



CLIMATE SCIENCE THROUGH CHEMISTRY

TEACHING OPENSIED UNIT 1 “THERMAL ENERGY IN OUR WORLD”

Overview

The rationale for this project is to support high school chemistry teachers for leading change, by:

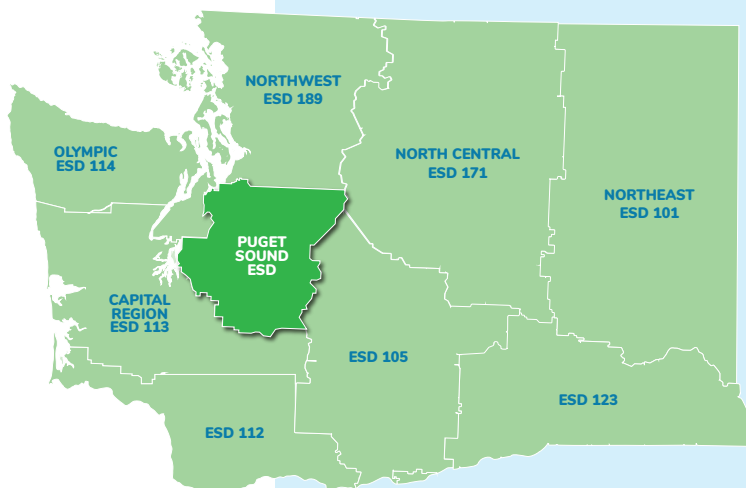
- weaving climate science into core chemistry courses, per NGSS content standards;
- learning the ROUTINES to support each student to build proficiency with the 3 dimensions of science learning, per NGSS chemistry and Earth science content, the Science and Engineering Practices, and the Crosscutting Concepts.

What We Did

Chemistry teachers and district coaches participated together, from Bellevue, Kent, Renton, and Snoqualmie Valley school districts. The exemplar unit, *OpenSciEd Unit 1: Thermal Energy in Our World*, served as a model for the teachers to learn the [routines](#) for 3-dimensional science learning, to guide their chemistry students in 3 dimensional science learning.

Wearing a “student hat”, the first 4 workshop sessions had teachers learn the unit by experiencing the lessons as a learner. The unit’s anchor is a climate science phenomenon that is engaging, has a positive outlook, and guides students to figure out “How can we slow the flow of energy on Earth to protect vulnerable coastal communities?”

Shifting to “teacher hat”, the 5 PLCs were a collaborative format to support each teacher to try out the *OpenSciEd routines*, reviewing student work and then reflecting on effective instruction strategies. Throughout the second semester when teachers used the *routines* in their chemistry courses they gathered evidence of student learning. They discussed successes and challenges at the PLCs. In addition, PLCs included time for teachers to Q&A with a Bellevue teacher who had prior experience teaching this sample unit, and had Q&A sessions with a chemistry professor to discuss the learning progression of chemistry content, from high school to college to career.



PROJECT REACH

13 Teachers & Coaches
700 Students

PROJECT PARTNERS



