

## **Solana Pacific Elementary School Model Programs and Practices**

### **School Information**

CDS (County District School) Code: 37683870105825

County: San Diego

District (Local Educational Agency): Solana Beach Elementary

School: Solana Pacific Elementary School

### **Demographics**

Enrollment: 513 students

Location Description: Urban

Title I Funded: No

School Calendar: Traditional

Charter: No

### **Overview**

Solana Pacific Elementary School empowers students to reach their highest potential by providing and maintaining a nurturing, positive and collaborative educational environment. Our STREAM (Science, Technology, Research, Engineering, Arts and Mathematics) program allows children to develop academic, physical and social skills to prepare them for 21st century learning. Partnering with parents and the community is essential, creating an environment geared toward success for all students.

Our Sandpipers demonstrate “PRIDE”: Personal Best; Responsible and Safe Citizens; Innovative Learners; Demonstrate Respect; and Encourage and Include Others. Students benefit from a safe, supportive, and resource-rich learning environment that fosters critical thinking, problem solving, and effective communication.

Solana Pacific is a 4th–6th grade school. We serve over 500 students from two different K–3 “feeder” schools. The cultural, personal, ethnic and academic diversity on our campus makes our school distinctive. With students who speak over 30 different languages and immigrant families who represent a similar number of countries, our

students celebrate diversity and inclusion. Our school culture is infused with a positive awareness and understanding of one another. Learning to respect and appreciate our unique population, students develop their individual identities and abilities to value similarities and differences, understand multiple perspectives and embrace the richness of human diversity.

Solana Pacific is a top performing school in the Solana Beach School District (SBSD) and in San Diego County. Every day students have meaningful opportunities to work with staff, parents, and community members. Although the school bell rings for classes to begin at 8:45 a.m., on any given morning the halls are buzzing with academic activities well before that time. Parents and volunteers organize courses that engage, challenge and provide collaborative learning. While these community-led programs are underway, morning reading and math intervention classes occur for students who need additional support. Morning programs accelerate our students' achievement prior to the start of the official school day.

Students may participate in extracurricular activities such as Circle of Friends, Art Club, Garden Club, and MakerSpace. Our curriculum is rigorous, striving to meet the needs of each learner. We teach students not only the core curriculum, but also social, emotional and interpersonal skills, knowing the need for strength in these areas is essential to future success.

We are especially proud to highlight Solana Pacific's STREAM program as a interconnecting framework including teaching and assessment methodologies, collaboration structures, and inclusion practices designed to promote access, equity and an overall mindset ensuring our students are equipped to succeed in middle school, high school, college and career.

## **Model Program and Practices**

Name of Model Program/Practice: Solana Pacific STREAM

Length of Model Program/Practice: 2–4 years

Target Area(s): Closing the Achievement Gap, Nutrition and Physical Activity/Education, Parent, Family, and Community Involvement, Professional Development, Science, Technology, Engineering, and Mathematics, Use of Technology

Target Population(s): Asian, Hispanic, White, Two or More Races, English Learners, Students with Disabilities

Strategies Used: School Climate, Parent Engagement, Data-Driven Decision Making, Social/Emotional/Behavioral Support, Professional Development, Implementation of Academic Standards Basics (Teachers, Instructional Materials, Facilities)

## Description

Our STREAM program uses research-based methods to respond to the need to increase STEM education. We targeted English Learners (EL) and Students with Disabilities (SWD). We believe hands-on, inquiry-based projects in STREAM help students overcome barriers to learning.

At its 2015 meeting, the Envision Team evaluated first year successes and made two recommendations regarding essential resources to fully implement the NGSS: a STREAM Teacher on Special Assignment (TOSA) was needed at each school; and, teachers needed more explicit materials. A STREAM TOSA was hired at each school and Stemsopes (online resource to guide classroom instruction) was adopted. To enhance classroom instruction, teachers access nonfiction texts on a variety of STREAM topics based on the NGSS. Teachers and students access informational text online and the district subscribes to San Diego County Office of Education's Digital Content Portal, where students read articles from World Book Online. This is a useful tool for our EL as articles can be translated into native languages.

Solana Pacific distinguishes its STREAM program with recess and lunch "clubs". Two years ago we opened a MakerSpace. Students design, build, test, and revise projects of their choosing. Students may reference the United Nations Sustainable Development Goals, such as work on a project to produce affordable and clean energy. This past year, we enhanced our STREAM program adding a Garden Club. Students sow, tend, and harvest crops. On Fridays, they make something to eat from the garden leading to a discussion on nutrition. The MakerSpace and Garden Club are open daily during morning and lunch recesses.

SBSD is using a "Deep Dive" model to provide much of its professional learning. Deep Dive teams of teachers and administrators meet during the pre-service Professional Learning Days and throughout the school year. The Deep Dives most closely connected to the goals of the STREAM program are: Love of Literacy and Math. The Love of Literacy Deep Dive covers: reading, writing, speaking, and listening. Of particular importance to the goals of the STREAM program is making sense of nonfiction text. In the Math Deep Dive, teachers learn about Cognitively Guided Instruction (CGI) with the goal of uncovering and expanding every student's mathematical understanding.

