The present Alki Elementary School stands a short distance from where David Denny, Lee Terry, Captain Robert Fay, and John Low camped on September 27, 1851. The Duwamish Indian name for this site is Swaquamox. Denny and Terry stayed there while Low went back to Portland and returned with two dozen hopeful settlers in the schooner Exact. They landed on November 13, 1851 in the pouring rain, and optimistically named their settlement “New York-Alki”. “Alki” means “by and by” in Chinook Jargon, a trade language spoken by Indians and early immigrants.

Although Alki, as this location came to be called, did not become the center of a new metropolis, it has been continually inhabited since the arrival of the first settlers’ party. In 1868, the Olsen family moved to Alki Point and the next year the Hansen family came. These two Norwegian families stayed in the area for several generations.

Children who grew up on Alki first attended the West Seattle School (see Lafayette). From 1904 to 1909, those students rode a school wagon or walked on trails through the woods to reach their school. From 1909 to 1912, younger children went to a double portable on Carroll Street and Chilberg Avenue, the first Alki School. Children ate their lunches in an open shed in back of the school. When the weather was nice, classes were held on the long flight of stairs behind the school at the end of Carroll or in the madrona grove at the top of the stairs.

A larger site for a permanent school was purchased by the Seattle School District at Alki Point. This land was part of the original Olsen-Hansen properties. The new school opened in 1913 with approximately 175 students in grades 1–8. Only five rooms were used at first and the school shared a principal with Gatewood. Of note in the schoolhouse
was a gun rack. Boys carried rifles on their way to and from school through the woods for protection from wild animals. By 1918, Alki's enrollment had more than doubled.

In 1953–54, an auditorium/lunchroom, a gymnasium, and six new classrooms were added. The gym was larger than average, because it and an adjacent playfield were shared with the Seattle Parks Department. At the dedication ceremonies, held December 2, 1954, the PTA presented a play about the first settlers called “I Remember Alki”. The school reached its peak enrollment in 1958 with 620 pupils in grades K–6.

In April 1965, an earthquake seriously damaged the three-story 1913 section of the building, but miraculously no one was injured. Because the jolt came before school opened, the pupils were still on the playground. The damage necessitated busing of the students to seven other West Seattle schools for the remainder of the school year. The 1954 additions were repaired and made ready for use. During the next two years, while construction was going on, eight of the classes met in portables placed on the nearby parks department field.

The replacement addition, containing eight classrooms, a multipurpose room, and a learning resource center was dedicated in April 1968. Its design allowed for continuous progress learning, with a large room on the second floor accommodating six normal-size classes and folding wall sections to divide the space. Learning areas of varying sizes created more flexibility and were used mainly for 4th through 6th graders. In 1981–82, the school became a K–5 facility.

In 1987, Alki's test results were at an all-time low and the Seattle Post-Intelligencer listed it as one of 20 city schools needing drastic improvements. The following year, Pat Sander took over as principal and began working with staff and parents on overhauling the school's techniques, curriculum, and approach to education. The reading block was stretched from one hour to the entire morning. The next year the test results rose 12 percent. Then Stanford University's innovative Accelerated Schools program, which attempts to accelerate the learning progress for each individual student, was instituted. As a result, in 1992, Alki was selected as one of seven successful North American schools for a documentary film by the Agency for Instructional Technology.
Currently Alki’s students represent a diverse population and the school focuses on multicultural education. A bilingual center provides assistance for about 20 percent of the students. In 1996–97, with the help of artist Tip Toland, each student in the school created a tile based on a theme of folk tales and myths about the sea. The tiles were assembled into 10 framed displays as a permanent art exhibit in the school hallways. Because of the school’s location, students take many field trips to Alki Beach at low tide. The adjacent Alki Community Center provides a large gymnasium (complete with climbing wall) and space for before-and-after school activities.