October Theme of the Month

Call to Action for Science Education: How Teacher Leaders Can Help
October 28th at 7:00PM EDT

Resources Mentioned During Webinar and Webinar Chat

Resources

- Presentations Slides
- Call To Action For Science Education Website
- National Academies Reports
  - Call to Action for Science for Science Education
  - Science and Engineering in Preschool Through Elementary Grades The Brilliance of Children and the Strengths of Educators
  - A Framework for K-12 Science Education
- Science + Education Collaboratory
- Database of phenomena resources created in partnership with local scientists and educators

Webinar Chat

Kim Descoteaux : Welcome everyone! Please introduce yourselves by putting your name, location and role in the chat.

Judie B : Hi Everyone! I am Judie coming to you from Georgia where I am a K-5 Science Coach.

Sharon B : Hello. I'm Sharon Bowers from Yorktown, VA.

Juan R : Hello! My name is Juan D. Rodriguez, a graduate student from Emory University, Atl GA.

Pam F : Hello! I’m Pam from Houston, TX. I am the Elementary Science Coordinator in Cypress Fairbanks ISD

Sharon B : I am the Senior STEM Education Specialist from the National Institute of Aerospace.

Tiffany Neill : Twice in one day Jodi? It makes my week to get to hangout with you virtually!

Kathy R : hello Kathy from Milford
Emily M: Hi I’m Emily Mathews, I work in Evanston and Chicago, IL. I work with informal and formal educators as a Senior Program Coordinator at a research center called Science in Society. Excited to be here!

Jodi P: Jodi Peterson, NSTA, Dir of Legislative Affairs

Heidi Schweingruber: Hi Emily -- Evanston is my home town!

Brian F: Brian Foley, Teacher Education at CSU Northridge

Star s: Star - Heidi’s NAS fellow Penn State grad student.

Emily M: Hi Heidi! It’s raining here tonight.

Jeff W: Jeff Winokur from Massachusetts

Ibidunni O: Hello, I am Ibidunni Osundare. I am an America Sign Language faculty at University. I will work on the Ed.D application this December 2021 Thanks :0)

Sarah C: Hi Everyone, I’m Sarah Clancey a graduate student at the University of Washington

Jodi P: how nice Tiffany

Ibidunni O: I live in Pennsylvania :0)

David L: Hello, I am David Lockett, K-16 Outreach @ School of Applied Computational Sciences

Heidi Schweingruber: Full disclosure -- I drew heavily on the report itself to write the blog!

Tiffany Neill: Welcome everyone! So glad to have you with us tonight to hear more about the Call to Action for Science Education and we can all use our voices to advocate for better and more equitable science education for students!

Kim Descoteaux: Welcome to this webinar being hosted by the STEM teacher leadership. https://stemtlnet.org/ The site was created to empower teacher leaders to improve schools, effect policy and re-envision the future of STEM teaching and learning. Funded by NSF #1932761. Opinions expressed on this site are those of the contributors and not necessarily those of the National Science Foundation.

Elizabeth P: Elizabeth Petersen, St. Louis, MO

Lisa H: Lisa Holt-Taylor

Carolyn H: Hello! Carolyn, STEM Specialist with the RI Dept of Ed

Frank L: Frank Lock, Gainesville, GA

Lisa H: Cinti ohio

Kathy K: Hello from New Jersey

Lynn R: Hello! from the Exploratorium, San Francisco
Hamza M : Hello from UMass Dartmouth!

Betsy S : Hi, I'm Betsy Stefany from NH, Coordinator of STEM Literacy Community of Practice a continual project of The SABENS Group form a successful MSP.

Kathy R : iHi Tiffany

Tiffany Neill : Hi Kathy! So good to see you hear tonight!

Tiffany Neill : here

Kathy R : Heidi I am am sure both you and Tiffany will be awesome!

K. Renae P : K. Renae Pullen from Shreveport, LA! Happy almost Friday everyone!

Tiffany Neill : Hello K. Renae! Hope all is well in LA!

