

SCIENCE EDUCATION DURING COVID-19: IMPLEMENTING NGSS WITH DISTANCE AND BLENDED LEARNING



TODAY'S PRESENTERS

- Eric Hauck - K-12 Science Instructional Coach
- Dr. Heidi Schweingruber - Director of the Board On Science Education (BOSE)
- Dr. Leena Bakshi - Founder of STEM 4 Real and a member of the board of California Science Teachers Association (CSTA)
- Scott Shepherd - K-12 Access Project Coordinator for Parks Online Resources for Teachers and Students (PORTS)

WELCOME!

ERIC HAUCK
K-12 SCIENCE INSTRUCTIONAL COACH



GENERAL UPDATES FROM AROUND CALIFORNIA:

- Digital Divide
- LAUSD / CDE
- Learning In Places
 - <http://learninginplaces.org/>
 - <https://k12playbook.ccee-ca.org/>
- WestEd Science Learning During COVID-19 and Beyond Webinar, Recorded: 6/26/2020
 - [Recording](#) and [Slide Deck](#)
- [School2Home – Parent Training Modules](#)
- Work has been done, but more is needed
- Leveraging all forms of communication
- Leveraging students' surroundings

SCIENCE EDUCATION CAN'T FALL TO THE WAYSIDE

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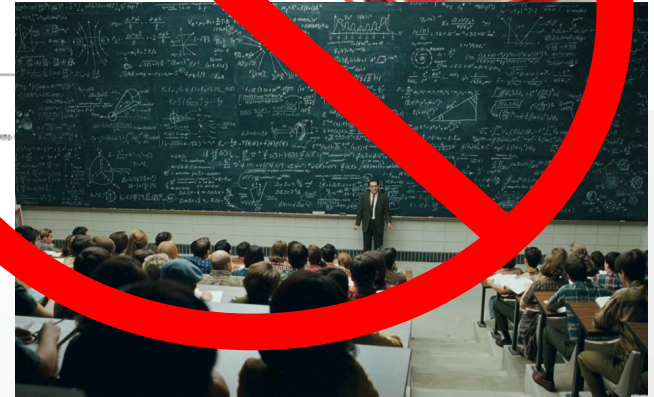
LEARNING SCIENCE AT A DISTANCE: POSSIBILITIES AND PITFALLS

HEIDI SCHWEINGRUBER
BOARD ON SCIENCE EDUCATION
NATIONAL ACADEMIES OF SCIENCES,
ENGINEERING AND MEDICINE



HOW DO WE LEARN?

