

NGSS NOW

6 things to know about quality K–12 science education in February 2022

1 Three High Quality Units Posted



In the New Visions for Public Schools' *Discovering New Worlds* high school unit, students investigate the possibility of finding another Earth-like home in our galaxy. Students develop a model to explain what makes Earth a habitable place for humans to live and use their models and explanations to argue from evidence about which exoplanet is most Earth-like in other solar systems. The unit was awarded the [NGSS Design Badge](#) by the NextGenScience's cadre of expert reviewers.

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



In OpenSciEd's *How Do Living Things Heal?* middle school unit, student learning is centered on making sense of the anchoring phenomenon of an injury that happened to a student that caused him to need stitches, pins, and a cast. Students investigate what their bodies are made of and how the parts of their body work together to be able to move, and develop a model of how the body heals. The unit was awarded the [NGSS Design Badge](#) by the NextGenScience Peer Review Panel.

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



In OpenSciEd's *Why Are Living Things Different From One Another?* middle school unit, students investigate the causes of muscle development to make sense of why some cattle are significantly larger than others. Students use these ideas to explain differences in other traits, figuring out that both environmental and genetic factors play a role in the differences we see among living things. The unit was awarded the [NGSS Design Badge](#) by the NextGenScience Peer Review Panel.

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

2 Blog Post: Way More Than an Answer Key

The newest post from NextGenScience's [On The Same Wavelength](#) blog explores why science materials explicitly designed to support teacher



learning are critical and describes some of the features of instructional materials that support both teacher *and* student learning.

See the post [here](#).

3 Climate Teacher Education Collaborative Webinar Series Launches

University of Washington's Climate Teacher Ed Collaborative is building on the ClimeTime Initiative to share resources and build capacity, including a webinar series launching this month. The first of the series will feature a discussion from Dr. Fikile Nuxalmo and Pablo Montesbe on the role of [Pedagogical Commitments for Climate Justice Education](#) in their work.

Register for the February 11 webinar [here](#).

4 Two New STEM Teaching Tools



Steps to Designing Justice-Focused Assessments in Science

This STEM Teaching Tool shares a step-by-step process for designing assessment tasks for today's science standards. The design process prioritizes justice-centered phenomena and scenarios to support students in using science knowledge and engineering design to address issues of equity.

See the STEM Teaching Tools Practice Brief 83 [here](#).



Bridging Climate Justice Learning and Action Across School, Home, and Community

This STEM Teaching Tool provides suggestions for educators to support students to make connections between climate change, its impact on communities, and issues around justice. The brief provides multiple resources for educators to feel empowered and comfortable to support students to talk more about climate change and climate justice in their science classrooms.

See the STEM Teaching Tools Practice Brief 84 [here](#).

5 For Equity and Justice, Start Where Students Are and Help Them Find Answers

This Concord Consortium blog post focuses on several teacher case studies on creating a more equitable and justice-centered classroom for their students. The blog focuses on topics such as designing

culturally relevant resources and increasing inclusion of diverse students in the STEM classroom.

See the blog post [here](#).



6 Curriculum Materials Designed for the Next Generation Science Standards Show Promise



Curriculum Materials Designed for the Next Generation Science Standards Show Promise

Initial Results From a Randomized
Controlled Trial in Middle Schools

Christopher J. Harris, WestEd
Mingyu Feng, WestEd
Robert Murphy, LFC Research
Daisy W. Rutstein, SRI International
January 2022
Research Brief Report

This recently published research brief highlights initial findings from an independent randomized controlled trial to evaluate the efficacy of middle school instructional materials that received high marks for their NGSS design in a review by EdReports. In the study, students were randomly assigned to one of two groups: an “intervention” group where teachers used the vetted materials for the study and a “control” group where teachers used their regular curricular units. While teachers in both groups targeted the same NGSS performance expectations, initial findings show that students in the intervention group significantly outperformed students in the control group on a series of three-dimensional items.

See the WestEd report [here](#).



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