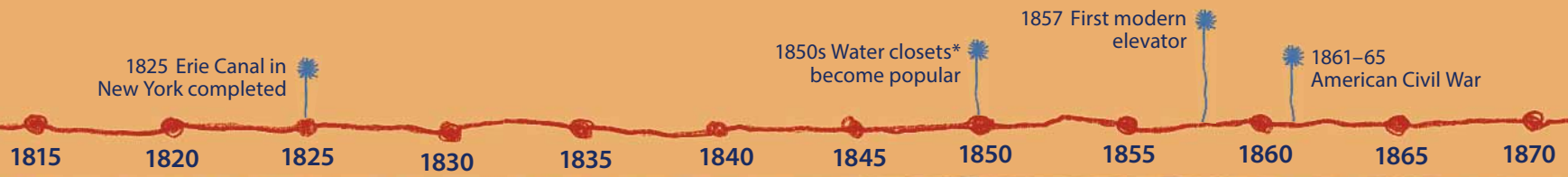




# 13 Skyscrapers Children Should Know



### 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

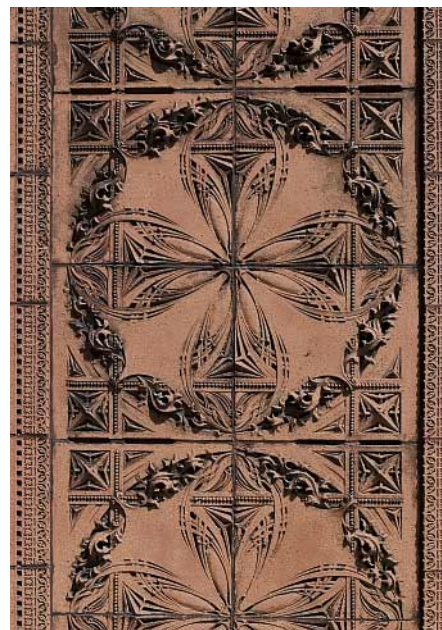
**Place**  
Buffalo, New York, USA

**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.\*

a building far taller than any built before. Gilbert's Woolworth tower had to be constructed in several different sections. The first 30 floors of the building provide a stable base, above which stretches a thin, elegant tower. Gilbert designed the top of the tower to resemble a medieval Gothic\* spire. And as Louis Sullivan did with the Guaranty Building, Gilbert used tall, thin piers\* to make the tower look like it is stretching up toward the sky. At 57 stories and 792 feet (241 meters) in height, the Woolworth Building towered over all the other buildings in New York. And its elegant spire became a landmark that could be seen from miles away, helping to

create a new kind of city skyline—one that celebrated American industry rather than God or religion. The Woolworth also enabled New Yorkers to see their city from a new perspective. From the building's vast number of windows (about 5,000 in all), visitors could get a true bird's-eye view of their growing metropolis. The Woolworth Building remained the tallest in the world for almost 20 years, from 1913 to 1930!

### Building an early skyscraper

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This photo and the one on the opposite page show how an early skyscraper—the Flatiron Building in New York—was constructed. First, the steel skeleton was erected. Then, the builders would “cover” the skeleton with stone or other materials. In this picture, you can see how some of the floors have not yet received their “coat” of stone!





## Flatiron Building

Although Chicago was the birthplace of the skyscraper, by 1900 New York City had become the center of the skyscraper-building world. The Flatiron Building was the first New York tower to become famous around the world. Designed by a Chicago architect named Daniel Burnham, this 20-story tower fits neatly into its triangular-shaped lot. Because of this shape, the Flatiron Building's appearance changes depending on where you look at it. If you view it from the side, it looks wide and massive. But if you view it from the front of its curved corner, it seems extremely thin. This photo shows the Flatiron Building while it was still under construction.