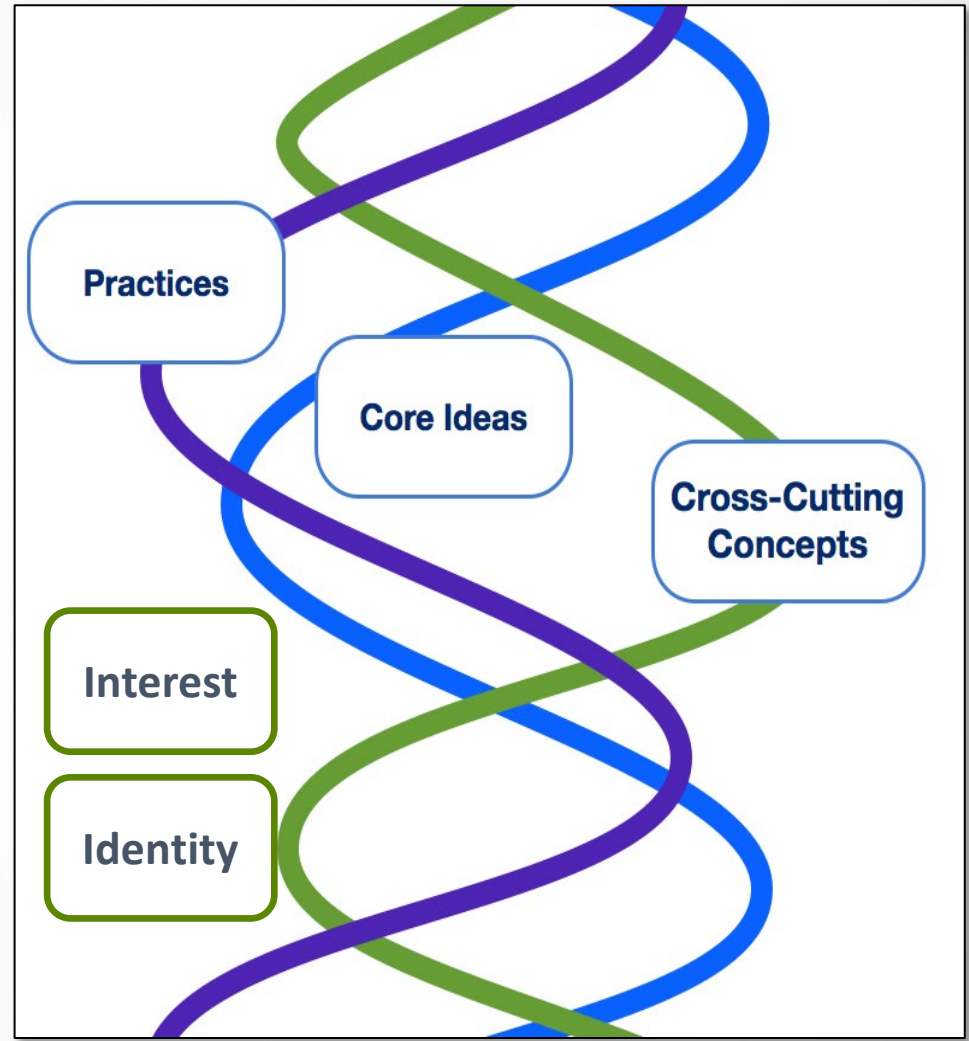
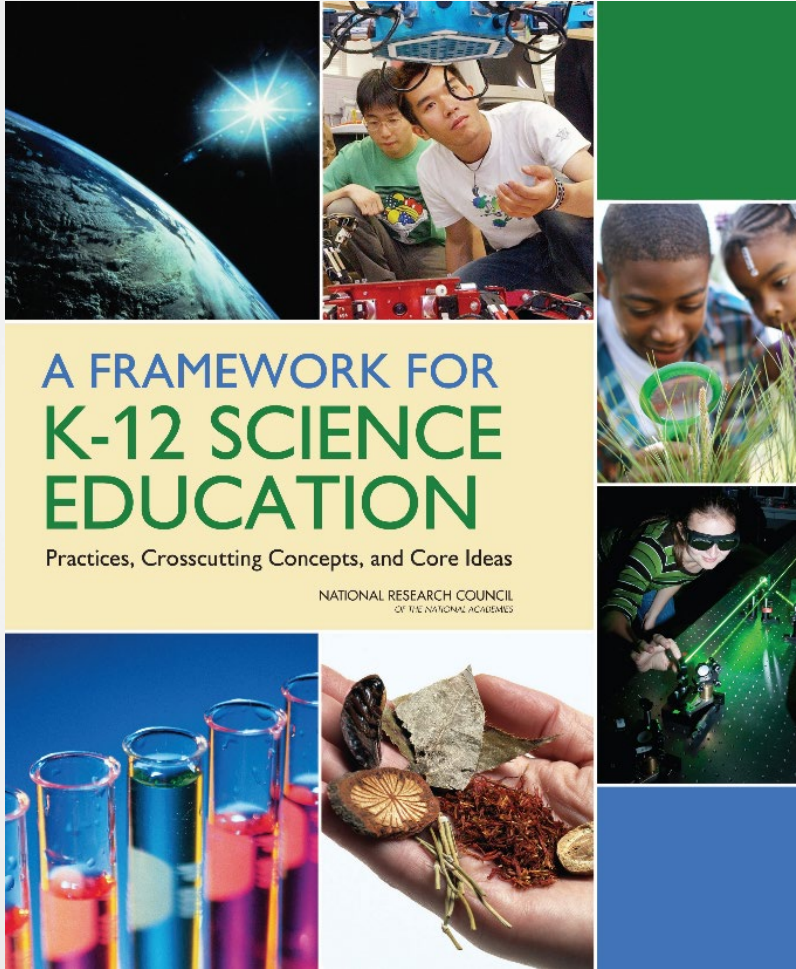
- Learners actively construct their knowledge
- Expertise is more than knowing a lot of facts



- To learn science and mathematics students need to DO science and mathematics
- Relevance and interest matter



THREE-DIMENSIONAL LEARNING



How does this look?

