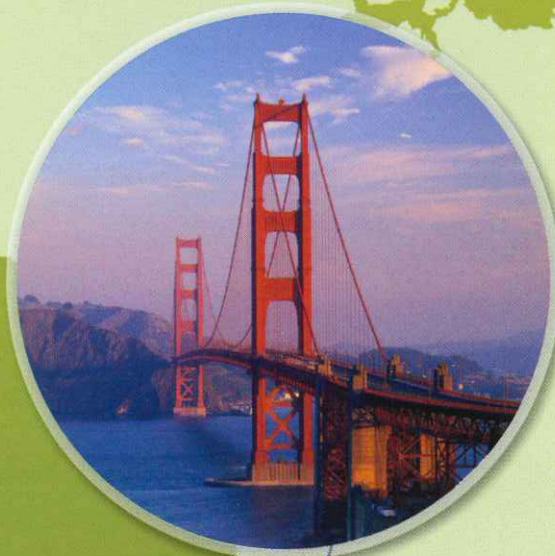
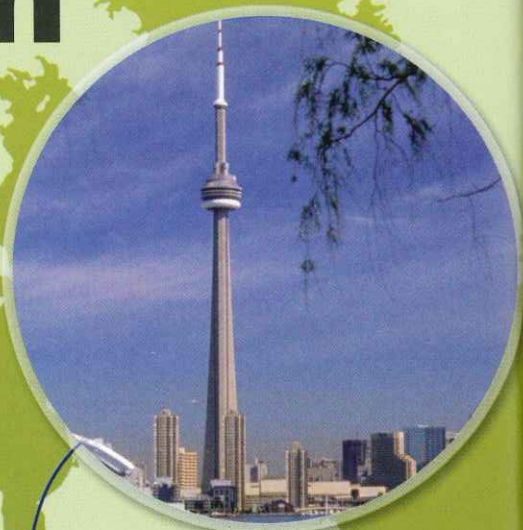