Our students, parents, and community members expect that our STREAM program will prepare all students for advanced STREAM courses and future careers by increasing STREAM literacy, utilizing 21st Century Competencies, fostering interest in STREAM, and, offering cross-disciplinary instruction. The hands-on nature of our STREAM program benefits unique student populations, and meets the social-emotional and behavioral needs of all students. Students who may struggle with traditional assignments, shine in STREAM. When students are actively engaged in learning, negative actions such as poor behavior, absenteeism, and suspension/expulsion are reduced.

## Implementation and Monitoring

All stakeholders are engaged in our STREAM program. Parents are an integral part of our planning process. At our last Envision Team Meeting, parents who work in the STEM community shared skills students need in STEM fields. This led to powerful discussions reinforcing we're on the right track, preparing our students for advanced math and science classes as well as careers in STEM.

Many communication methods share our STREAM program. Three times annually grade level teams meet with the STREAM Team, coordinating instruction and ensuring cross-disciplinary connections. Parents are informed through the principal's weekly newsletter, teacher webpages, and information from the Solana Beach Schools Foundation (SBSF). The SBSF raises funds to support STREAM. Twice annually families are invited to STREAM Family Nights. Parents and students work together to solve STREAM challenges, and student projects are presented.

Solana Pacific distinguishes its STREAM program by using the San Diego K–12 STEM Quality Criteria Self-Assessment Rubric to guide our planning. Initially, we focused on the “internal” attributes concerning instruction and cross-disciplinary connections. Currently, we are focusing on expanding our program to include more parent and community resources. Our fifth grade robotics instruction is complimented by a “STEM Field Trip” at Legoland California. Students apply what they have learned on campus to challenges posed by Legoland staff. Teachers have begun to invite parents and community in to share professions in STEM. We are ahead of schedule as this action is not on our plan until the 2018–19 school year!

Since we rely on the participation of our parents and community, we monitor and assess their engagement. We do this through their participation in our site's Strategic Plan and the district's Envision Team. Parents help guide our program with first-hand knowledge of necessary skills for a STEM profession. Parents sign in at STREAM Family Nights which are consistently well-attended. Parents enthusiastically contribute recyclable materials (e.g., corks, boxes, and caps) to our MakerSpace.

We participate in capacity building activities related to professional learning for teachers, administrators, and staff. On Aug. 23, 2016 our principal held her welcome back meeting at STEAM Maker Workshop in San Diego. There our administrator and 29 teachers were able to perform tasks we ask our students to do. For example, staff members had to light a lightbulb using a bulb, a battery, and wires. On Aug. 17 & 18, 2017 one administrator, 25 teachers, and 3 classified staff members attended SBSD's Professional Learning Days. Our staff is engaged in reading *The Innovator's Mindset* by George Couros. Staff meetings have been set aside to discuss and digest the information from this book. To date, 1 administrator and 29 teachers have participated in the book club meetings. These meetings took place on Dec. 6, Jan. 24, and Feb. 14 at Solana Pacific.

## Results and Outcomes

Many instruments monitor and assess the effectiveness of our STREAM program. Student observation is a large part of our monitoring/assessment system. STREAM activities are hands-on and require teachers to observe students. Through the use of rubrics, teachers and students know the requirements to meet standards on a project or unit of study.

Our STREAM program distinguishes itself when students use digital portfolios to monitor and archive their learning. Students use 1:1 devices to compile research notes, take pictures of projects, and make videos. After each unit, students self-assess progress by answering reflective questions. Projects are regularly presented to authentic audiences.

Students participate in a survey biannually. In June, 2016, students replied to, “When I grow up I want to have a job involving science/engineering.” 29% of students marked Strongly Agree or Agree. One year later, in June, 2017, 43% of students marked Strongly Agree or Agree! Students were also asked, “Do you feel it is important to understand science/engineering?” A sixth grade boy responded, “Yes, because in the future I can solve problems like pollution and global warming.” This response reveals students are making a connection between STEM fields and solving real-world challenges aimed at improving the quality of life. Empathetic responsiveness is something to foster in a global citizen of the future!

In addition to the quantitative and qualitative data summarized above, we consider our California Assessment of Student Performance and Progress (CAASPP) results. Our students scored in the Highest Performance level in English Language Arts and Mathematics on the 2017 CAASPP. Our STREAM program is designed to close the achievement gap for our targeted subgroups, SWD and EL. 2017 CAASPP results indicate in the area of math, the performance of our SWD increased significantly by 19.4 points with a status in the High level and our EL scored in the Very High level on the California School Dashboard.

We annually grade our STREAM program using the San Diego K–12 STEM Quality Criteria Self-Assessment Rubric to ensure continual program improvement. This identifies four attributes of STEM programs. They are: Integrity of the Academic Content; STEM Climate and Culture; Collaboration among School, Community, and Industry; and, Connections with College and Career Readiness. We rate strong on the first three attributes as our curriculum is aligned to the NGSS and the CSS; teachers and students access reliable technologies, and we’re building capacity around STREAM. We are making good strides in Collaboration among School, Community, and Industry. Our STREAM plan is in place and partnerships developed in our community. We’re beginning to address the fourth attribute: Connections with College and Career Readiness. Recently, we revised our plan to include inviting parents into classrooms to share about their STEM careers with plans to grow this into a schoolwide Career Day.