Instruction is anchored in phenomena and problem solving:

- Students ask questions, participate in discussions, create artifacts and models to show their reasoning, and continuously reflect and revise their thinking.
- Teachers guide, frame, and facilitate the learning environment to allow student engagement and learning.



WHAT STEM EQUITY LOOKS LIKE

DR. LEENA BAKSHI

FOUNDER OF STEM 4 REAL AND A MEMBER OF
THE BOARD OF CALIFORNIA SCIENCE
TEACHERS ASSOCIATION (CSTA)



ABOUT DR. LEENA BAKSHI



- Math, Science Health Teacher
- Instructional Coach
- County Administrator
- STEM Education Researcher
- Founder, STEM4Real



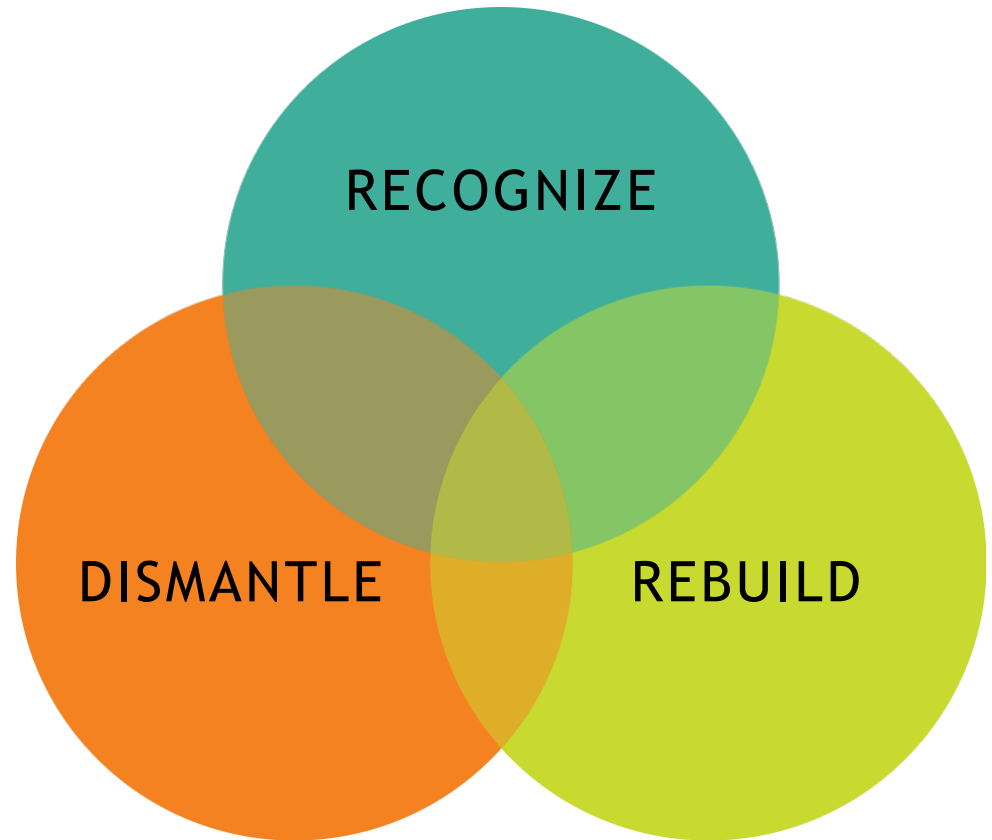


Our Mission

