

BaySci

**Supporting Science
Instruction and Learning in
Elementary School and Beyond**

September 9, 2014

BaySci: Overview

- **AUSD Vision & Mission**
- **What is Bay Sci?**
- **Bay Sci Components**
- **Bay Sci Professional Development**
- **Next Steps for BaySci and Middle School Science**

AUSD Vision

The AUSD Science Vision and Mission was developed by a collaborative group of teachers and administrators with support from Lawrence Hall of Science Professional Developers.

VISION

AUSD will provide a comprehensive and high quality science program that prepares all students for success in rigorous post-secondary science courses or careers. AUSD students will use their understanding of the natural world to solve important problems, improve their lives and make their world a better place.

AUSD Mission: Key Points

MISSION

- AUSD teachers and administrators must plan together to realize this vision.
- Students need a high level of scientific understanding to succeed in school and to be prepared for the demands of the 21st Century.

Students

- engage in exploration and discovery throughout the science curriculum.
- relate science topics to their daily lives and in solving real world problems.

Teachers

- K-5 teachers increase instructional time spent on science to be roughly equivalent to time devoted to other core disciplines.
- K-8 teachers use FOSS science curriculum and teach all three strands of science: life, physical, and earth science.
- High school teachers use pedagogy that engages students and inspires them to high achievement in the courses they teach and to consider careers in science.
- take advantage of the convergences among Common Core math and literacy standards and Next Generation Science Standards when planning instruction.

AUSD Mission: Key Points

Teachers (continued)

- Informational text and analytical writing opportunities are used strategically to help students deepen and demonstrate understanding of science concepts and develop content literacy.
- provide multiple opportunities for students to develop speaking and listening skills in order to make meaning from science experiences and to engage in the practices of science and engineering.

Schools

- have access to resources for teaching science.
- Administrators support teachers by providing adequate time and appropriate materials for planning and improving science instruction.

Stakeholders

- Students, teachers, administrators, school board, parents and community understand the rationale for the district emphasis on science.
- The vision for science is communicated widely at both district sponsored and whole school science events.

BaySci

- BaySci is an elementary school science initiative supported by the Lawrence Hall of Science for school districts in the greater Bay Area.
- BaySci provides teacher leadership training in science as well as professional development in science pedagogy and use of our adopted curriculum.
- BaySci supports teacher leadership work within the school district to further science instructional goals.
- This work is paid for by a grant awarded to the Lawrence Hall of Science and the district.

BaySci: Cohort Components

- **Cohort 1 2012-13 – 11 teachers**
- **Cohort 2 2013-14 – 9 teachers**
- **Cohort 3 2014-15 – 7 teachers**

- **Intensive training**
 - 5 days during summer
 - 3 days during the school year

- **Participation in after school planning and goal setting meetings**
- **Subset participation in District Leadership meetings at LHS**
- **Teacher leadership to help implement professional development at LHS and in the district**
- **After year one, extended training opportunities (3 days) through Masters Seminars at LHS**

BaySci: Cohort Component

Cohort Breakdown by School and Grade Level/Title

School	Total for 3 Cohorts	Current
Bay Farm	1	1
Earhart	4	2
Edison	2	2
Franklin	3	2
Lum	1	1
Otis	3	3
Haight	5	5
Maya Lin	1	1
Paden	2	1
Ruby Bridges	4	2
Total	26	20

Grade/Title	Total for 3 Cohorts	Current
K	3	2
1	4	2
2	4	4
3	3	3
4	4	4
5	5	3
Science Specialist	1	1
Media Center	1	0
Special Education	1	1
	26	20

BaySci: District Wide Components

- **Cohort 1 & 2 teachers presented professional development at 6 school sites on the integration of Common Core ELA Standards and Science instruction**
- **K-5 teachers participated in a full day of training in the FOSS modules at the Lawrence Hall of Science**
 - ✓ Physical Science ≈35 teachers Fall 2013
 - ✓ Life Science ≈50 teachers February/March 2014

BaySci: Teacher Feedback

Integrating ELA & Science Training

- **Teacher respondents replied that this helped them be more comfortable integrating science with:**
 - **Reading - 78% agreed or strongly agreed**
 - **Writing - 80% agreed or strongly agreed**
 - **Speaking and Listening – 84% agreed or strongly agreed**

BaySci: Teacher Feedback

FOSS Physical Science Training Feedback

- In response to “What is the likelihood you will teach this FOSS module this year?”, 93% responded Likely or Very Likely.
- In response to “If yes, to what extent is it due to this training?”, 57% responded almost completely or completely, and another 29% responded that training did help.

Comments:

- “I was always going to teach the module but the training let me feel more confident and clear.”
- “I love the handouts we got.”
- “It was so helpful to have a knowledgeable LHS mentor to highlight the key focus questions and ideas behind each investigation.”
- “I brought back an excitement for science. The training was a good reminder how science fits into all subject areas.”

BaySci: Teacher Feedback

FOSS Life Science Training Feedback

- In response to “What is the likelihood you will teach this FOSS module this year?”, 100% responded Likely or Very Likely.
- In response to “If yes, to what extent is it due to this training?”, 54% responded almost completely or completely, and another 23% responded that training did help.

Comments:

- “I teach this unit every year. I did learn some new things.”
- “[I picked up] hints for managing the insects, new more efficient ways to make the insect habitats.”
- “I loved the way the science journal was organized and explained.”
- “I brought back an excitement for science. The training was a good reminder how science fits into all subject areas.”

BaySci: Next Steps

- **Integrate all three BaySci Cohort Teacher groups**
- **Roll out the AUSD vision and mission for science education**
- **Provide professional development in science instruction and content literacy for K-8 teachers**
- **Develop peer coaching and co-teaching models**
- **Increase the amount of science instruction in K-5 classrooms and improve implementation of K-12 science instruction in AUSD**