Introduction

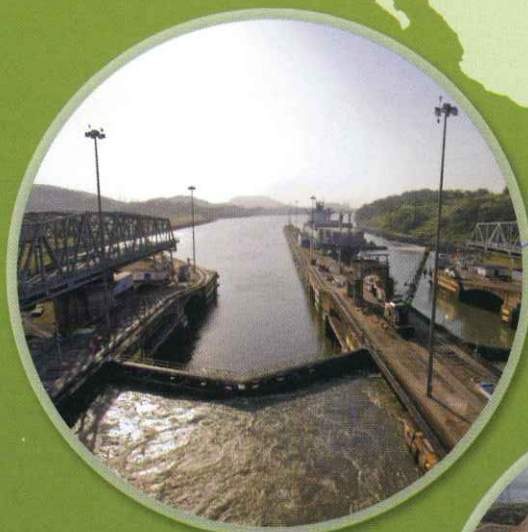


Golden Gate Bridge

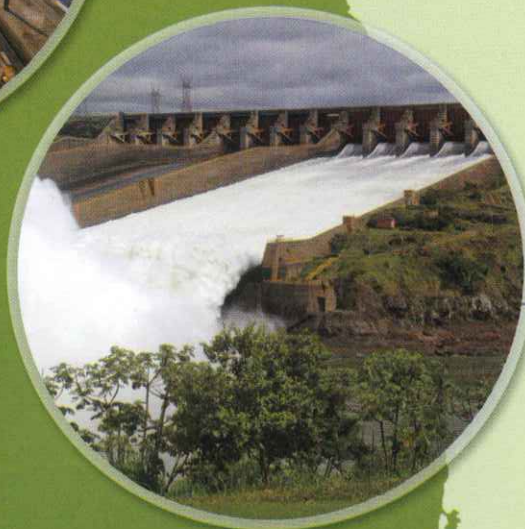


CN Tower

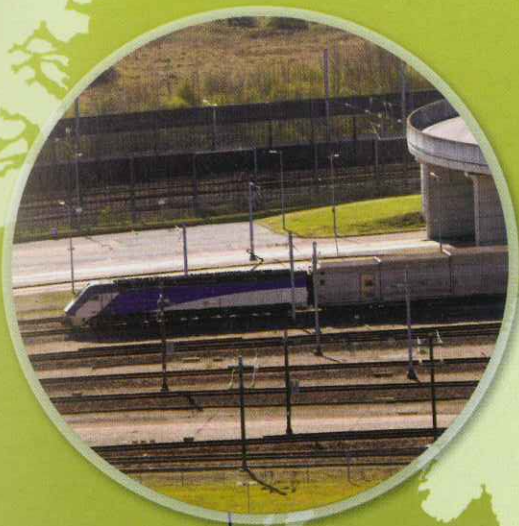
Empire State Building



Panama Canal



Itaipu Dam



**Channel
Tunnel**

Netherlands North Sea Protection Works



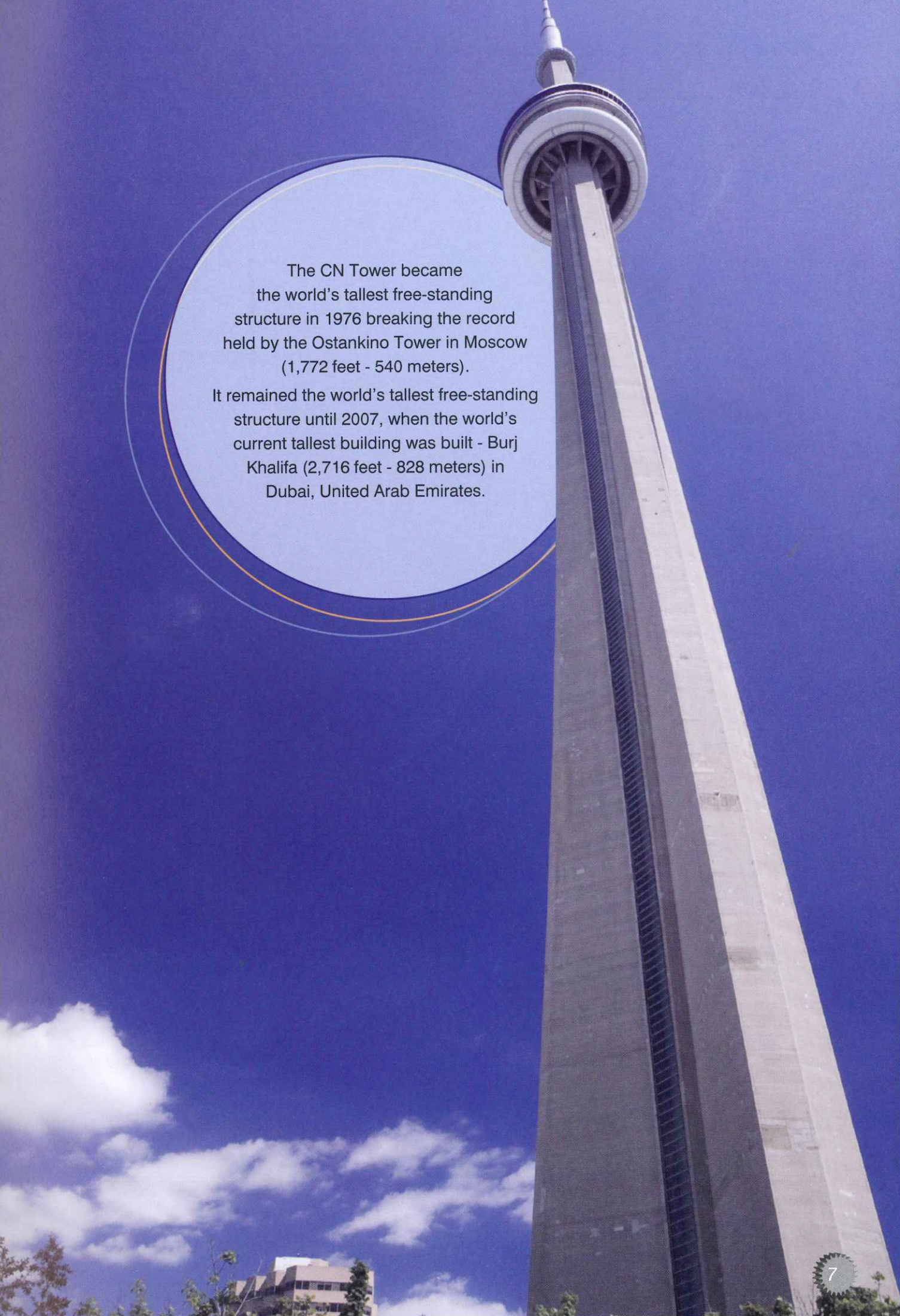
The seven modern wonders of the world, recognized by the American Society of Civil Engineers, are the seven greatest civil engineering achievements of the 20th century. They are wonderful because of their architectural greatness. They are special because they showcase modern man's ability to do the impossible. Each one has a positive impact on the world and is both a monument and an incredible feat of construction.

