at the Academy! Winners will also receive a large print of their poster, a \$100 gift card, and a one-year Academy family membership.

Students who complete [this brief registration form](#) can join free online workshops led by our judges and Academy staff, where they can learn more about design, how to create compelling posters, and how they could pursue a successful design career.

To help spark students' imagination, we've put together some [design elements, examples, and prompts](#) to help inspire new ideas and stretch one's thinking.

**RAFT- PROFESSIONAL DEVELOPMENT
WORKSHOPS**



RAFT STEAM PROJECT KIT LEARNING PROGRESSIONS

Saturday, June 26, 2021 | 10:00 AM - 1:00 PM PST

Price: \$45 (materials and shipping included)

RAFT has a variety of STEAM Project Kits that are designed for easy exploration topics in math, science and other subjects. They are excellent resources that come with materials and easy-to-follow teacher instructions. Our project kits can be sequenced to provide a scaffolded learning progression and build towards understanding topics and phenomena in more depth. Participants in this workshop practice using our kits and gain experience around interesting STEAM topics. This virtual workshop is ideal for those looking to develop progressions that cover a few days or several weeks. Workshop materials are sent to registered participants prior to the workshop. (3 hours)

THE TECH INTERACTIVE



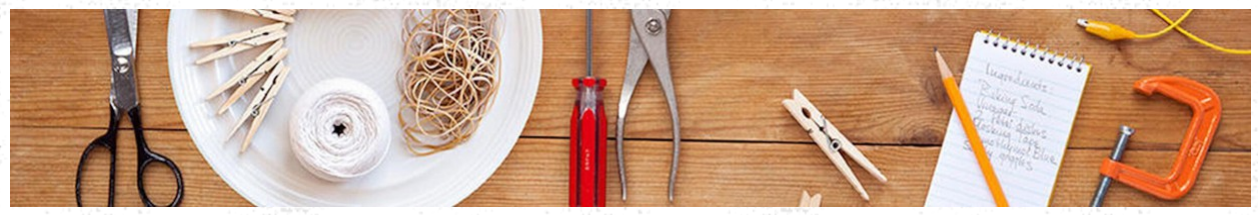
The Tech Interactive

VIRTUAL LEARNING AT THE TECH

[Virtual Learning at The Tech](#) | [The Tech Interactive](#)

The Tech At Home: [Fun STEAM Activities](#) | [The Tech at Home](#)

EXPLORATORIUM- LEARNING TOOLBOX



MONTEREY BAY AQUARIUM LEARNING AT HOME RESOURCES

Monterey Bay Aquarium

LOGIN FOR MEMBERS SHOP

VISIT ANIMALS JOIN & GIVE ACT FOR THE OCEAN FOR EDUCATORS

Learning at home

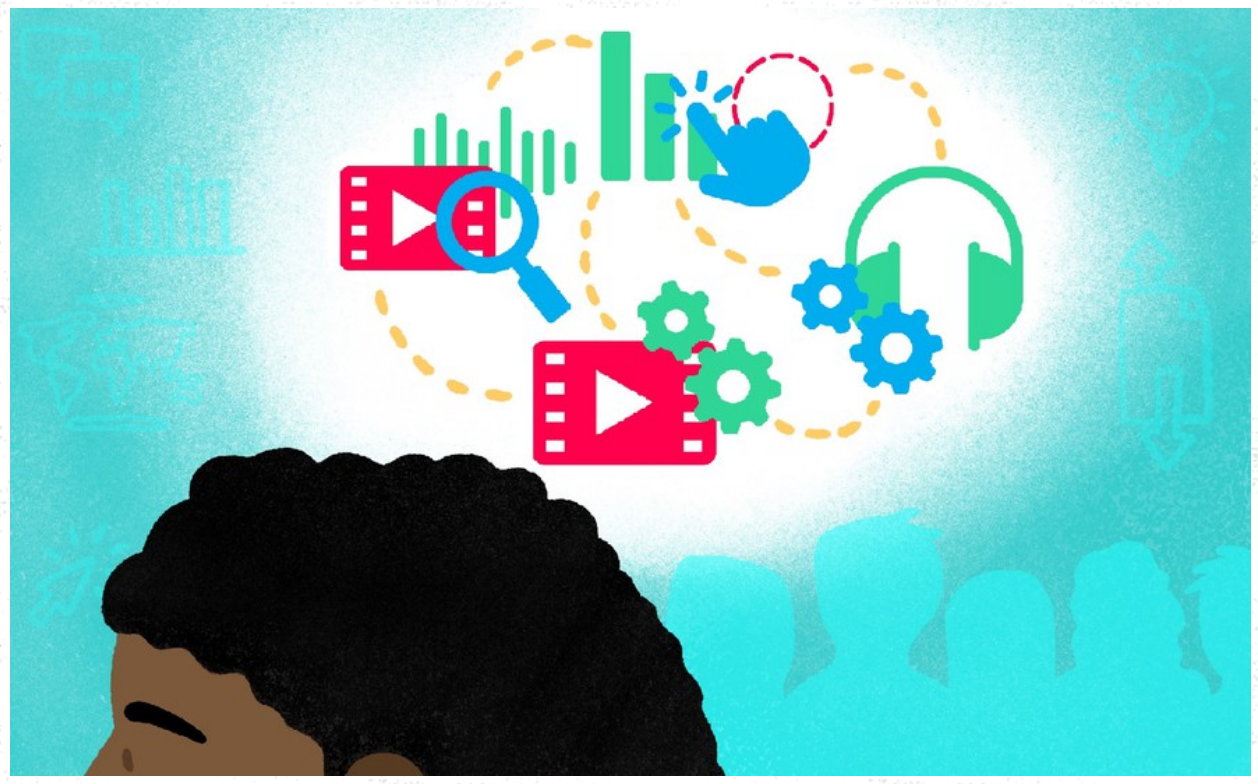
Support children's learning at home for grades PreK through 12.

