

Math and Science
Partnership K-6 NGSS
Instructional Specialist
Program Grant Overview



Portland State
UNIVERSITY



PORTLAND METRO
STEM PARTNERSHIP

What is the K-6 NGSS Instructional Specialist Math & Science Partnership Grant?

- Purpose: To expand access to science instructional specialists at the elementary level statewide
- “Expansion of K-6 NGSS Instructional Specialists Program” Awarded by Oregon Department of Education (ODE) to Portland State University (PSU):
 - Dr. William Becker, PSU Center for Science Education, Principal Investigator
 - Carol Biskupic Knight, Portland Metro STEM Partnership (PMSP), Co-Principal Investigator
- The PSU grant partners include the Portland Metro STEM Partnership STEM Hub (PMSP), PMSP districts (Beaverton, Forest Grove, Hillsboro and Portland Public), other STEM Hubs (Oregon Coast, South Metro-Salem, East Metro), private schools, and STEM community partners
- Next Generation Science Standards graduate-level coursework and professional development through Portland State University’s Center for Science Education:
 - 70 Instructional Specialist Program participants for 3-year commitment
 - 180 elementary teachers statewide each summer
- Federal pass through funds via ODE
- Three-year project timeline 2014-17



K-6 NGSS Instructional Specialist Three-Year Program



Project Goals:

- Increase access to high-quality professional development in science at the elementary level
- Increase content knowledge, pedagogical content knowledge, and curricular content knowledge in science
- Increase student achievement science
- Increase teachers' understanding of the role of language in creating equitable learning opportunities in science
- Develop digital learning opportunities and resources for use in PLTs and PLCs among Oregon STEM Hubs and project partners

Developmental Outcomes Assessed

Outcome Areas Addressed and Measured:

- Student achievement
- Student identity as confident science learner
- Content knowledge
- Pedagogical content knowledge (instructional practices)
- Curricular content knowledge (alignment of curricular materials and lessons to NGSS)

What Does this Mean for Participating Teachers and Students?



Project Benefits:

- Supports a shared responsibility for the implementation of NGSS and effective instructional practices in science at the elementary level
- Increases access to highly skilled educators to facilitate building and district level professional development supporting NGSS implementation
- Positively impacts student engagement, self-efficacy, and motivational resilience when confronted with tasks of high cognitive demand
- Addresses issues of equity in science education for students of underrepresented populations

K-6 NGSS Instructional Specialist Program



Project Design:

- 70 Teacher Leaders from Participating Oregon Regional STEM Hubs
- Developing teachers leaders who are committed to social justice and delivering culturally responsive science instruction
- NGSS Content Courses: Energy and Matter, Change Over Time, Interactions and Systems (4 cr. each/Summer)
- Instructional Specialist (IS) Workshops: Physical Science, Earth-Space Science, Life Science (3 cr. each/Academic Year)
- Instructional Specialist Seminars (1 cr. each/Academic Year), Year Three District and/or Building-Based PLTs

Developing Teacher Leadership Through Culturally Responsive Instructional Practices



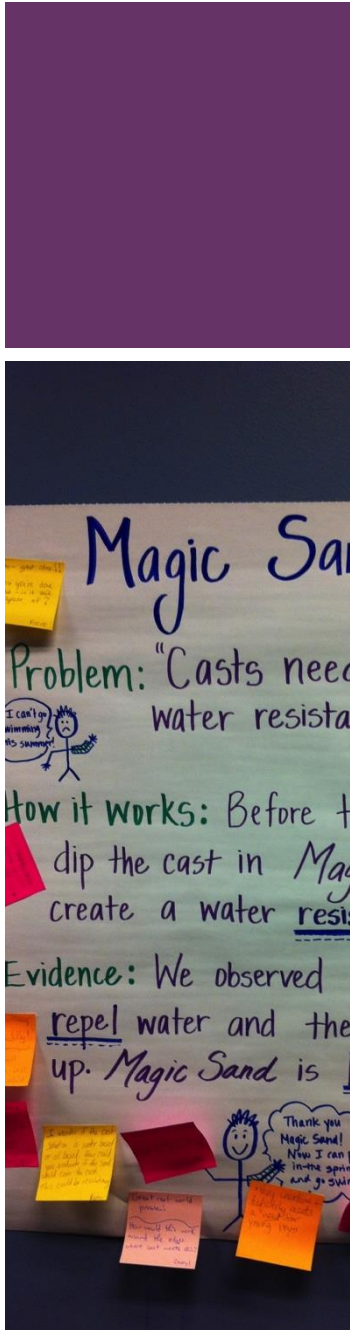
- Implement effective instructional practices in science at the elementary level (years 1, 2, & 3)

Year 3 Implementation Options:

- Convene PLTs around supportive learning environments
- Facilitate opportunities for professional development and reflective practices around effective science instruction, with a focus on equity and language to increase science achievement for all students

Structure for MSP Grant Participation for NGSS Instructional Specialists

- Total of 70 Instructional Specialists
- 240 Instructional hours of graduate level coursework (24 credits)
- PSU course tuition covered through either available building/district tuition funds and/or through grant support
- Three-year commitment to the project
- Participant stipends
- Administrator support of applicant
- Building use of expertise following project completion (PD/PLTs)



Project Timeline

Academic Year 2014-15

- Seminar #1 (1cr.)
- IS Workshop #1 (3cr.)

