



Organization

Backbone Organization: Northwest Regional ESD
Counties in Region: Clatsop, Columbia, Tillamook,
& Rural Washington
Sq. Miles in Region: 2,906
STEM Hub Director: Chris Hesselbein
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nwresd.org/departments/instructionalservices/STEM-Hub

By the Numbers

School Districts: 15
Students: 11,092
Educators participated in Professional Development: 82
Educator Hours in Hub PD: 1,187
Students participated in STEM Hub Programs: 2,255
Student hours in STEM Hub Supported Programs: 17,553

Northwest STEM Hub – Place-Based Collaborative

This year, we launched a regional collaborative to support rural educators in integrating Place-Based Education into their classrooms and school sites. Twenty-three educators from eight school districts are participating in a year-long cohort with monthly professional development sessions focused on Tribal History/Shared History, nature journaling, and outdoor STEM experiences, collectively impacting 830 students.

Our work is rooted in the *Nine Essential Understandings of Native Americans in Oregon*, emphasizing learning opportunities tied to local heritage, cultures, and landscapes. This initiative highlights STEM identity and employability skills while incorporating social-emotional learning within project-based learning activities.

To enhance engagement, each participant receives an outdoor teacher kit, student kits, book resources, and a mini-grant to equip their school site with tools and materials for outdoor STEM learning. This program fosters meaningful educational experiences, connecting students and educators to their communities and environments.

Computer Science

The GEER grant enabled the Hub to launch computer science education throughout the Northwest region. We created the Elementary Rural Robotics Cohort (ERRC), providing age-appropriate robotics kits and on-site professional development for K-5 teachers. The ERRC impacted 26 educators from 11 districts and approximately 1,100 students.

We also hosted **Code Dance Create**, a week-long summer camp where students explored block coding, controlled programmable lights, and danced to hip-hop and African drumming beats. They designed video games and digital stories while engaging in maker space activities like wearable technology.

Our rural competitive robotics teams serve as a key channel for developing local STEM talent. To support them, we formed the NW Oregon Robotics Coalition, offering professional development for coaches and financial support. Teams applied for grants, receiving a total of \$19,000 to cover equipment and travel expenses for competitions while developing their communication and grant-writing skills.



Career Connected Learning

The Northwest STEM Hub serves a rural three-county region with over 17,200 K-14 students, 24% of whom are students of color. All three counties have high poverty rates, ranging from 40.4% in Columbia County to 54.2% in Tillamook County. Many students in these communities lack career exploration opportunities. To address this, we partner with organizations like Associated General Contractors to offer teacher externships in construction and collaborate with STEM Like a Girl to host events for girls and their families to explore STEM career paths.

Our STEM Family Days engage communities at local libraries, featuring hands-on activities led by industry and community volunteers to promote STEM awareness and career exploration. The Take Flight program provides teachers with resources about drones in the workplace, supplying rural classrooms with programmable drone kits, a career-connected curriculum from CAST, and connecting teachers with industry and higher education partners.

With the Oregon Manufacturing and Innovation Center (OMIC) in Columbia County, our STEM Hub helps students explore high-wage, high-demand careers in advanced manufacturing. Through our partnership with OMIC, we offer paid internships for high school students, host career awareness events, and support regional manufacturing CTE program development.