



September 3, 2021

Dr. Linda Darling-Hammond
President, State Board of Education
1430 N Street, Room 5111
Sacramento, CA 95814

Honorable Tony Thurmond
State Superintendent of Public Instruction
1430 N Street, Room 5000
Sacramento, CA 95814

RE: State Board of Education September Agenda Item 10: Public Comment

Dear President Darling-Hammond and State Superintendent Thurmond:

On behalf of science educators, science professional learning organizations and STEM policy and advocacy organizations represented on this letter, thank you for your leadership and support for California's students throughout the COVID-19 pandemic. As the new school year begins, we take this opportunity to share our plans and commitment to work with you to meet the challenges and need for science education for our state's six million public school TK-12 students.

In July 2021, the National Academies of Sciences, Engineering and Medicine issued a [Call to Action for Science Education, Building Opportunity for the Future](#). This consensus report calls on the *Federal Government to Encourage Focusing Resources on High-Quality Science for All Students*, noting that "science knowledge and scientific thinking are essential for democracy and the future STEM workforce, yet science education is not the national priority it needs to be. High-quality science education gives students the opportunity to carry out investigations, analyze data, draw conclusions, and communicate results — skills that are increasingly valuable in today's workforce and society overall."

This report has been a catalyst for our organizations to join together to map out ways California can heed this call to action and become a national leader in promoting high quality, equitable science education for all students. Research demonstrates that K-5 students' academic performance in reading, writing, and science can simultaneously be increased when science and language development are woven together.¹ The Common Core State Standards (CCSS) as well as the Next Generation Science Standards (NGSS) call for teachers to integrate science and English language arts because of these benefits,² and the CCSS in both English Language Arts and Mathematics and the NGSS have commonalities among the practices, such as modeling, argumentation, and communication. NGSS-aligned science instruction is experiential and student centered, and this enables students with a diverse range of abilities to physically interact with their environments,

¹ Feldman, S. and Flores Malagon, V. (2017). [Unlocking Learning: Science as a Lever for English Learner Equity](#). The Education Trust-West. Oakland, CA.

² Tyler, B., Britton, T., Iveland, A., Nguyen, K., Higgs, J., and Schneider, S. (2017). [The Synergy of Science and English Language Arts: Means and Mutual Benefits of Integration](#). NGSS Early Implementers: WestEd.

cognitively engage with materials, and learn collaboratively.³ Science inherently recognizes the connections between students' social, emotional, cognitive, and academic development, a fundamental component of a whole child educational approach⁴ and a key lever for equity.

To that end, we have issued a ThoughtExchange survey to 500 California science educators and science leaders seeking their suggestions for creating equitable science education in California TK-12 schools. In October 2021, a planning group of about 40 will convene to analyze and synthesize the results and create recommendations to California policymakers.

We would be happy to provide you with an update on our progress after our October convening and welcome your partnership as we advance efforts to strengthen science education in California.

As we noted in a letter to you in May 2021, "As California continues progress in emerging from the pandemic, one of the clearest lessons learned from the experience over the last year is the critical role of science, science literacy, and the value of scientific inquiry in addressing COVID-19. We urge you to recognize this moment and take the opportunity to strengthen support for science education."

Thank you for considering our comments. Please reach out to any of us for additional information. of us for additional information.

Sincerely,



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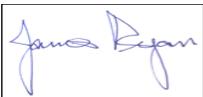
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³ [*Inclusion, Disabilities, and Informal Science Learning: A CAISE Inquiry Report \(2010\)*](#). Center for Advancement of Informal Science Education: Washington, D.C.

⁴ Darling-Hammond, L & Cook-Harvey, C. (2018) *Educating the Whole Child: Improving School Climate to Support Student Success*. Learning Policy Institute: Palo Alto, CA.