Summer 2015

- NGSS Content Course #1 (4cr.)

Academic Year 2015-16

- Seminar #2 (1cr.)
- IS Workshop #2 (3cr.)

Summer 2016

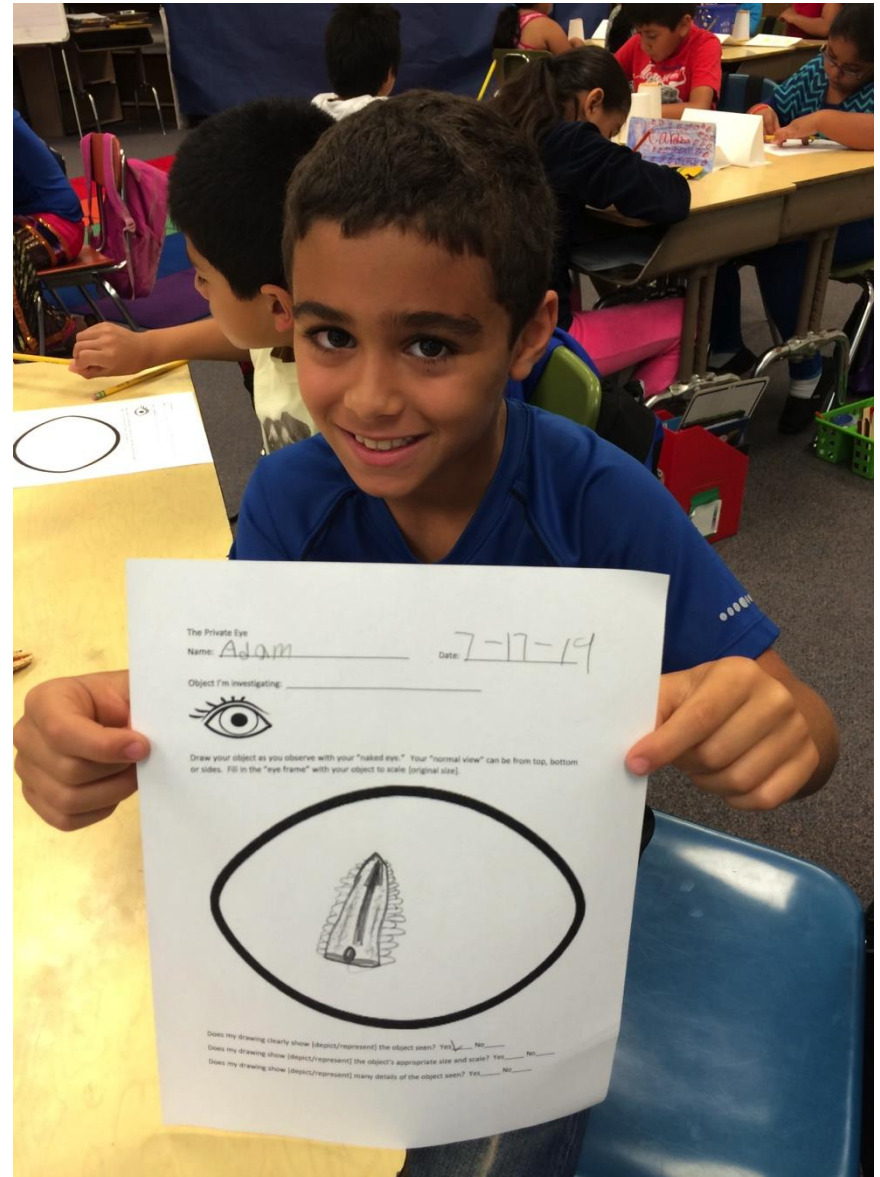
- NGSS Content Course #2 (4cr.)

Academic Year 2016-17

- Seminar #3 (1cr.)
- IS Workshop #3 (3cr.)

Summer 2017

- NGSS Content Course #3 (4cr.)