These online courses and family-friendly science activities encourage a sense of wonder and connection to the natural world while teaching important science concepts.

© Love our educational resources? Support us with a donation.

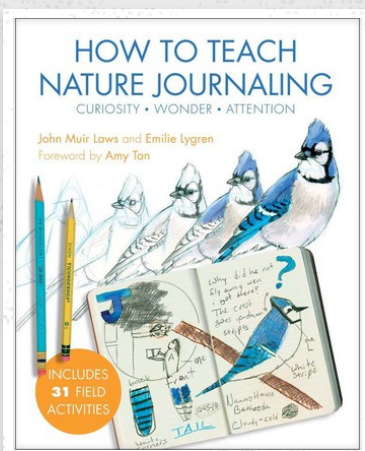
A screenshot of the Monterey Bay Aquarium website. The header includes the logo and navigation links for LOGIN, FOR MEMBERS, and SHOP. Below the header is a navigation bar with links for VISIT, ANIMALS, JOIN & GIVE, ACT FOR THE OCEAN, and FOR EDUCATORS, along with a search bar. The main content area features a blue banner with the text "Learning at home" and a white box containing the heading "Support children's learning at home for grades PreK through 12." and a paragraph of text. At the bottom of the white box is a small call to action: "© Love our educational resources? Support us with a donation."

KQED TEACH- MEDIA ACADEMY FOR TEACHERS



**REGISTER HERE FOR WILD WONDER FOR
TEACHERS**

WILD WONDER NATURE JOURNALING FOR TEACHERS CONFERENCE JUNE 21-22, 2021



Join John Muir Laws and Emilie Lygren—co-authors of the book [How to Teach Nature Journaling](#)—as well as other nature journaling educators from around the world for a two-day live online workshop, June 21-22, 2021, before the [Wild Wonder Nature Journaling Conference](#). You will come away from this workshop empowered with best practices and practical tools for teaching nature journaling, and you will be prepared to put them into practice with your students.

The goals of this workshop are to help educators:

1. Understand the fundamental principles and practices of nature journaling and be able to communicate its value to students;
2. Understand how nature journaling reinforces language arts, visual arts, math, science, social-emotional learning, and more;

3. Feel empowered with the tools and confidence to teach nature journaling in your own setting, whether that's homeschool, adult education, a traditional classroom, or online learning;
4. Learn how to give appropriate feedback that reinforces a growth mindset;
5. Experience nature journaling activities specifically adapted for online teaching; and
6. Connect with and learn from other nature journaling teachers.

*****Scholarships are available*****

REGISTER HERE FOR WILD WONDER NATURE JOURNALING

WILD WONDER NATURE JOURNALING CONFERENCE JUNE 23-27, 2021



Thanks to the dedicated work of our team and the generous support of our partner and sponsors, we are thrilled to offer our third annual Wild Wonder Nature Journaling Conference in 2021! The event will be 5 full days, with a rich schedule of classes, panels, lectures, nature journaling challenges, social time, journal sharing, and an online auction. Please see below for more details on the event including our amazing line up of teachers and speakers. **NOTE:** The best way to be sure you receive the latest updates on this event is to [sign up for John Muir Laws' mailing list here](#).

What is the Wild Wonder Nature Journaling Conference?