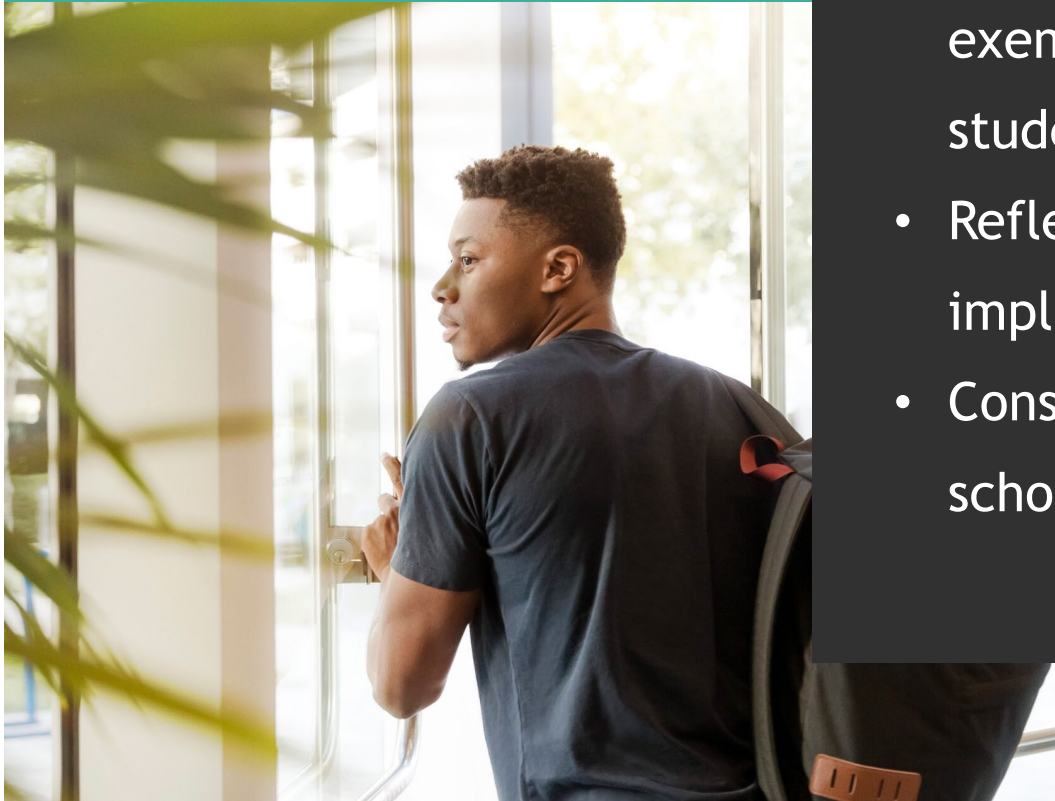
To LEAD 4 Justice #4Real
We recognize and dismantle systems that do not serve our students and we rebuild equitable systems that foster quality and rigorous STEM learning for every student.



WHAT STEM + EQUITY LOOKS LIKE



RECOGNIZE



- Research case study students that exemplify our mission for every student.
- Reflect on our own identity and implicit bias
- Consider our historical contexts in school education (digital divide)



DISMANTLE

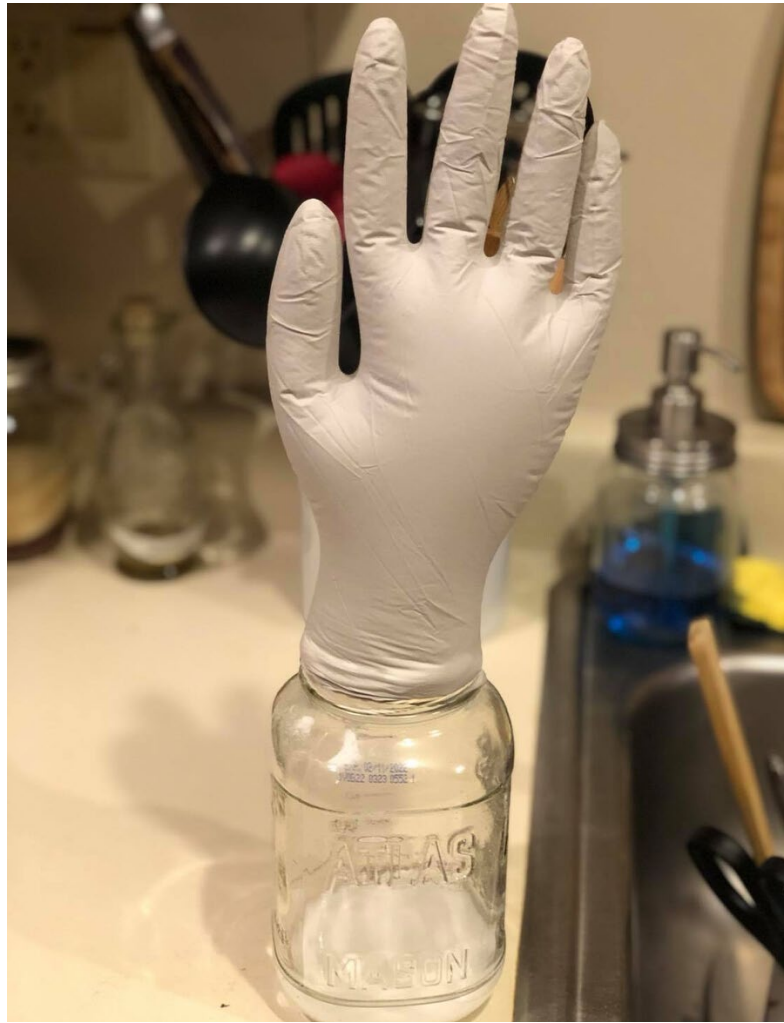
- Diversify your curriculum and instruction
- Conduct an audit of inequitable systems
- Stand up and speak up by having courageous conversations



