





13 Skyscrapers Children Should Know

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PRESTEL

Munich · London · New York

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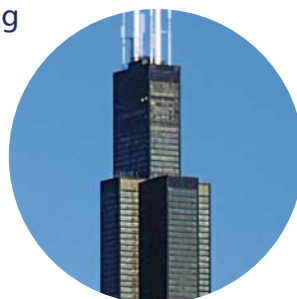
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Reaching for the sky

A skyscraper is no ordinary building. It can transform the look of an entire city, changing the way people live in that city and even how they feel about it. When you think of places like New York, Chicago, Hong Kong, or Dubai, you often picture the huge towers that make up those cities' skylines.

For thousands of years, people have tried to build structures that could touch the sky. The great pyramids of ancient Egypt were famous for their height, and they were the tallest buildings in the world for almost 4,000 years! In medieval Europe, elegant cathedral towers reached upwards toward heaven. But it wasn't until the late 1800s that the first true skyscrapers were built. They used the new technology of the Industrial Revolution:* steel-frame skeletons, elevators, and electric lights. At first, skyscrapers were designed as clean, quiet places where people could work—places set apart from the noisy, busy streets of the city. Over time, as skyscrapers became taller and more expensive to build, people began to rethink how to use them. Some of today's towers are built like miniature cities, with offices, hotels, and even gardens and parks within their gleaming walls.

In this book, you can learn about 13 of the world's most important and influential skyscrapers. Each chapter will discuss how these structures were built and how they helped transform their cities. Some of the words may be difficult to understand. So we've added an asterisk* to these words and defined them in a glossary at the back of the book.

At the top of each chapter, a timeline of events will tell you what was happening in the world when a particular skyscraper was built. You can also answer some quiz questions about what you read, and you will find tips for learning more about each tower. But most importantly, have fun on your journey to explore the tallest buildings on Earth!

Difficult terms are explained here.

44 • Glossary



40 • Shanghai Tower



36 • One World Trade Center



32 • The Shard



30 • Burj Khalifa



Guaranty Building

The Guaranty Building (now called the Prudential Building) stands proudly in downtown Buffalo, New York. Its thin, elegant piers* stretch upward, making the building seem taller than it really is.





Guaranty Building

“Form follows function”

People around the world have always admired tall buildings. For hundreds of years, cities throughout Europe were built around the stone spires of a church or cathedral. These buildings stretched upward and seemed to point the way to God and heaven.

But by the 19th century, the Industrial Revolution* was changing the way cities looked, especially in the United States. Places like New York and Chicago were growing rapidly. People from farms and small towns were moving there to find work in factories, department stores, and other businesses. The cities were growing so fast, in fact, that there was less and less land in the city center—where people wanted to work—for building new factories and office buildings. To solve this problem, city architects asked themselves how they could design a large structure that wouldn't take up much space on the ground, where land was scarce and valuable. The solution: build taller! Instead of having one company next door to another company, they could be on different floors of the same building. This arrangement enabled cities to house a growing number of workers, even in the most cramped, expensive downtown areas.

But making a tall building wasn't easy. As structures become higher and higher, strong winds, earthquakes, and other natural forces are more likely to damage them and even make them collapse. So the first skyscraper architects had to come up with a new kind of tall building that was both safe and durable. They solved this problem by



About This Building ...

Date
1896

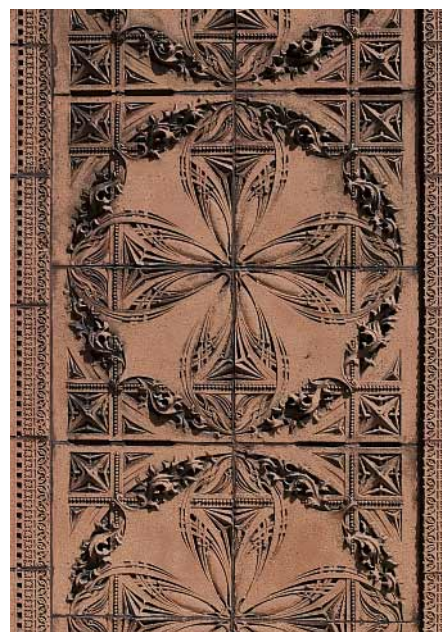
Place
Buffalo, New York,
USA

Style
Early modern

Height
167 feet (51 meters)

Floors
13

Designer
Louis Sullivan



Elegant decoration

Louis Sullivan loved to design fancy ornaments. The Guaranty Building is covered with terra-cotta* blocks that feature Sullivan's complex designs, which look somewhat like sprouting plants.

