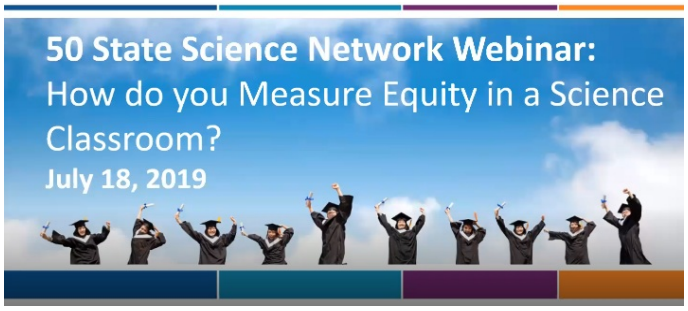
NGSS NOW

7 things to know about quality K-12 science education in **August 2019**

1 Webinar: How Do You Measure Equity in a Science Classroom?

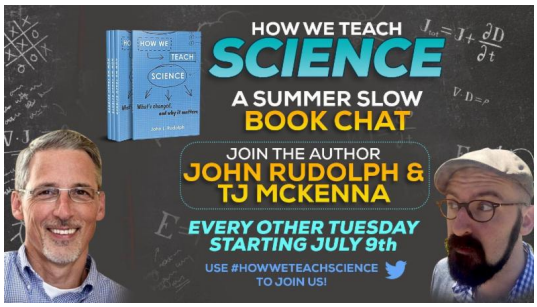


Achieve hosted a webinar in July for the 50 State Science Network about how we can use data (beyond state assessments) to move toward more equitable science classrooms. Dr. Deb Morrison of the University of Washington shared her work on Practical Measures, which provide a way to measure both activity in the classroom and how students experience that activity. This allows teachers and leaders to gather data about some of the more difficult-to-measure indicators laid out in NASEM's recent report, *Monitoring Educational Equity*. These student surveys can provide actionable data about student engagement with learning phenomena, connections to science practices, perceptions of science, and frequency of particular actions in the science classroom. Parallel teacher surveys can also be distributed to see potential differences in perception of activities and experiences in the science classroom. STEM Teaching Tools will soon be releasing an Implementation Guide for Practical Measures.

2 Upcoming Webinar: Using the NGSS to Change Worlds

Join Achieve's Matt Krehbiel and the National Association of Geoscience Teachers for a webinar - Using the NGSS to Change Worlds - on Thursday, September 12 at 4 p.m. ET. Matt will discuss how the NGSS and similar standards based on the research of the *Framework for K-12 Science Education* provide a unique opportunity for science educators to change their world and the worlds that their students perceive. He will also share resources that Achieve has developed in the past year as part of ongoing efforts to support educators in their efforts to bring three-dimensional science education to their students. You can register for the free webinar here.

3 Summer Slow Book Chat on Twitter

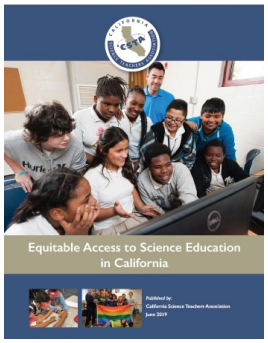


TJ McKenna of the University of Connecticut and ngssphenomena.com is hosting a slow book chat on twitter this summer about *How We Teach Science*, a book by John Rudolph, which examines the history of science education, what's changed, and why it matters. Join the hashtag #HowWeTeachScience twice a month on Twitter to follow the conversation or participate in the online book club. If you're interested in another book study targeted to science educators, check out this opportunity to read and discuss *How Climate Change Comes to Matter*.

4 Blog Post: Modeling How Students Can Share Ideas and Make Sense of Phenomena

Aaron Mueller, a science educator in Naperville, Illinois and member of Achieve's Science Peer Review Panel, writes on the NSTA Blog about the importance of building student confidence in sensemaking in the beginning of the year in a science classroom. He emphasizes creating an atmosphere where students feel comfortable sharing their ideas, are unafraid of saying the "wrong" thing, actively engage in discourse, and have ownership in their own science learning.

5 Equitable Access to Science Education in California



The California Science Teacher Association released a paper that details the challenges of bringing equitable access to science education to all California students. The paper includes information about student needs and barriers to equitable access, teachers' needs to improve practice in support of underrepresented students, why district and school leaders must make equitable access to science education a top priority, and ends with providing recommendations for school district administrators and principals to move their science programs toward providing equitable access to all students.

6 Back to School: Resources Reminder

As we gear up to begin another school year, don't forget about these great resources that are freely available to support high-quality, three-dimensional science learning!

- NGSS Parent Guides: A suite of parent resources (also available in Spanish) that illustrate how the standards are a powerful foundation to help students build a cohesive understanding of science over time. The parent guides are available for Grades K-2, Grade 3-5, Grades 6-8, and Grades 9-12.
- NGSS Overview for Principals: This document introduces principals to the NGSS and provide a general overview of the key instructional and conceptual shifts required by the NGSS.
- NGSS Appendices: The NGSS Appendices provide a wealth of background and detail about the

standards, along with some implementation models.

- NGSS Quality Units and TAPS: Using the quality units that have been vetted by the Science Peer Review Panel and the detailed feedback that goes along with each unit (15 great units across K-12 and more coming soon!), or the resources that are a part of the Task Annotation Project in Science (TAPS) is a great way to up your NGSS game for the upcoming school year!

7 From Education Week: Don't 'Steal the Aha' From Science Instruction

Check out the response from Linda Tolladay, a 30-year secondary science teacher from California, to Larry Ferlazzo's question of the week: *What are the biggest mistakes made in science instruction and what should teachers use instead?*

"Teachers need to create lesson sequences in which students first connect with a phenomenon and then are provided with opportunities to explore and explain pieces which lead to a coherent understanding of that phenomenon. This is vastly different from the world of science lectures followed by a confirming lab that epitomized the science learning experiences for many of us currently teaching science. But it is a shift that makes all the difference for students."

NEXT GENERATION SCIENCE STANDARDS
For States, By States