1837 Chicago incorporated  
as a city

1847 *Chicago Tribune*  
newspaper founded

1861–65 American Civil War

1871 Great Chicago Fire

1825

1830

1835

1840

1845

1850

1855

1860

1865

1870

1875

1880



#### About This Building ...

**Date**

1923–25

**Place**

Chicago, Illinois, USA

**Style**

Gothic Revival\*

**Height**

462 feet  
(141 meters)

**Floors**

36

**Designer**

John Mead Howells  
and Raymond Hood

## Tribune Tower

### A worldwide design competition

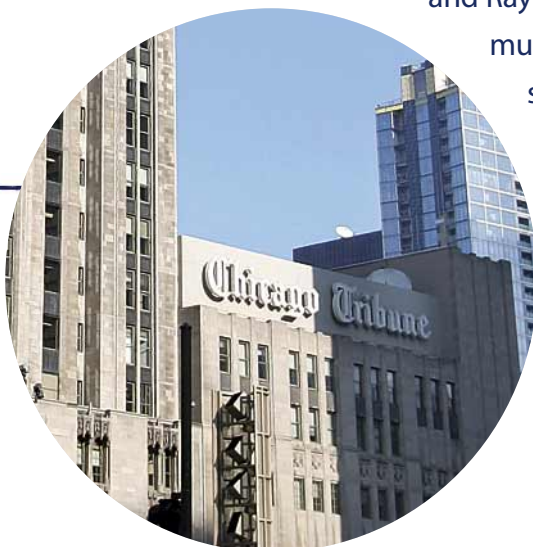
By the 1920s, skyscrapers had become a world-famous symbol of the United States and its way of life. Architects from around the world were fascinated by American culture, and they began designing their own skyscrapers—even though most countries could not afford to build skyscrapers at that time. So when the *Chicago Tribune* newspaper company announced an international design competition for their new headquarters in 1922, they received designs from architects in Germany, Finland, Austria, and many other nations. Some of the designs were completely new. German architect Walter Gropius, who ran a modern art school called the Bauhaus, designed a tower of glass and steel without any fancy decoration. Other designs were more humorous. Austrian architect Adolf Loos's design resembled a huge Doric column\* from an ancient Greek temple!

But the design that won the competition was much more conservative than these other plans. The American architects John Mead Howells and Raymond Hood devised a building that looked much like the Woolworth tower, with a Gothic-style spire resting on top of a larger base.

Many architects, including Louis Sullivan, were upset with this choice. They wanted the *Tribune* to build a more daring tower—one that would reflect Chicago's very modern, fast-paced way of life.

#### A newspaper palace

The Tribune Tower became a mighty symbol of the *Chicago Tribune* newspaper.



1885 First skyscraper built in Chicago

1893 Chicago World's Fair

1914–18 World War I

1919 Bauhaus art school founded in Germany

1929 Stock market crash in New York

1885

1890

1895

1900

1905

1910

1915

1920

1925

1930

1935

1940



### Tribune Tower

Like the Woolworth Building, the Tribune Tower reminds people of a giant medieval church tower. Its top floors were designed to resemble an elegant crown of stone!