REBUILD

- Decolonize your learning spaces
- Build your Justice League for leadership and decision making
- Connect and reconnect with families as allies





- Identity and culturally responsive STEM teaching
- Representation, culture and diversity in STEM Education
- Science during distance learning
- Partnering with parents and families to conduct science education at home (digital divide)
- Questions to pose to LEAs

ARE WE LEADING 4 JUSTICE?



Is science being taught? If so, how regularly?

Ensure that science is not forgotten and stands as an equal subject next to Math and ELA



How are we connecting with families to facilitate science learning at home?

Discuss the digital divide and how we can embrace our families as allies



How are teachers getting professional learning in culturally responsive and anti-racist teaching?

What does standards-based, culturally responsive teaching look like?



What is Human Resources doing to recruit and retain teachers of color?

Lack of diversity in our teaching workforce leads to lack of role models for our student demographics



- CSTA + STEM4Real https://cascience.org/download_file/view/407/454
- “If you Listen, We Will Stay” by the Ed Trust West and TeachPlus.org:
https://teachplus.org/sites/default/files/downloads/teachers_of_color_retention_.pdf Look up the Indigenous Land <https://native-land.ca/>
- White Fragility: https://www.uua.org/sites/live-new.uua.org/files/diangelo-white_fragility_and_the_rules_of_engagement.pdf
- The Privilege Walk:
https://www.uh.edu/cdi/diversity_education/resources/activities/pdf/privilege-walk.pdf
- The Implicit Bias Test (Harvard): <https://implicit.harvard.edu/implicit/takeatest.html>

RESOURCES





Thank you!



WEBSITE

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EMAIL ADDRESS

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PHONE NUMBER

(909) 702-0674

SCHEDULE A CALL!

<https://calendly.com/stem4real/sitepd>

CONNECTING SCIENCE TO NATURAL, CULTURAL, AND HISTORIC RESOURCES

SCOTT SHEPHERD

K-12 ACCESS PROJECT COORDINATOR FOR
PARKS ONLINE RESOURCES FOR TEACHERS
AND STUDENTS (PORTS)





PORTS

Parks Online Resources for Teachers and Students ®

PORTS provides K12 students the opportunity to connect with the diverse cultural, natural, and historic resources of our State through virtual field-trip experiences in our California State Parks.

Parks Online Resources for Teachers and Students

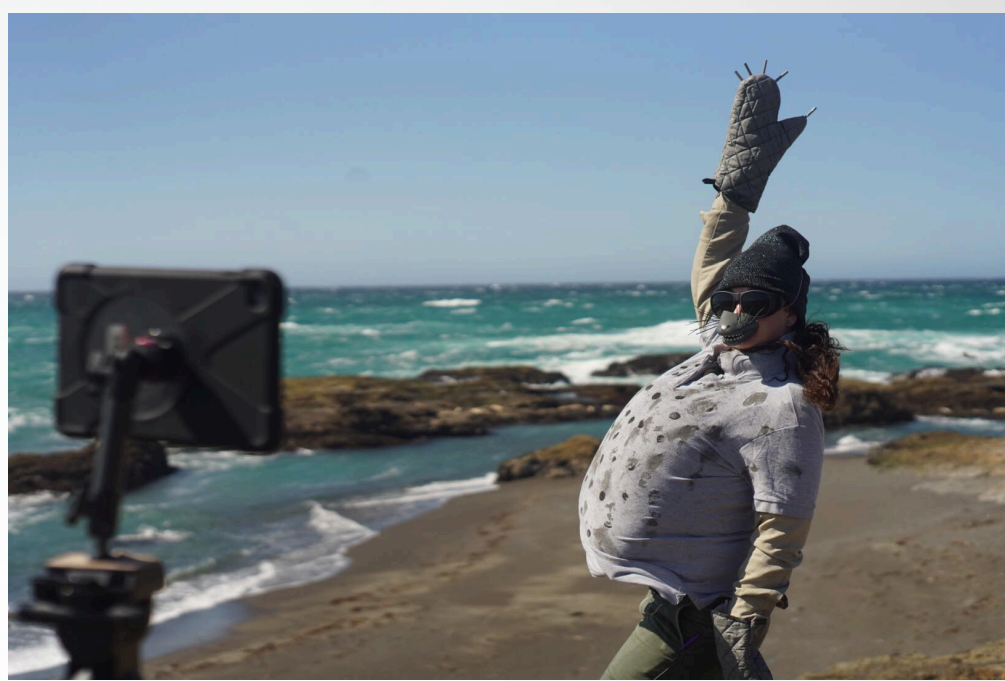
Created to engage a broad, diverse K-12 audience