Compensation

Academic Year 2014-15

Completion of Seminar and IS
Workshop **\$600**

Summer 2015

Completion of NGSS Content **\$600**

Academic Year 2015-16

Completion of Seminar and IS
Workshop **\$600**

Summer 2016

Completion of NGSS Content **\$600**

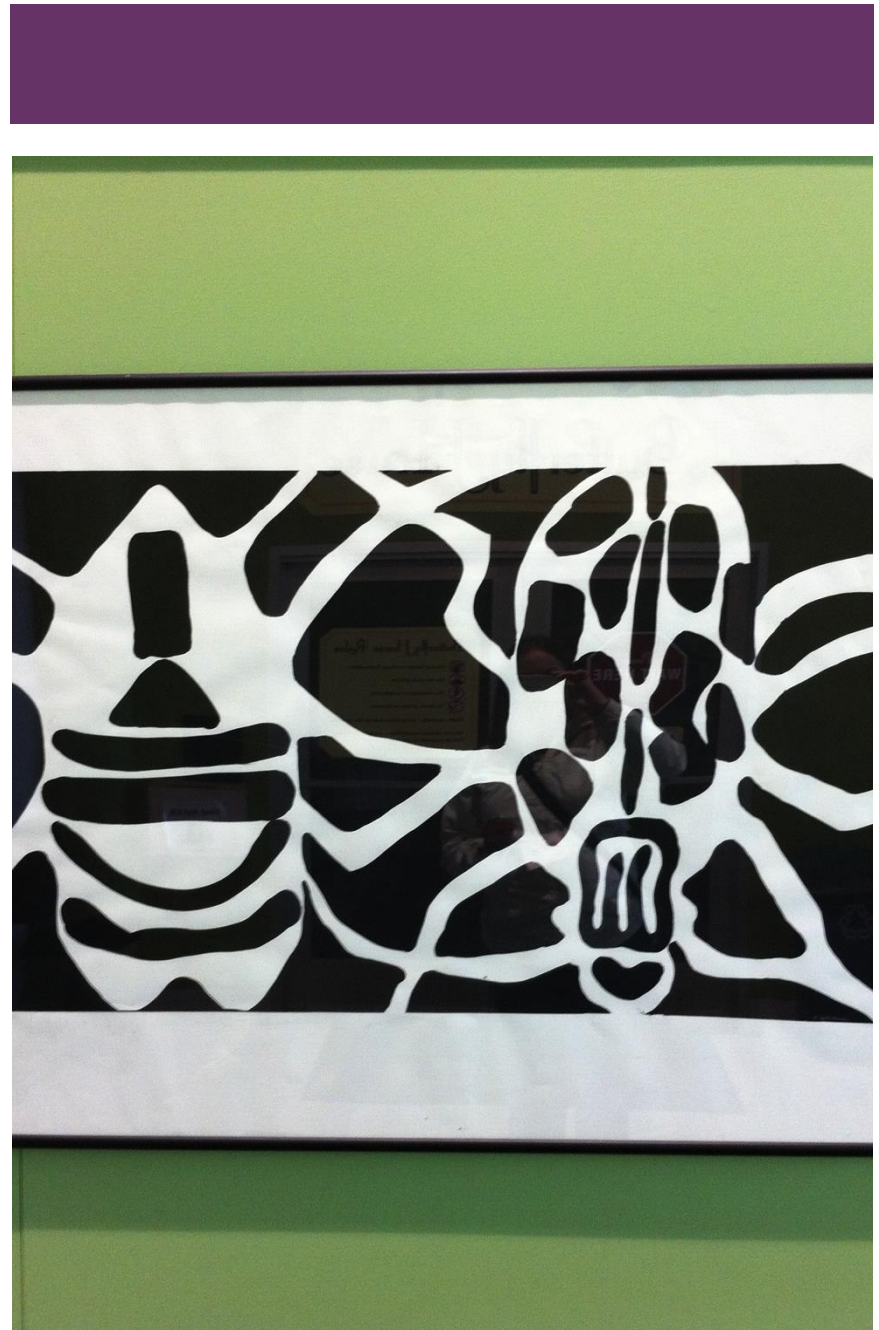
Academic Year 2016-17

Completion of Seminar and IS
Workshop **\$600**

Summer 2017

Completion of NGSS Content **\$600**

Total Participant Compensation:
\$1200 per year x 3 years = \$3600



NGSS Instructional Specialist Candidate Qualifications

- Elementary educator (grades K-6)
- Three or more years of teaching experience
- Strong interest in increasing content knowledge and effective science instructional practices
- Committed to social justice and delivering culturally responsive science instruction
- Three-year grant participation
- Administrator support of applicant in leadership capacities and commitment to project goals including the implementation of PLTs and/or PD



Intentional Ties to OEIB Oregon Equity Lens



- Everyone has the ability to learn. We have an ethical and moral responsibility to prepare students for their individual futures.
- Students who have been described as “at risk,” “underperforming,” “under-represented,” or minority represent opportunity to improve overall educational outcomes.
- Resource allocation demonstrates our priorities, values, and commitment to rural communities, communities of color, and English language learners as educational investments.
- Our P-20 system will offer the best educational experience when campus faculty, staff and students reflect this state, its growing diversity and the ability for all of these populations to be educationally successful and ultimately employed.

Intentional Ties to OEIB Oregon Equity Lens

We believe in the importance of supporting great teaching. Research is clear that “teachers are among the most powerful influences in (student) learning.” An equitable education system requires providing teachers with the tools and support to meet the needs of each student.

-OEIB Equity Lens, Oregon Educational Investment Board

K-6 NGSS Instructional Specialist Program Application Process



Program Applicants:

- Please complete an online application (link below)
[*K-6 NGSS Instructional Specialist Program Application*](#)

Application deadline: January 30, 2015

- Project participants will be notified of their selection via email in February
- Questions: Contact Erika Hansen, Grant Coordinator er22@pdx.edu