Elizabeth P : Yeah! I’m so glad there is more emphasis on science now!!

Emily M : Yes, me too @Elizabeth

Carolyn H : Looks like my bookshelf!

Nancy Hopkins-Evans : Mine too, Carolyn

Tiffany Neill : + 1 Carolyn Higgins!

Kathy R : Looks very familiar!

Tiffany Neill : Remember they are all free report and practitioner guidance documents you can download!

Kathy R : Yes Heidi!

Lisa H : Where can you download these

Kathy R : The Prek_5 report is so very important

stars : https://www.nap.edu/catalog/26152/call-to-action-for-science-education-building-opportunity-for-the


stars : There you go

Jennifer B : I used the framework in every graduate level class ever

Pam F : Used the Framework to revise our State Standards

Emily M : I’ve used the Framework to help others understand what is appropriate for different ages to understand and know in the three dimensions.

stars : https://www.nap.edu/resource/other/dbasse/cta-science-education/ The website
Carolyn H: Book studies with teachers. Sometimes discussion helps everyone process all of the details.

Kathy R: I have used those reports at the state level when I was state science assessment in Vermont. I continue to bring to use the reports in my work for the Wade Institute.

Jeff W: I use the Framework to help explicate the standards with teachers.

Kathy K: Use the framework to revise scope and sequence.

Chelsea C: I have used excerpts from many of the texts shown in professional learning sessions with educators across TK-12. Starting with How People Learn and How Students Learn Math and Science.

K. Renae P: I’ve used the NASEM reports as justification for science resources and support. Love throwing that research on the table.

Betsy S: I direct our continual CoP to know what research is available to them.

Judie B: I use the the Framework to help teachers understand the Science Standards.

Erin G: DDI assessment probes aligned with the standards.

Kenneth H: Infographics for some of these reports are excellent to begin conversations with various shareholders. Thank you.

Brian F: HPL has been part of our master’s program for years. The NGSS framework is useful to explore the origins of the SEPs and CCCs.

K. Renae P: @Brian I love HPL too!

Jessica H: Agree Tiffany! The ability to use the reports and research to inform priorities and establish a common vision for science across a myriad of stakeholders has been critical in my work.

Carolyn H: Support for new programs. Showing actual data from a verified source is powerful in helping people make favorable decisions.

Jessica H: Dr. Nancy is ALWAYS #teamscience!

Tiffany Neill: Here is a link to the slide deck, which will also be placed on your resource board after the webinar tonight.

https://docs.google.com/presentation/d/1xG55mYyq7jc6mdtsp5Y1tNAP07P9uTtz/edit#slide=id.p1

Carolyn H: TY Tiffany

Emily M: As this call to action is more widely read and understood, do you think the focus of funding solicitations will shift from workforce to increased participation in democracy and daily life?

Kathy R: YES! Nailed it!
Tiffany Neill: If you look at some of the reports on slides 5 and 6 that Heidi spoke of, you can look them up online and download them for free.

Heidi Schweingruber: @Emily -- that is the hope. And we are doing work to engage with federal agencies and foundation to make that happen.

Emily M: 😊

Brian F: Inoculate students against pseudoscience!

K. Renae P: Oooo, I love this slide. I'll be using it a bunch in the future. (with attribution of course 😊)

Joni Falk: Agree with you Brian Foley!

Chelsea C: Since so many people mentioned HPL in the chat, HPL 2 is a must read as well - adding new research and two additional key findings; Culture fundamentally shapes all aspects of learning and An individual's motivation, goals, beliefs, values, interests, and identities play an integral role in learning

Lisa H: Agree

Joni Falk: We will have these slides on STEMtlnet and will send them to attendees, along with the Chat and recording of the webinar.

Kathy R: I use the Framework all the time for my own learning as well as the learning of others

Betsy S: Science should consider that STEM is a new voice for science education that extends to join efforts from the work in DC of the Triangle Coalition that worked for years to join education, science and government.

Elizabeth P: I am seeing more elementary teachers starting to teach science/STEM now. We need teachers to teach, and assess in 3Dimensions now.

