



STEAM Leaders in Elementary Schools

Participating Hubs

Greater Oregon STEM Hub
Columbia Gorge STEM Hub
Frontier STEM Hub
Portland Metro STEM Partnership
Umpqua Valley STEAM Hub

Goals and Deliverables

- **Leadership:** Develop a cadre of elementary STE(A)M leaders, including teachers and administrators, who:
 - Understand and value STE(A)M
 - Create STE(A)M goals and initiatives for their schools/districts.
 - Promote system change through support from administrators.
 - Develop grassroots support for STE(A)M within individual schools and school districts.
- **Science & STE(A)M Instruction:** Empower teachers to spend more time on science by building their comfort with NGSS, creating a repertoire of quality lessons and authentic experiences, and supporting connections to existing curriculum.
- **Networks & Collaboration:** Create a network of STEAM administrators and teacher leaders across the state, while also increasing cross-Hub collaboration.

Grant Overview

Elementary STEAM Leaders was created to recruit and support individual teachers or teacher teams who recognized the need to grow in their understanding of quality STE(A)M lessons/units aligned to NGSS and Common Core Standards, while developing momentum for STE(A)M education in their schools. The intended impacts of this project were to increase school and district value of STE(A)M and enhance teachers' ability to develop and implement quality lessons plans.

This approach included:

- Collaborative online workshops with classroom educators to develop an increased understanding of the value of STEAM.
- Creating and facilitating a network of STEAM teacher leaders across Oregon to grow support and collaboration.
- Integrating STEAM into classroom subjects to authentically engage students in problem solving, inquiry and project based learning skills.
- Assisting educators with aligning NGSS and Common Core standards with STEAM units.
- Fostering system change and school transformation – STEAM Champions develop a stronger STEAM presence in school curriculum and instruction.
- Improving educators' understanding of STEAM teaching and learning principles to increase educators' confidence and comfort level when implementing STEAM

in their classroom practice and school-wide.

Addressing Equity

The STEM Hubs utilized Oregon's Equity Lens throughout the program and professional development sessions. The project was firmly rooted in the belief that all students can learn. Grades K-6 were included to ensure that our earliest public-school students had opportunities to engage in STEAM. Feedback from participants was collected after each professional development session to modify strategies and ensure educator and students needs were met, including both classroom implementation and populations served.

Except for PMSP, participating schools were from counties with 41%-100% rural populations as indicated in Oregon by the Numbers. Students living in rural areas experience major barriers to learning including broadband access and availability of other resources. The PMSP cohort focused on schools with higher percentages of students receiving free and reduced lunch, as well as higher percentages of students of color served. Urban students in less resourced communities also experience barriers to hands-on STEAM experience. Elementary STEAM Leaders aimed to support teachers to provide engaging, rigorous, and high-quality STEAM experiences to all their students, regardless of their socioeconomic status. Mini grants were made available to all teachers to ensure equal access to quality STEAM materials regardless of the socioeconomic status of the students, school budgetary restraints and previous classroom materials on hand.

Outcomes

Year 1: 24 hours of Professional Development per participant

Year 2: 20 hours of Professional Development per participant

Greater Oregon STEM Hub

Year 1: 13 Participants at completion of series

Year 2: 11 participants at completion of series

Columbia Gorge STEM Hub

Year 1: 24 Participants at completion of series

Year 2: 10 Participants at completion of series

Frontier STEM Hub

Year 1: 11 Participants at completion of series

Year 2: 8 Participants at completion of series

Umpqua Valley STEAM Hub

Year 1: 20 Participants at completion of series

Year 2: 0 Participants at completion of series

Portland Metro STEM Partnership

Year 1: 17 Participants at completion of series

Year 2: 25 Participants at completion of series

