

## **Castlebay Lane Charter Elementary School Model Programs and Practices**

### **School Information**

CDS (County District School) Code: 19647336071435

County: Los Angeles

District (Local Educational Agency): Los Angeles Unified

School: Castlebay Lane Charter Elementary School

### **Demographics**

Enrollment: 744 students

Location Description: Urban

Title I Funded: No

School Calendar: Traditional

Charter: Yes

### **Overview**

Behind every good school is an intentional plan and belief. At Castlebay, we understand the proverb, "it takes a village to raise a child". Raising children to become productive, compassionate, inquisitive, and contributing citizens requires empowering one-to-one student-adult relationships so that each child is able to access their potential. Believing every child is deserving of the finest learning experience, our school's mission is to guide and facilitate young minds to yearn for knowledge, to be independent and resilient thinkers that are adaptable to change, and to be eager with the expectation that learning will take place every day.

Arriving at Castlebay Lane Charter Elementary, it is hard not to notice the beautiful hills and quiet neighborhood surrounding the entire campus. Student projects and art work decorate our walls and personal touches on murals and in classrooms invite all children to want to become a part of this amazing school. Making one's way further onto campus, one sees well-behaved, happy students engaged and active in their learning. Students rotate in and out of the Computer or Science Lab, their journals filled with

notes and observations while other students engage in botanical experiments, ecosystem projects, or observations in the Learning Garden.

Students enter the Science Lab in anticipation of the hands-on activity to their classroom learning and content reading and research. In the Computer Lab students log into their google classroom accounts to collaborate on projects in google docs or pursue individual learning tasks. The Learning Garden is filled with thriving vegetation that students have planted themselves and that they take ownership in caring for and harvesting.

The Multi-Purpose Room is jam packed with parents and staff as our proud fifth grade students present the processes and rationale behind their science projects and experiments. With the help of their parents, they bring in evidence, pictures, and display boards to demonstrate the course of their experiments, and the data forming the conclusion to their hypothesis.

During College Month, hallways brim with evidence of students' college aspirations displayed by college banners and parents' alumni college pennants, as well as digital products depicting various college courses of study, college reports, and brochures. In classrooms oral presentations or detailed essays scribing students' career goals in the fields of science and engineering such as Mechanical Engineers, a Bioengineers, a Chemists, and a Pharmacologists can be found.

Because of Castlebay Lane's Science Education for All practice, all stakeholders feel confident that our program promotes self-initiated learning and builds young minds to problem-solve and think critically in an ever-changing world. As caretakers of our future citizens, our model of a rigorous and engaging, hands-on science and technology program will raise the inventors and scientists of tomorrow.

## **Model Program and Practices**

Name of Model Program/Practice: Science & Technology Education For All

Length of Model Program/Practice: 2–4 years

Target Area(s): Parent, Family, and Community Involvement, Science, Technology, Engineering, and Mathematics, Use of Technology

Target Population(s): American Indian, Asian, Black or African American, Filipino, Hispanic, Pacific Islander, White, Two or More Races, Socioeconomically Disadvantaged, 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

Castlebay Lane Charter Elementary has adopted a hands-on, inter-disciplinary, 21st century ready Science and Technology Program. At Castlebay Lane we have taken on the challenge to prioritize science and technology education. Science instruction had lapsed due to the urgency in the District for literacy proficiency by grade three. Much as paper and pen were tools for learning and sharing knowledge, Technology today has now moved to the forefront as an educational and communicative tool. Understanding the need for a strong foundation for literacy goes hand in hand with the importance of preparing our students to competitively contribute to this ever-changing world. Our science and technology model create 21st century mindsets that approach other content areas with innovation, creativity, and collaborative skillsets.

Science standards are taught in the classroom, explored in the lab, reinforced through field trips and enrichment activities, observed in the Learning Garden, and experienced through after-school science-based activities to which parents and community members are invited to attend. Technology skillsets in research, planning, analysis, communication, and design software programs such as Excel, PowerPoint, Word, research engines, Photo-Story, Google Docs, Google Sketch-up, Pages, and GarageBand allow our students to express and integrate seamlessly their gained knowledge of the world around them.

We have dedicated Science Lab and instructor to facilitate the students' learning and support the teachers' teaching. During the past four years, our staff have spent endless hours participating in and providing Professional Development to deepen content knowledge and design lessons in science. With the work we have already accomplished we are well ahead of the District's shift to introducing the NGS Standards in classrooms.

Our Full Option Science System is the core of our science program. The FOSS units are hands-on, engaging, progressive, and incorporate language and math development. Weekly students investigate, explore, record findings, and are ultimately assessed, in order for teachers to monitor learning and mastery of the science standards.

