



# Bay-Friendly School Garden Case Study

Sequoia Elementary School Tel: (510) 531-6696  
3730 Lincoln Ave, Oakland, CA 94602



## Garden Description:

Sequoia Elementary School is committed to engaging students through multi-sensory and creative learning experiences in art and nature. The Sequoia School Garden, established more than 30 years ago, can be seen in late spring with its grape vine filled with purple grapes; its olive tree's canopy heavy with fruit; apple trees bursting with red goodness; and raised beds producing tomato, celery, snap peas, chard, sunflowers, and green beans.

A circle of tree stumps below the prominent olive tree provide a comfortable outdoor classroom. A dome-shaped greenhouse stands on the asphalt outside the garden, which allows students to witness the full life cycle of a plant from seed to seedling, to a full-grown fruit-bearing plant.

The perimeter of the garden is planted with drought-tolerant native plants like coffeeberry, sticky monkeyflower, salvias, and ribes. A shady corridor on the north side of the garden, previously laden with geraniums and weeds, is now being transformed into a native shade garden. A system of compost bins, a worm bench, and "decomposition holes" reside between the shady corridor and the north end of the garden. The greening of the school has recently spilled over into the schoolyard, where large paved areas are now covered with native plants, flowering crabapple, Chinese pistache, and decomposed granite pathways lead to outdoor seating areas.



## Highlights of Bay-Friendly School Garden Practices:

Sequoia School Garden registered as a Bay-Friendly School Garden in 2009. The well-established garden has been planted with native, drought-tolerant plants and is in the process of expansion; Sequoia is implementing a campus-wide plan for greening and renovating the schoolyard, converting asphalt into islands of Bay-Friendly gardens for play and outdoor classrooms. Sheet mulching is used to prepare the soil for new planting areas bordering the school. Within the teaching garden, hand-tilled raised beds produce a diversity of organic vegetables. Reused pipes provide support structures for snap peas.



Newly installed cisterns collect and store rainwater from the roof for use in the vegetable garden.



**Year garden started:** 1980

**Grades involved in garden:** K-5

**No. of garden teachers:** 2

**No. of students involved:**

Approximately 200

**Student hours in garden per week:**

45 minutes – 1.5 hours

**No. of students in the garden**

**at a time:** 15–35

**Length of a garden lesson:**

30 minutes – 1 hour

**Examples of garden curriculum:**

*Math in Garden* (UC Botanical Garden & Lawrence Hall of Science); *Kids in*

*Gardens*, (The Watershed Project)

FOSS Kits (Full Option Science System)

**No. of parents/community**

**volunteers involved:** 20-60

**Parent/community hours**

**volunteered per year:**

Approximately 400 hours

**Other garden activities:**

Afterschool garden club meets once a week involving up to 40 students

Parent and community workdays

are held three times a year.

**Total square footage of garden(s):**

Approximately 3,750 sq. ft.





## Sequoia Bay-Friendly Practices:



### Builds Healthy Soil

- Soil is protected from compaction with clearly defined paths covered with mulch.
- Nitrogen-fixing cover crops like fava beans enrich the soil



### Reduces Waste in the Garden

- Active compost bins and worm bench
- Reused pipes provide support structures for snap peas



### Conserves Water

- Timed drip irrigation system provides water based on plant needs.
- Cisterns collect rainwater from the roof to use for watering in the garden
- Sheet mulching, drought-tolerant plants and water-wise irrigation installed



### Creates Wildlife Habitat

- Solar-powered bird bath
- Bee condos



### Protects Local Watersheds and the Bay

- No invasive species are planted



### Contributes to a Healthy Community

- Organic vegetable garden provides tomatoes, snap peas, chard and green beans.



### Saves Energy

- Solar-powered fountain



### Builds a Network of Community Support

- Weekly meetings between garden educators and teachers
- Garden workdays involving parents, students and community members



### Encourages Play, Learning and Teaching in the Garden

- Outdoor classroom areas of tree stumps and picnic tables
- Propagation table at children's height

## Garden Management:

The garden is overseen by two garden teachers sustained through grants and community partnerships. Each teacher works with different grade levels and typically half the class stays with the classroom teacher while the other half is with the garden teacher.

## Garden Education Program:

Sequoia Elementary garden teachers address the academic needs of their students using a wealth of resources from recipe books to *Kids in Gardens* materials, *UC Botanical Garden's Math in the Garden* curriculum, and a variety of other resources.



## Bringing the Garden back into the Classroom:

Classroom curriculum meets the garden program in an integrated way. For example, the 3rd grade students study living systems through FOSS kits (Lawrence Hall of Science). The garden teachers focus on the plant-based living system component of the FOSS kit (plant life cycle, bean parts, weight, properties) and the classroom teachers facilitate the animal-based component in the classroom (raising crayfish and snails). The 3rd grade students learn questioning skills in language arts, so the garden educators integrated questioning into outdoor lessons, create Venn diagrams and maintain a KWL chart. The 1st graders study spiders in class, so they conduct an investigation in search of spiders, spider habitats and spider web

designs using magnifiers in the garden. Later in the school year, 1st grade students study pictorial graphs and tallies in mathematics. In the garden, they make a bar graph plotting the food group most prevalent in students' breakfasts for the day. In the fall, students harvest apples, make apple juice, and study the parts of an apple, corresponding to students' study of Johnny Appleseed. These are just a few of many

integrated weekly lessons as part of the garden program at Sequoia Elementary. Three kindergarten classes have a raised bed garden adjacent to their classrooms off of their playground area that they access regularly.



After "greening" the playground area, many teachers now bring their classes outside.

## Engaging Teachers:

After extending the campus "greening" efforts to the playground area, many teachers began to bring their classes outside. Teachers bring their students into the garden to draw, write, or interview and photograph one another for the student online Zine. The 3rd grade teachers collect mulberry leaves for the caterpillars to complete their metamorphosis in the classrooms. There is a weekly meeting among participating teachers and the garden teachers to share their experiences and collaborate on curriculum development. The garden is also used by Sequoia Elementary's afterschool program once a week.

## Engaging the Community:

The planted areas of the school are maintained by volunteer community work days three times a year. Sequoia school is an integral part of the neighborhood, and the school welcomes any neighbors' interest in volunteering at the school to help maintain the wonderful garden or to assist with classes.

## Funding:

- East Bay Community Foundation
- East Bay Municipal Utility District
- Oakland City Council member, District 4
- Reach-A-Star Foundation
- School Improvement Fund

For more information, go to [www.StopWaste.Org](http://www.StopWaste.Org)

