

NGSS NOW

7 things to know in August 2023



1

Three New High-Quality High School Units Posted



In the OpenSciEd *P.5 Electromagnetic Radiation* high school unit, students investigate the unconventional use of microwave ovens to store electronics. They explore wave behavior, interactions of matter with electromagnetic radiation, and how we can use these interactions in different technologies to digitize, store, and transfer information. In a culminating task, students apply these ideas to evaluate whether 5G technology is safe. The unit was awarded the [NGSS Design Badge](#) by NextGenScience's Peer Review Panel.

See the unit and the corresponding EQuIP Rubric for Science evaluation report [here](#).

In the OpenSciEd C.4 Chemical Reactions in Our World high school unit, students deepen their understanding of chemical reactions by exploring why oysters are dying and the impact that trend has on surrounding communities. Students break down this large-scale problem into a few key subproblems and then use chemistry to solve them. The unit was awarded the [NGSS Design Badge](#) by NextGenScience's Peer Review Panel.

See the unit and the corresponding EQuIP Rubric for Science evaluation report [here](#).





The *OpenSciEd B.4 Natural Selection & Evolution of Populations* high school unit focuses on the phenomenon of increasing urbanization around the world and the impact of that change on nonhuman populations. Through investigations with complex data sets, students figure out how genetic diversity in a population allows populations to adapt to changes encountered in urban environments. Students apply their knowledge of evolution by natural selection to explain why small, fragmented populations can be more vulnerable to change than large populations. The unit was awarded the [NGSS Design Badge](#) by NextGenScience's Peer Review Panel.

See the unit and the corresponding EQUIP Rubric for Science evaluation report [here](#).

2

New Blog Post: Customizing Cookie Recipes

In a recent landscape analysis report, teachers said that they frequently modify their science instructional materials to meet their students' needs and the needs of their school system. A new [On the Same Wavelength](#) blog post discusses findings from the report as well as the importance of supporting teachers to make informed decisions when they modify their lesson plans.

See the NextGenScience August 2023 blog post [here](#).



3

Making Science Connections Across the Curriculum



This video shares one way a Brooklyn, New York elementary school has taken advantage of students' curiosity about the world around them and natural connections from science and other content areas. The school dedicates one day each week to integrate science into every subject to boost student attendance, learning, and fun.

See the Edutopia video [here](#).

4

Justice-Centered Science Pedagogy for Pre-Service Teachers

This research article shares findings from a science methods course that used social justice projects for pre-service teachers to deepen understanding of justice-centered pedagogy and its role in the science classroom. Findings suggest that pre-service teachers who experience immersive justice-centered learning during their preparation programs will be more likely to provide similar experiences for their students in their science classrooms.

See the Journal of Science Teacher Education article [here](#).

5

What's the Purpose of Standards in Education?

“The movement for high academic standards—determinations of what students should know and be able to do across subjects and grade levels—promised to center teaching and learning on common themes across schools and raise expectations for all students. Standards have shaped the teaching and learning landscape in American schools, dictating everything from curriculum content to assessment design.”

See the EdWeek article [here](#).



6

How Families Can Boost Children's Interest in STEM



To address the underrepresentation of historically marginalized communities in STEM fields due to a lack of opportunities for youth, a research program engaged students and their families from these communities in STEM by providing museum visits, talks with scientists and engineers from their community, and at-home materials kits. This article shares findings from the program, including that engaging in the program strengthened students' beliefs about the relevance of science in their lives and that participating students were more likely to choose science activities outside of school.

See the NC State University article [here](#).

7

Elementary School Kids Get Just 18 Minutes of Science a Day. That Has to Change.

"Younger children who engage in in-class learning in tangible ways, conduct lab work to investigate scientific phenomena and run their own experiments are ultimately better prepared for high school classes like the ones I teach. This type of learning helps ignite passions in science and clarify difficult-to-understand concepts."

See The 74 article [here](#).



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