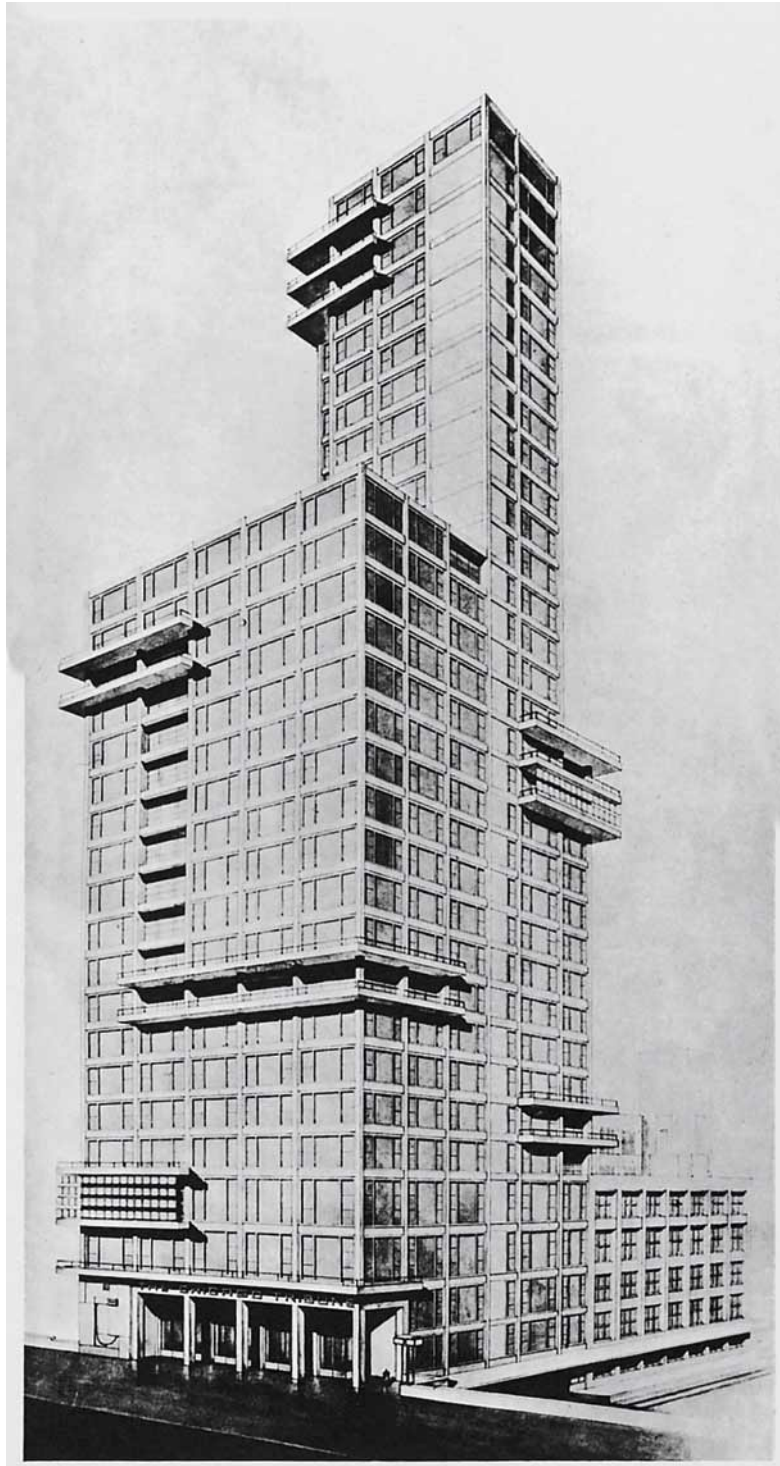
### A Tribune column!

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Some architects had fun with their designs for the Tribune Tower competition. Adolf Loos's skyscraper is actually a huge Doric column,\* similar to the columns seen on ancient Greek temples. Loos knew his design would be impossible to build, but perhaps he wanted to make a humorous comment about American skyscrapers of the time, which were often made to look like historic buildings.



But despite these critics, the Tribune Tower has become just as famous a landmark in Chicago as the Woolworth Building is in New York. The tower offers visitors an unusual sight on its lower walls. Bits and pieces of ancient buildings from around the world have been stuck into these walls. Next



### A modern tower

Walter Gropius's design for the Tribune Tower is very different from the winning design by Howells and Hood. Gropius helped develop the modern International Style\* of architecture. International Style buildings are made of simple shapes and modern materials. After World War II ended in 1945, Gropius's style of building would become popular around the world, while buildings like Howells and Hood's Tribune Tower would be considered old-fashioned.

to each fragment, a small plaque describes where it came from and how old it is. *Chicago Tribune* reporters had traveled all over the world to cover important news stories, and the fragments tell visitors a little bit about those travels.

### Good to know!

Many of the historic stone fragments on the Tribune Tower's lower walls come from delicate, ancient buildings like the Taj Mahal in India and the Parthenon in Greece. Today, it is illegal to take pieces of ancient buildings as souvenirs.