The CN Tower

The CN Tower in Toronto, Canada, is a telecommunications tower which broadcasts over 20 television, radio, and wireless signals across the city and even further into the province of Ontario.

The city of Toronto was in a building boom in the 1960s. All of a sudden, new skyscrapers were being erected towards the heavens. However, these impressive tall buildings blocked radio and TV signals in the city and made it difficult to move data between businesses. The Canadian National Railway (CN) decided to build a tall communications tower to tackle this problem. The tower had to be tall enough so that radio or TV signals would not be obstructed by other high-rise buildings.

Construction of the CN Tower got under way on February 6, 1973. A huge hole was dug in the ground to make the tower's foundation. Then, a 22-foot (6.7 meter) thick base made from concrete and reinforced with steel bars was put inside the hole. The tower built from these foundations was also made of concrete, which was mixed on site and pumped into the form. A massive total of 53,000 cubic yards (40,500 cubic meters) of concrete was poured into the form during the tower's construction. The CN Tower was constructed at an amazing rate of 18 feet per day. It was finished at a cost of \$63 million and opened to the public on June 26, 1976.



The CN Tower became
the world's tallest free-standing
structure in 1976 breaking the record
held by the Ostankino Tower in Moscow
(1,772 feet - 540 meters).

It remained the world's tallest free-standing
structure until 2007, when the world's
current tallest building was built - Burj
Khalifa (2,716 feet - 828 meters) in
Dubai, United Arab Emirates.