Nancy Hopkins-Evans: Same here Elizabeth

Frank L: Shifts - learn science by doing science

Jennifer B: Mastery performance based—not “test” based

Kathy R: Figuring out science ....I think we still need a great deal in PreK-5

Frank L: progress needed - more teachers skilled at facilitating learning science by doing science

Emily M: 3D teaching is not a simple task. Cultivating new teachers into NGSS leaders and building supports for new teachers needs attention too

Jeff W: We still haven't made enough progress in training teachers to teach science well

Kathy K: Veteran teachers need more professional learning support to deepen their understanding of 3D teaching and assessment
Ibidunni O: If you admit that we are working about Deaf and Hard of Hearing children and adults which support Educational standard this one of STEM by universe standards of Educations. It will be great.

Betsy S: Local communities are gaining a better understanding of how the domains fit form their perspective in the informal science at local sites.

Jessica H: We still have progress to make toward investing district and school leaders in the vision for science so that they can support teachers in shifting practice through high quality learning opportunities.

Judie B: I have seen more awareness of that science is not just a set of facts to memorize to viewing science as an action,

Carolyn H: For elementary, more PL is needed to build confidence in content

Wendi V: Seen more equitable opportunities to engage HS Ss in ALL science disciplines.

Lynn R: Emphasis on figuring out vs. learning about (but mostly this is happening with the early adopters). How do we get a broader range of teachers engaged with and understanding 3D learning.

Hamza M: How about informal places that teaches science, places outside the classroom.

Emily M: Yes @hamza. Informal educators need support too in making shifts

Betsy S: How many resources are described that expand the parents’ view from their closure of the classroom to expand the experiences of their own children at local resources/

Hamza M: Agree. Sometimes these informal educators are left behind when it comes to support.

Chelsea C: We need more credentialed teachers in these areas as well. We have districts that are making progress on this data and they are running into staffing issues to make their new vision a reality. How can we lift up education to attract a diverse workforce in the sciences?

Heidi Schweingruber: We are very interested in connecting with informal educators. We are exploring doing some kind of national convening to discuss how informal/out of school can help with the Call to Action.

Frank L: Bio is the most complex science. Physics is the basis for all science, Teaching order should be physics, chem. bio. Physics is the best science to use to help student learn by doing science.

Emily M: @Heidi I’d love to connect about that- I work with after school programs and would love to help improve informal resources!

Kathy G: What about Earth science? So important to know when trying to understand climate change.

Lisa H: We need teachers who love science teaching in the 6-Mar grade levels !!
Nancy Hopkins-Evans: Absolutely @kathy

Carolyn H: @Heidi we have a fantastic group of informal educators in RI who are looking for ways to ensure alignment. Especially since our LEAs will need to implement high quality curriculum materials (all free on edreports) in K-12 by 2025 So they need to align or they are not going to have schools enroll in programs

Pam F: Time and Teachers with Science Content Knowledge

Emily M: If teachers identify as scientists, they are much more comfortable teaching science. Increasing identity of teachers in K-5 as scientists

Nancy Hopkins-Evans: That’s exciting new Carolyn

Nancy Hopkins-Evans: news

Ibidunni O: Thanks for sharing information here. Wow! Some states have lacked educative subjects which the school classrooms and designs how to be fixable needing

Betsy S: Teachers can reach out to informal resources in their local sites informing them on topics that are gaps.

Wendi V: Pie in the sky for Ts/admin: redesign the work week/school week for time for teacher learning and collaboration, both with others in their district and communities, which includes families and non-traditional science orgs. Place matters.

Chelsea C: It is essential that we include shifts in mindset work along with skillset work into every professional learning session. Asking the tough questions about how the current system does not allow each and every student to thrive in science classrooms.

Nancy Hopkins-Evans: Chelsea, that is essential. We all need to be asking the tough questions.

Joni Falk: Well said Tiffany

Joni Falk: We all have power to effect change!

Joni Falk: I am so interested in STEM opportunity maps. Wonder how this will be implemented.

