There was a school (likely a log cabin) in the Coppell area as early as the 1870s, and by the 1890s, school was being held in local church buildings. Coppell had its own school building by at least 1897, and a newer two-story building served students at the turn of the century. In 1927, the Dallas County School System acquired six acres of land in Coppell along present Southwestern Boulevard for $900, upon which a new brick building was built. Two rural schools, Gentry School and Bethel School, consolidated with Coppell School and moved into the new building, part of which is, today, Pinkerton Elementary. In 1928, Coppell School had 175 students in grades one through eight. Upon finishing the eighth grade, students attended Carrollton High School to graduate from the twelfth grade.

Coppell School ceased to be a county school in 1959 when the Coppell Independent School District was created. In the early 1960s, a decision was made to expand Coppell School into a full twelve-grade school, and a grade was added per year until 1965, when the first high school class graduated from Coppell High School. Two years later, a second school building was built to house grades seven through twelve; that building today is Coppell Middle School West.

Until 1963, Coppell athletic teams were known as the Coppell Tigers. Then, partly because of the new professional football team in Dallas, and partly because Coppell was home to a junior rodeo, the mascot changed to the Coppell Cowboys.

As rapid city growth continued after 1967, Coppell Middle School was located on the same site as Coppell High School. Coppell Middle School East was added in 1986. Coppell High School moved to its present location in 1989, allowing Coppell Middle School West to take over its present location. Starting in 1983, Coppell added elementary schools until there were ten (the Lee Elementary site was re-purposed in 2008), and Coppell Middle School North, built in 1998, brought the number of middle schools to three.

In 2008, Coppell opened its second high school, New Tech High @ Coppell, with two grade levels, ninth and tenth, with 275 students. This twenty-first century choice high school was founded on the concept of collaborative and project-based learning and was the forty-second New Tech High academic community of its kind in the entire nation.

In 2014, Coppell opened Richard J. Lee Elementary, the first net-zero energy elementary in the state of Texas. This elementary is the first school in the new Cypress Waters development area.

Student growth in the district averaged over 16% from the mid-1980s. Today, as the largest employer in Coppell, with over 1200 employees, Coppell ISD has sixteen campuses serving over 11,000 students in grades K-12, including ten at the elementary level, three middle schools, two high schools, and an alternative campus.

Current and past school campuses include the following:

- Pinkerton Elementary, established as Coppell School in 1928, renamed Pinkerton in 1967.
- Coppell Middle School West, 1967. (Originally the north campus was the high school and the south campus was opened in 1979 as Coppell Middle School.)
- Lee Elementary, 1983 (closed in the summer of 2008).
- Coppell Middle School East, 1986.
- Cottonwood Creek Elementary and Valley Ranch Elementary, 1996.
- Coppell Middle School North and Denton Creek Elementary, 1998.
- Victory Place @ Coppell (alternative education campus), 2000.
- New Tech High @ Coppell, 2008. -utilizing the Lee Elementary building
- Richard J. Lee Elementary, 2014. -the "Lee" name was carried on to this new building