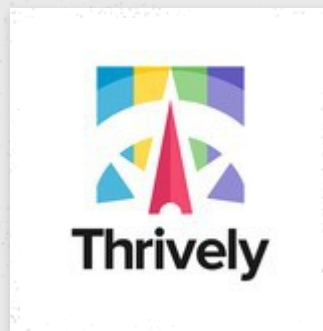
John Muir Laws and the [Nature Journal Club](#) are thrilled to partner with [The Foster](#) to host **Wild Wonder Nature Journaling Conference**, an annual event that gathers people who are passionate about nature, art, science, curiosity, and wonder to share ideas, learn from each other, support each other, inspire each other, and have fun together in nature's beauty.

Why "Wild Wonder?"

We chose this name for many reasons. We chose **Wild**, because nature journaling connects us with the **wild** of nature, and **wild** because we feel **wild** and free when we journal, and we also wanted our conference name to give a nod to poet Mary Oliver, who asked in her poem ["The Summer Day"](#): "What

is it you plan to do with our one **wild** and precious life?" The name includes **Wonder** because paying close attention to nature brings **wonder** as in curiosity (I **wonder**...?) and **wonder** as in awe.

CLICK HERE TO EXPLORE THRIVELY LEARNING EXPERIENCES



THRIVELY

**Ignite creativity with ready to integrate learning experiences.
Engage your students with**

- STEM/STEAM
- Social-Emotional Learning
- Project-Based Learning, Work-Based Learning

[CLICK HERE TO EXPLORE THRIVELY LEARNING EXPERIENCES](#)

SCCOE & VALLEY WATER ENVIRONMENTAL LITERACY LEADERSHIP COHORT-INTEREST LIST

SCCOE and Valley Water Education Outreach is partnering to provide a series of workshops for a cohort of 5th and 6th Grade teachers, TOSAs, and Instructional Coaches, where you will learn about infusing water-focused, NGSS based lessons and projects into your teaching and you will be able to earn a small stipend when the project is completed. Projected start time:

September 2021 and applications will be available in Summer 2021

Please complete this form if you are interested in applying for this program:

<https://forms.gle/am5kb9qA3JUQcQKr9>

CALIFORNIA SCIENCE EDUCATION (CASE) CONFERENCE



[CLICK HERE TO LEARN MORE AND REGISTER](#)

ENVIRONMENTAL LITERACY PARTNER WEBSITES

NEW ENVIRONMENTAL LITERACY COMMUNITY BASED PARTNER HUB

caeli.greenguardians.com



SCCOE

<https://www.scc-enviro-ed.org/>



WALDEN WEST

<http://www.waldenwest.org/>



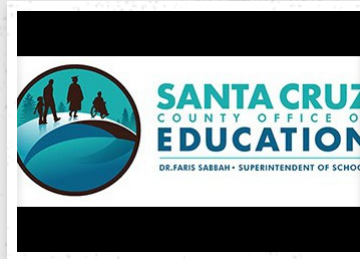
CAELI

<https://ca-eli.org/>



SMCOE

<https://eeproviders.smcoe.org>



SANTA CRUZ COE

<https://sites.google.com/view/environmental-literacy-for-all/professional-learning>



SJCOE

<https://www.sjcoescience.org/environmental-literacy.html>



VALLEY WATER

<https://www.valleywater.org/>
Distance Learning Resources:
[Distance Learning NEW FOR 2020 | Santa Clara Valley Water](#)



EVOLS

<https://www.evols.org/>
Distance Learning and COVID Modified Resources:
[2020/21 Programs \(COVID Modified\) | Environmental Volunteers - Environmental Volunteers \(evols.org\)](#)



LIVING CLASSROOM

<https://www.living-classroom.org/>

MORE ENVIRONMENTAL LITERACY RESOURCES AND PARTNERS FEATURED ON THE SCCOE AND SMCOE ENVIRONMENTAL LITERACY WEBSITES ABOVE.



Santa Clara County
Office of Education

ISTEAM- SCIENCE & ENVIRONMENTAL LITERACY

@sccoe

The mission of the Science Department is to provide service and support for all educational stakeholders. We offer workshops, conferences, and student events that promote the Next Generation Science Standards (NGSS).

Science explores and explains phenomena around us. It is a way of gaining, organizing, applying, and conveying knowledge of that phenomena. Having science as one of the core contents in K-12 education is vital as it influences our culture and has allowed society to flourish.

1290 Ridder Park Drive, San J...

pleggett@sccoe.org

4084536587

sccoe.org/isteam/science/Pa...

SCCOE SCIENCE GOOGLE WEBPAGE

For even more resources, workshops and upcoming conferences, please visit our webpage. We are updating this weekly. Please also let us know if you have any events or workshops that you would like to share.

APPLICATION FORM

Stipends Available- Fellowship Begins August 2nd, 2021