Our computer lab is run by a dedicated instructor, who with teachers collaboratively design custom curriculum that integrates science and core content with 21st century skills. Classes rotate weekly to participate in these lessons. Outside of the Lab, computer and iPad rotations integrate technology skillsets with academic content knowledge and allow students to use technology to extend learning, complete tasks, and communicate learning.

Understanding the plasticity of our students' minds and the urgency of developing strong conceptual and abstract thinking skills that set the foundation for intellectual resiliency in a changing world led us to identify and provide an integrative cohesive science and technology program that enables all students attain academic and 21st century content mastery.

## Implementation and Monitoring

All stakeholders work collaboratively to increase involvement and participation in science and technology instruction. Castlebay Lane's Governing Board includes parents, teachers, administrators and classified staff members who vote on budget priorities, curriculum design, and staffing.

Supporting strong family partnerships, Castlebay Lane hosts several Science and Technology events. On Science and Engineering Night all stakeholders are invited to attend hands-on workshops that highlight the technology and science concepts taught at each grade level. Our annual Star Gazers Night, encourages scientific discussion with the Northridge Astronomers Club as students observe celestial bodies through high powered telescopes, receive information from working experts in the field of astronomy, and share their learning with their families. Our Robotics Team participates in the Rally in the Valley competition hosted by California State University Northridge and Jet Propulsion Laboratory. In preparation, students meet weekly after school to build and program Lego Mindstorms NTX and to create and diagnose code that direct the robots to perform specific tasks.

Our students also participate in the Parks Online Resources for Teachers and Students, videoconferencing with Rangers to enhance their understanding of various science units. Park Rangers and students conduct investigations at Crystal Cove State Park observing the creatures in a tide pool or at Anza Borrego Desert State Park learning about fossils.

Castlebay Lane understands the importance of supporting our teachers with Professional Development in technology and science content knowledge, exploration opportunities, and grade-level lesson planning time. Additionally, many of our teachers are nationally board certified and have post graduate degrees in Science, Technology, Engineering, and Math. These teachers lead on-going Professional Development, provide demo lessons for other teachers to observe, guide science content integration across the curriculum, and the implementation of aligned technology both in the classroom and computer Lab. These teachers' expertise and guidance have been instrumental to the continuing success of our deepening integration of Technology and the Next Generation Science Standards into curriculums. Our Instructional Leadership Team, comprised of six teachers, our coordinator, and our assistant principal attend science and technology trainings and disseminate the information via in-house workshops to colleagues.

Castlebay Lane's Science and Technology Education for All Program prioritizes the inquisitiveness of our learners and as evidenced by our annual California State Test in Science scores, our efforts have proven to be successful year after year. Informal teacher observations, unit and teacher created assessments, science journals, and student created digital projects and presentations, all show positive learning outcomes, as well.

## Results and Outcomes

During science investigations, teachers monitor student progress by using FOSS Assessments. These Foss assessments are composed of three categories; Content Knowledge, Conducting Investigations, and Building Explanations. The assessment section on Content Knowledge allows teachers to evaluate science concepts the students have learned that are specific to the module they are studying. This is evaluated through teachers observing students using specific academic science vocabulary in their writing annotations recorded in science notebooks. Use of this academic language is also observed through student questions and discussions.

Another piece of the assessment is done when the students are conducting investigations. As students are testing materials and using tools, they engage in scientific inquiry. During this time, teachers make observations on how students make predictions, follow directions in using the tools, and formulate questions. The final component of the assessment is done as students are building explanations. During this part, students communicate their ideas and explain their conclusions with peers and make connections to how the world works. Teachers observe how students collect and organize their evidence and use it to support their investigative conclusions. All of these assessment components allow teachers to evaluate students' comprehension of science standards on a regular basis.

Additionally, as technology is an integrative tool in demonstrating understanding of the content, classroom assessments include ISTE and grade level technology components in their rubrics. This is used to inform the teacher of the students' progress in mastering ISTE and grade appropriate software skill-sets.

All these data streams guide teachers in making decisions on how much reviewing or enrichment needs to be done on the module being taught and on which students are struggling with concepts and might need more assistance. Students in fifth grade are required to take the California Standardized Test in Science. Castlebay uses this assessment to evaluate how much the students understand the science standards. In addition, this assessment is used to guide the instruction of teachers by allowing them to see what standards students still have trouble understanding. Teachers review disaggregated data to see which subgroups are struggling with specific standards. This information helps teachers focus on particular subgroups to provide further assistance.

Over the last three years as compared to LAUSD, Castlebay Lane Charter has maintained high percentages of students scoring at Proficient and Advanced on the California Standardized Test for Science. Our school goal is to provide the proper support for all our students so they may continue to achieve academic success in science and cultivate a desire and curiosity to understand the world in which they live.