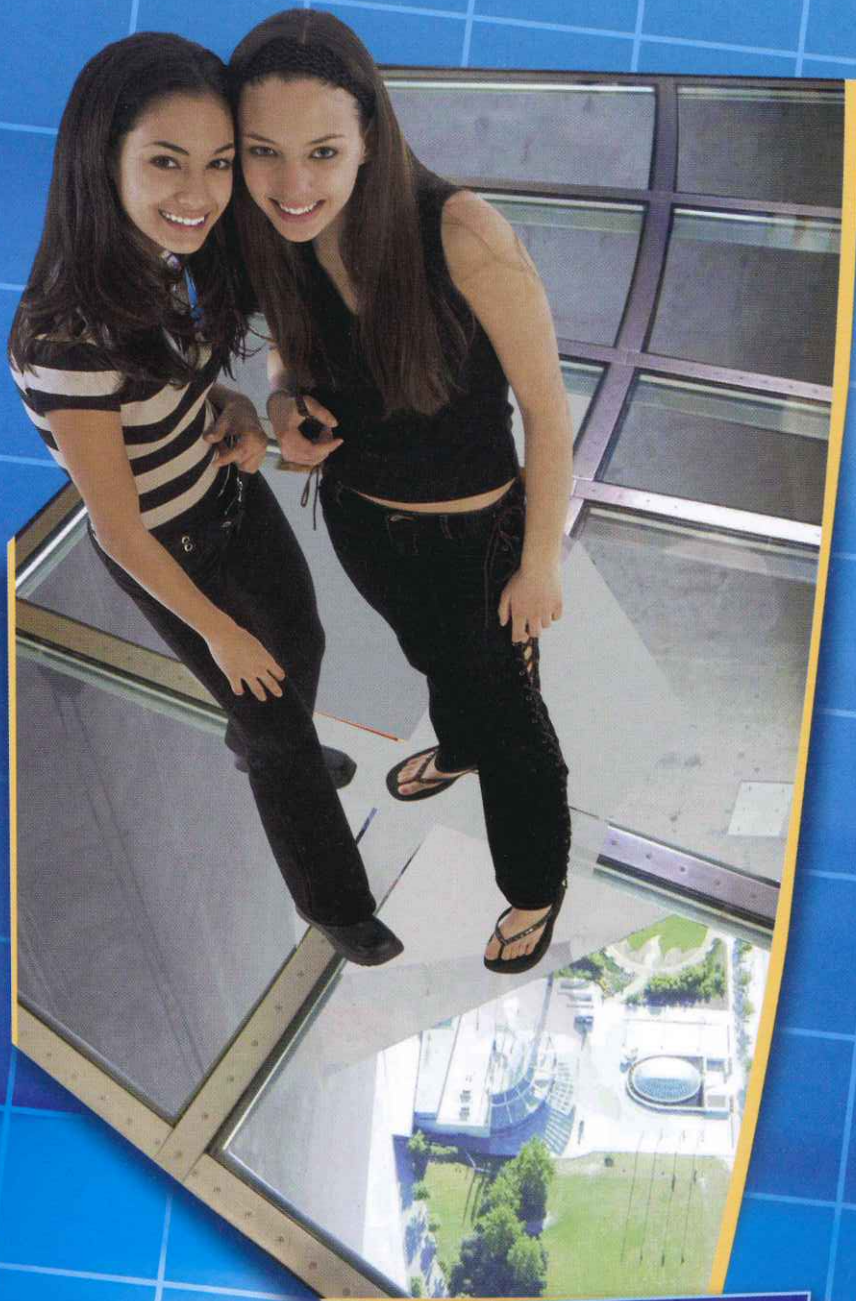
A major feat of engineering

The construction of the tower was a major feat of engineering in its own right. Construction began in 1973. Workers dug down 49 feet (15 meters) deep at the site of the CN Tower in order to lay the building's foundations.

It went up at a rate of 18 feet (6 meters) per day and the engineers used an aircraft-type bombsight to make sure the tower stayed perfectly straight as it was being built. The designers also used a wind tunnel to help them in the design of the tower to ensure that the strong winds at the top would not be a problem. Engineers also attached two 10-ton counterweights to the mast so that the tower wouldn't sway too much.

The construction company bought an old US military helicopter which was used to hoist the antenna to the top of the tower.

The tower has a wide base and gradually becomes thinner the higher it gets. More than halfway up the tower at 1,122 feet (342 meters) is a large, round pod. This is the main part of the tower and has seven stories. It was built around the base of the tower and lifted up into place as one piece. Inside are restaurants, shops, observation decks, and technical equipment. The rest of the tower is empty except for the elevators and stairwells. There is also a smaller observation deck higher than the main one, at 1,465 feet (446.5 meters). This is called the SkyPod and is located just below the tower's metal antenna.



The tower is struck by lightning an average of 75 times per year. Copper wires run from the top of the tower to below the ground to prevent damage from the lightning.

The tower can withstand gusts of wind up to 260 miles per hour (418 kilometers per hour).

Visitors can see as far as 100 miles (160 kilometers) away from the observation levels – that's all the way across Lake Ontario to New York State in the USA.

At 130,000 tons, the CN Tower weighs as much as 23,214 large elephants.

The emergency staircase, which runs up the interior of the concrete tower, is the longest metal staircase in the world with a total of 2,579 steps.

1,537 workers worked 24 hours a day, 5 days a week to build the tower in only 40 months.

An important symbol

In 1995, the CN Tower was declared one of the Seven Wonders of the Modern World by the American Society of Civil Engineers. Despite the fact the Canadian National Railway sold the tower in 1995, it is still known as the CN Tower. The tower is one of Canada's most important symbols and it attracts as many as 1.5 million visitors every year. It offers plenty of things for visitors to do.

The revolving restaurant on the main deck completes a full circle in little over an hour. One of the observation levels has a glass floor to allow visitors to look down on the city far below.

Some visitors take advantage of the thrilling EdgeWalk where people can walk around the 5-foot (1.5-meter) wide metal roof of the main pod. It's the world's highest outdoor, full-circle, hands-free walk, but visitors are kept secure by a safety rope which is tied to an overhead rail system.