High School Science for All

Increasing access to well-rounded high school science

Overview

The Oregon Department of Education has partnered with the Portland-Metro STEM Partnership (PMSP) and the Greater Oregon STEM Hub (GO STEM) to expand access to Patterns Science through the High School Science for All program. This program was designed to increase student access to science courses by providing an openly licensed, vertically articulated curriculum that has potential to align district pathways for students' science course taking. The primary focus for this partnership includes two main objectives:

Main Objectives

- **Improved Curriculum and Online Availability:** The first objective focuses on improving the quality, relevance, and accessibility of the curriculum for students already in Patterns Science classrooms. This includes a review of and edits to the curriculum with an emphasis on the Next Generation Science Standards (NGSS), Equity (BIPOC, emerging bilingual, rural, and students experiencing disabilities), arts integration, and youth accessing the courses through an online platform.
- **Expansion of Professional Development and Use of Curriculum:** The second objective focuses on reaching additional teachers, schools, and districts, primarily focusing on expanding equitable access to rural areas of the state and supporting an online structure to increase access for students. This work includes outreach and professional development for the three courses, centering both curriculum and instructional strategies, as well as a structure of professional learning communities for improving student discourse, supporting emerging bilingual learners, implementation leadership, equitable grading practices, integrated engineering, and understanding the vertical articulation.

To learn more about these courses, please email the Well-Rounded Access Program team at ODE.WRCoursesGrant@ode.state.or.us.

Patterns Science Design Principles:

1. Student-Centered Learning: Student scientists are placed at the center of each course, continually immersed in opportunities to explain phenomena and solve problems.

2. Collaboration: Student scientists make sense of the world through a systematic, collaborative process.

3. The Patterns Approach to Inquiry: Student scientists observe, understand, and use patterns and trends in physical and natural systems in order to predict the future, make data-informed decisions in the present, and understand the past.

4. The Patterns Approach to Engineering: Student engineers apply and deepen their knowledge of concepts by investigating problems and designing solutions.

5. Culturally Responsive: Phenomena and design challenges are selected so that student scientists find relevance in the connection between their identities/lives and classroom studies.

6. Differentiation: Every student scientist succeeds on differentiated, rigorous tasks.

7. Language Rich: Science content is taught in conjunction with language. Curriculum and instruction emphasize speaking, writing, interacting, reading, and listening, thereby increasing the academic language capacity of all students.

8. Three-Dimensional Assessment: A balanced and NGSS aligned system of formative and summative assessment provides frequent opportunities for teachers to monitor learning, make instructional adjustments, and assess learning. Assessment opportunities are clearly linked to the standards, and rubrics provide feedback, allowing students to track their progress.

Sign Up for Professional Development

As part of this partnership, Professional Development is not only **free to educators**, but many of the opportunities will **pay educators for their time** to participate. For more information about Professional Development or to sign up, visit Portland Metro STEM Partnership's Professional Development website.

Background and Funding:

In October 2020, Oregon received a five year, $9.8 million grant from the U.S. Department of Education to expand access to well rounded education courses.

In January 2022, ODE published a Needs Assessment that highlighted the importance of and current inequitable access to high quality, well rounded STEAM courses. This Needs Assessment, along with a year long engagement process, was the basis for ODE s decision to expand access to these courses, allotting $2 Million (approximately 20% of the total funding) for these efforts. This partnership is projected to continue through June 30, 2025.

More information about this program and to learn about other projects sponsored by this program, visit ODE s Expanding Access to Well Rounded Education webpage.

The content of this curriculum and professional development does not necessarily reflect the views or policies of the U.S. Department of Education, and does not imply endorsement by the U.S. government.