Provides real time and curated access to park resources and experts

Delivers educational content while promoting park values

Creates meaningful real world experiences

All resources are FREE





Parks Online Resources for Teachers and Students

California State Parks' first Flagship Live Interactive Videoconference

Surpassed 500,000 students engaged since inception



Growing demand as pedagogy evolves towards greater

Partnerships have always been key to our success

- **March 13th**
Schools Out
- **March 19th**
First Home Learning Program
- **March 23rd**
PORTS On-Demand Programs Start
- **April 6th**
30 programs a week for up to
1000 families/hour
- **Currently**
10,000+ Families and Students per week



New Website

www.ports-ca.us

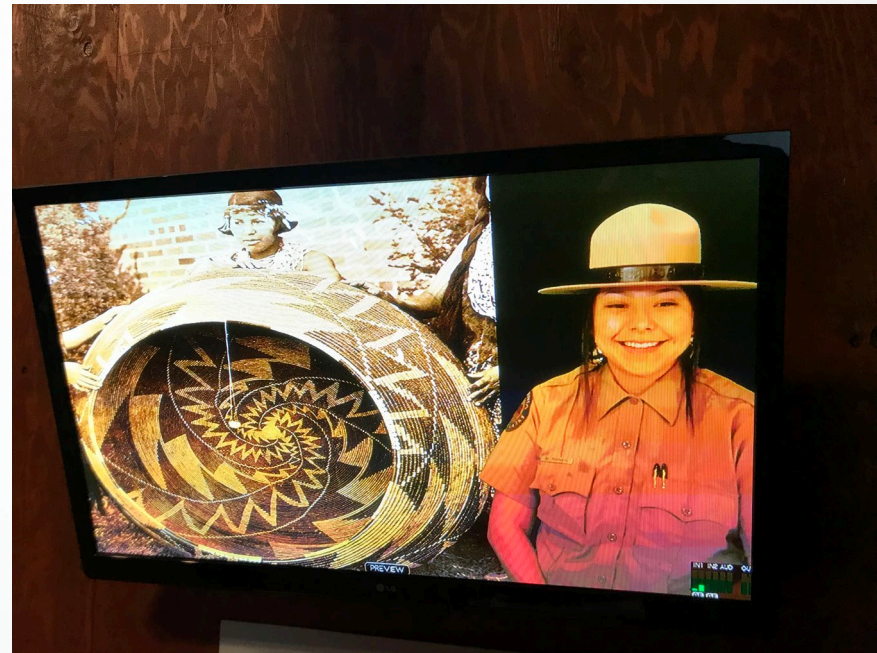
<https://www.ports-ca.us/teachers>

Home Learning Program

On-Demand Programs

Teacher Resources

Archived Broadcasts



**THANK YOU FOR JOINING US
TODAY.**



RESOURCES FROM THIS PRESENTATION

This presentation will be posted to CSBA's website and a link will be sent to all registrants.

- [**CSBA:** For more information on CSBA's STEM work, please click here.](#)
- [**Learning In Places**](#)
- [**CCEE:** Distance & Hybrid Learning Playbooks to Support California LEAs](#)
- [**WestEd** Science Learning During COVID-19 and Beyond Webinar, Recorded: 6/26/2020 | Recording and Slide Deck](#)
- [**School2Home** – Parent Training Modules](#)
- [**CSTA + STEM4Real**](#)
- [**“If you Listen, We Will Stay” by the Ed Trust West and TeachPlus.org**](#)
- [**White Fragility**](#)
- [**The Privilege Walk**](#)
- [**The Implicit Bias Test \(Harvard\)**](#)