



TEACHING & LEARNING

To: TK-5 Principals and Network Superintendents
From: Caleb Cheung, Science Manager
Laura Prival, Elementary Science Coordinator
CC: Allen Smith, Devin Dillon, David Chambliss
Date: April 10, 2016
Re: Recommendations for Elementary Science Prep Programs

A growing number of OUSD elementary schools have allocated funding for a science prep program in an effort to support the implementation of the school board policy on science instructional minutes, the FOSS curriculum, and the Science Instructional Reflection and Assessments (SIRA). This leadership decision can be one important step toward providing rich, equitable science learning experiences for Oakland students. However, it is important to consider the additional resources and staffing considerations for this approach to be successful. This memo provides guidance and recommendations for the structure and content of high quality science prep positions at OUSD elementary school sites.

Background

In 2010, the school board adopted a policy requiring a minimum number of minutes for hands-on science instruction in elementary classrooms as follows:

Grades K-2: 60 minutes per week of hands on science instruction

Grades 3-5: 90 minutes per week of hands on science instruction

This was an equity-aligned policy, designed to ensure that all students have the opportunity to engage in first-hand, inquiry-based science learning experiences. Note that ANY science prep model that does not provide sufficient time for hands-on instruction is not compliant with OUSD Board Policy.

In 2013, the Science Instructional Reflection and Assessment (SIRA) was developed as a transition strategy to prepare elementary teachers and students in grades 3-5 for the shifts of the newly adopted Next Generation Science Standards (NGSS). The SIRA Instructional Plans are designed to fit comfortably within a 10-week instructional sequence where *hands-on* science occurs approximately two times per week and a third session includes related Common Core-aligned reading of nonfiction texts, writing with evidence, and academic discussion. All sessions in the SIRA are designed to be approximately 45 minutes long.

Possible Science Instructional Models and Requisite Considerations

Successful and effective science prep models in Oakland Unified distribute the responsibility for teaching science between the science prep teacher and classroom teachers. This is necessitated by the fact that the mandated minutes typically extend beyond the OEA contractual minutes for preparation time. In addition, these models are only successful when there is regular communication and planning time for the science prep teacher and classroom teachers. Below are examples of science prep models that successfully meet the board policy and SIRA requirements.

Weekly Models that Meet OUSD Science Instructional Expectations

Model	Prep Teacher	All Classroom Teachers	Resources/ Structures Needed
Science Prep	Minimal science instructional minutes (K-2 = 60, 3-5 = 90)	CCSS-aligned science lesson(s) (science writing, academic discussion, FOSS reading) Occasional hands-on science lessons to continue investigations begun with science teacher	Funding for science prep teacher to continue instruction beyond typical 50 min. prep time. Regular communication and planning time between science teacher and classroom teachers to coordinate lessons. Dedicated instructional and large storage space for science teacher.
Engineering, Garden, or other Prep Programs	50 min/wk Engineering or 50 min/wk Garden (complementary to classroom science instruction)	Minimal science instructional minutes (K-2 = 60, 3-5 = 90) Additional CCSS-aligned science lessons (science writing, academic discussion, FOSS reading)	Engineering and garden-related curriculum and materials.

It is important to note that the most successful science instruction occurs when the regular classroom teacher is the primary teacher of science or is at least involved in science planning and integrates science learning throughout the week. The FOSS curriculum and SIRA are designed to be used by a regular classroom teacher, not a science prep teacher who sees each class only once a week. Many elementary teachers have anxiety about teaching science and this issue influences the choice of prep programs. Schools can support classroom teachers to be the primary teacher of science by working with their Science Specialist from the Science Department, calling upon their Lead Science Teacher, or by hiring a science teacher coach.

Additional Staffing Considerations

Science prep programs require a teacher with very strong skills in classroom management, materials management, instructional planning, and collaboration. Teachers who have success in such positions in OUSD schools generally have several years of classroom teaching experience at different grade levels before transitioning to the role of science teacher. Hiring considerations should include both organizational skills as well as content knowledge.

Unlike general classroom teachers, science prep teachers are required to have a Single Subject credential in any science area or a Foundational-Level General Science credential. Both can be obtained as a supplemental credential to a multiple subject credential.

The OUSD Science Department is committed to supporting science prep teachers by providing a 1-2 day training during the first two weeks of the school year when prep teachers contractually do not have teaching responsibilities. Additional monthly resource meetings provide on-going support. It is highly recommended that all science prep teachers attend these PDs.

Thank you for helping us ensure that all students have access to high-quality science instruction. For more information about ways to support high-quality science teaching and learning at your school, please contact Elementary Science Coordinator Laura Prival at Laura.Prival@ousd.org.