K. Renae P: Sometimes your local informal folks don't realize they could be advocates. Our local master gardeners have been great partners.

Ibidunni O: If the students are not able to develop their academic motivations, they have been held their appropriations when timetable skipped grades where the environments are.

Frank L: Re: alliances - work through existing organizations - in GA, Georgia Science Teachers Assn., Nation-wide - AAPT local sections

Wendi V: If you are in MI, state leaders are meeting tomorrow for elementary advocacy work. Let me know and I’ll send a zoom.

Nancy Hopkins-Evans: Exciting, Wendi... making it happen. Thanks
Wendi V: If you are a T and can’t connect, we can still loop you in differently!

Jodi P: NSTA will be doing a lot of work around this call to action and working w state groups and teachers. we would love everyone to join

Carolyn H: TY Heidi

Tiffany Neill: Link to the Call to Action for Science https://www.nap.edu/catalog/26152/call-to-action-for-science-education-building-opportunity-for-the

Nancy Hopkins-Evans: @Jodi, I am really excited about the STEM opportunity maps as well.

Chelsea C: I love documents like this report because I can use them to back up my opinions with research. :-) 

Heidi Schweingruber: @Jodi -- Yes, I meant to mention that NSTA is partnering on this next phase as we engage around the report and try to advocate at the national level. NSTA is going to develop a tool kit for advocating.

Nancy Hopkins-Evans: Chelsea, argument with evidence. Love it.

Emily M: I’m glad NSTA will be working on this too

Heidi Schweingruber: A Renae -- I love to hear that about master gardeners!

Heidi Schweingruber: We will turn to discussion -- Q & A and comments at 7:50pm. Be ready to share your thoughts and questions!

K. Renae P: I like that idea of more strategic partnerships with researchers!

Chelsea C: Our county office is working closely with PIs from UCSD and SIO - teachers learning from scientists and scientists learning from teachers to create Phenomena Resources - it has been amazing.

Heidi Schweingruber: @Renae -- I think we need to get more researchers to form close partnerships with educators on the ground.

Kathy R: hi Carolyn!

Carolyn H: Hello Kathy!

Susan Meabh Kelly: Related to action item 2 This created to help advance more useful BI initiatives: https://www.sciencepluseducation.com

Wendi V: Yes! I could not do my job w/our partnerships with researchers. It is key piece to the work.

Kathy R: Thanks K.Ranae..respecting the wisdom of the practitioner

Emily M: Yes @k. Ranae, working with researchers can be tricky without a good “liaison” between educators and teachers and researchers.

K. Renae P: I think it is an area where we as professionals can leverage more opportunities.
K. Renae P: I have seen a lot of awesome partnerships.

Heidi Schweingruber: Part of the work we are doing around sharing the report is to reach out to higher education. This gives me an idea about something we need to emphasize when we do that!

Susan Meabh Kelly: great!

Chelsea C: https://ngss.sdcoe.net/Environmental-Literacy/Environmental-Literacy-Phenomena-Summits/Summit-Design

Chelsea C: Link to database of phenomena resources created in partnership with local scientists and educators: https://ngss.sdcoe.net/Environmental-Literacy/Environmental-Literacy-Resources

Heidi Schweingruber: Really interesting idea -- I think pulling from some of the BOSE reports we could definitely put together something that gives more explicit guidance for administrators.

K. Renae P: How could admins support teacher leaders as they advocate?

Jodi P: great words Tiffany thanks

Kim Descoteaux: Visit https://stemtlnet.org/theme/october2021 to view the resources, and join in the online discussion. Tomorrow, we will have the recording, slides and chat posted as well

Wendi V: Thanks all. Some days it’s overwhelming, but you all have reminded me any step forward is good. Thank you for the time and efforts with this report. I so appreciate the work.

Frank L: Thanks for the information!

K. Renae P: Thanks everyone!

Jeff W: Thanks to all!

Ibidunni O: Thanks so much for all presentations. :0)

Lisa H: Thanks!

Carolyn H: Thank you for the great discussion

Emily M: Thank you!