Home Insurance Building

The skyscraper era began with architect William Le Baron Jenney's Home Insurance Building in Chicago. It was the first building to use a steel-frame skeleton. This new type of construction made tall buildings lighter and more durable. Just a few decades after the Home Insurance Building was completed in 1885, architects could use steel frames to design skyscrapers more than 100 stories high.



using a new kind of material: steel. Steel was strong and flexible, and it could resist the power of strong winds. Architects found that they could make a sturdy, tall building around a steel “frame,” or skeleton. These frames were so sturdy, in fact, that the new office towers could have large windows, allowing people who worked in them to receive more light—and get beautiful views of the city from above! Other 19th-century inventions were also necessary to build a true

skyscraper. Elevators enabled people to quickly travel up and down, for example. Indoor bathrooms were installed on every floor. And electric lights made it possible to work in even the darkest corners of the building.

For some architects, however, the skyscraper needed to be more than just a marvel of technology. They wanted to make buildings that were as beautiful as they were practical. One of the loveliest early skyscrapers is the Guaranty Building (now called the Prudential Building) in Buffalo, New York. Its architect, Louis Sullivan, believed that a building’s “form” (its outward appearance) should reveal its “function” (what was going on inside the building). Sullivan covered the Guaranty Building with beautifully decorated blocks of terra-cotta,* but he did so in a way that reveals the form of the steel skeleton underneath. The tower’s elegant piers* stretch upward toward the arches on top. Looking at the Guaranty Building from the outside, you can almost feel yourself going up in one of its elevators! Louis Sullivan’s tower may not be the tallest of skyscrapers, but it was one of the first to make people feel they could truly work up in the sky.



Tower of Strasbourg Cathedral

Some of the earliest “skyscrapers” in Europe were the elegant stone towers of cathedrals. This tower is from the cathedral in Strasbourg, France, completed in 1439. At 466 feet (142 meters) in height, it was the world’s tallest building for more than 200 years—from 1647 (when a taller cathedral tower burned down) to 1874. Many “true” skyscrapers of the 1920s and ‘30s were built to look somewhat like Gothic* church towers.



Did you know?
One of Louis Sullivan’s first apprentices was the young Frank Lloyd Wright, who went on to become America’s most famous modern architect. You’ll see more of Wright later in this book!

1857 Central Park completed in New York City

1861–65 American Civil War

1825 Erie Canal completed

1815

1820

1825

1830

1835

1840

1845

1850

1855

1860

1865

1870

Woolworth Building

The Woolworth Building was among the first skyscrapers to truly soar over New York City. At 57 floors high and topped by a pointed crown, it looks like a super-sized cathedral tower!

Don't miss ...

If you visit the Woolworth Building, be sure to see the beautiful lobby. Its walls are covered in marble, and it has a glittering mosaic* ceiling—almost like an ancient church!





Woolworth Building

Reaching new heights

For many people, early skyscrapers like the Guaranty Building don't look much like real towers. They are only ten or fifteen floors high, and they often seem to be hidden by newer, much taller buildings. The first truly massive skyscrapers were built in America's grandest city, New York—and the best known of these is the Woolworth Building.

Frank Winfield Woolworth was one of the wealthiest businessmen in the United States. He built "Woolworth" stores across America, which provided people with clothes, tools, and other everyday items. Stores like Woolworth's changed the way people shopped. Instead of buying from local stores run by people in town, they now began to buy from "chain" stores that offered the same goods at lower prices.

This new kind of business required a new kind of building: a corporate headquarters* that controlled the activities of all the company's stores around the country.

F. W. Woolworth felt his headquarters should stand out from all the other businesses in New York. So in 1910, he hired the architect Cass Gilbert to design



About This Building ...

Date

1910–13

Place

New York City, USA

Style

Gothic Revival*

Height

792 feet
(241 meters)

Floors

57

Designer

Cass Gilbert

Medieval style

Cass Gilbert designed the Woolworth Building with Gothic*-style decoration over the windows and piers.*