A roller coaster is an elevated railway with steep inclines and descents that carries a train of passengers through sharp curves and sudden changes of speed and direction for a brief thrill ride. Found mostly in amusement parks as a continuous loop, it is a popular leisure activity.

On a traditional roller coaster, gravity powers much of the trip. The potential energy for the entire ride is usually introduced in a large initial climb that is converted to kinetic energy on the first—and often sharpest—drop. Entertainment value is provided by the velocity of the descent as well as by the inverted loops, barrel rolls, and banked turns that create positive gravitational forces, or g-forces, that press down upon the rider in the seat. The so-called negative g-forces create the rider's sense of weightlessness when lifted from the seat over the peaks of hills. On most roller coasters, riders remain seated beneath a safety bar, but variations include riders' standing on a platform or hanging from a shoulder harness.

Among the predecessors of modern roller coasters were rides in Russia in the 15th century: sleds constructed of cut lumber and tree trunks sped down man-made ice-covered hills. The rides were more elaborate than simply sledding, reaching speeds of 50 miles (80 km) per hour and earning the nickname “flying mountains.” Both children and adults would make the trek up stairs about 70 feet (21 meters) high to an ice-block sled outfitted with a straw seat. Though some constructions were hundreds of feet in length, the trip back down was relatively brief. A ride inaugurated at St. Petersburg in 1784 comprised carriages in grooved tracks that traveled up and down small hills by means of power generated by the height and slope of the initial descent.

The activity was taken to Paris in 1804 in the form of a ride called the Russian Mountains (Les Montagnes Russes). Small wheels were added to the sleds on this ride, a key modification that later persuaded some historians to credit it as the first wheeled coaster. Little attention was given to safety measures, yet, oddly enough, the injuries that passengers suffered from runaway cars increased the ride's notoriety and attendance. In 1817 the Belleville Mountains (Les Montagnes Russes de Belleville) and the Aerial Walks (Promenades Aériennes) in Paris improved on the original Russian Mountains by adding locking wheels, continuous tracks, and, eventually, cables that hoisted cars to the top of the hill.