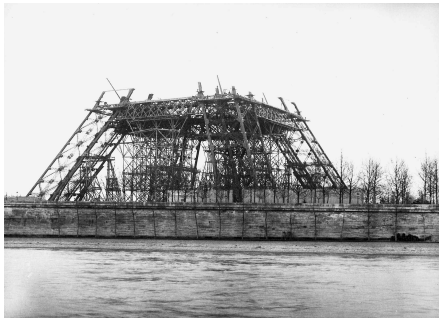

IMAGE SEVEN: H. Blancard. Untitled (construction of the Eiffel Tower). February 10, 1888. Platinum print, 6 1/8 x 8 11/16" (15.6 x 22.1 cm). The Museum of Modern Art, New York. Purchase

IMAGE EIGHT: H. Blancard. Untitled (construction of the Eiffel Tower). April 1888. Platinum print, 6 1/8 x 8 11/16" (15.6 x 22.1 cm). The Museum of Modern Art, New York. Purchase

IMAGE NINE: H. Blancard. Untitled (construction of the Eiffel Tower). June 1888. Platinum print, 8 15/16 x 6 1/8" (22.4 x 16 cm). The Museum of Modern Art, New York. Purchase

IMAGE TEN: H. Blancard. Untitled (construction of the Eiffel Tower). August 1888. Platinum print, 8 15/16 x 6 1/8" (22.4 x 15.6 cm). The Museum of Modern Art, New York. Purchase

IMAGE ELEVEN: Fairchild Aerial Surveys, Inc. *The Mount Everest of Manhattan: The Silvered Peak of the Chrysler Building.* 1930. Gelatin silver print, 8 3/4 x 6 13/16" (22.2 x 17.3 cm). The Museum of Modern Art, New York. The New York Times Collection

INTRODUCTION

Cities were growing quickly at the turn of the twentieth century, and as a result architects began to design buildings with a vertical orientation. In 1853, Elisha Graves Otis introduced the world's first safety elevator in Yonkers, New York. This invention changed the shape of the modern world. Before then, buildings could not be built taller than five or six stories, because there was no way to transport people and objects to the higher floors; the invention of the elevator allowed buildings to rise beyond those limitations. The Otis Elevator Company is still in existence, providing elevators for many of the buildings we use every day.

In the late-nineteenth century, engineers began experimenting with new ways of using iron and steel. Traditionally these materials were used for transportation structures such as bridges, train tracks, and railway stations. Through trial and error, engineers developed steel skeletons made of vertical columns and horizontal beams to support tall buildings. The Home Insurance Building (1884–85) in Chicago was the first to be constructed with a complete steel-frame structure. Visit the PBS Web site for the television program *Building Big* (www.pbs.org/wgbh/buildingbig) to learn more about this building. These design innovations were also used in the construction of famous structures such as the Eiffel Tower, the Statue of Liberty, and the Brooklyn Bridge.

LESSON OBJECTIVES

- **Students will explore the inventions and material innovations that made the construction of skyscrapers possible.**
- **Students will become familiar with the roles of architects and engineers.**
- **Students will make connections between architecture and history.**
- **Students will learn the terms ziggurat and cladding.**

INTRODUCTORY DISCUSSION

- **Have students imagine what everyday life would be like if elevators had never been invented. Have them consider whether life would be different. Discuss why or why not.**
- **Ask students to imagine what a world without tall buildings would be like.**
- **Have students turn their ideas into a piece of creative writing.**

IMAGE-BASED DISCUSSION

- **Show your students the four photographs of the Eiffel Tower being constructed.**
- **Ask students to imagine what it would have been like to be a citizen of Paris while the tower was being constructed. Ask them if they think everyone liked the tower when it was first built.**
- **Have students imagine what purpose the tower might have served. Ask them how they think people traveled up and down it.**

At the time of its construction, the Eiffel Tower, at 1,063 feet (324 meters), was the tallest structure in the world. It was named after Gustave Eiffel, the founder of a company specializing in structural metalwork (he is also known for designing the Statue of Liberty's structural support). The company's primary focus was building structural supports for bridges and railway stations. The Eiffel Tower, which became an icon of modernity, was not surpassed in height until 1929, when the Chrysler Building was erected in New York City.

The tower, equipped with an Otis elevator, was built for the World's Fair of 1889 and was originally going to be demolished after the fair; instead, it became a defining feature of the Paris **cityscape**.

- **Next, show your students the Fairchild Aerial Surveys photograph of the Chrysler Building.**
- **Have them describe what they see using the vocabulary and concepts (such as line, shape, and form) from previous lessons.**
- **Ask them to write down five words that describe what they see in the photograph.**
- **Next, have them look at the top of the building. Ask them if the shape they see there reminds them of other forms or buildings they have seen.**

The Chrysler Building, which served as the headquarters for the Chrysler Motor Company, was designed by architect William Van Alen. At the time of its construction, the building was the tallest structure in the world at 1,046 feet (319 meters) high. The building features a steel skeleton covered with cladding—a skin of brick and metal—much like our own bodies, which have skeletons to support them and skin to protect them. The upper section of the building was styled in a **ziggurat** or "wedding cake" form. This style of building combines a pyramid shape with successively receding stories and was used as far back as the temple towers of the ancient Assyrians and Babylonians.

- **Next, have your students examine the surrounding structures and compare their size to that of the Chrysler Building.**

At the time of its construction in 1930, the Chrysler Building was the world's tallest structure and the most-decorated tall building anywhere. The building was adorned with large steel gargoyles and designs that recalled car parts such as hubcaps and mudguards. Automaker Walter P. Chrysler was interested in a building that reflected the technological advances of modern times. The design provoked a strong response from the general public; some people found it frivolous compared with the more sedate-looking buildings being constructed at the time. Legend has it that competition among architects to create the world's tallest structure led Van Alen to construct the 185-foot (56-meter) spire inside the building, keeping it hidden until the very last moment. Another myth is that the spire was designed as a dock for blimps.

- **Have your students find the spire in the photograph.**
- **Have them compare the style of the building to surrounding buildings in the neighborhood. Ask them what their opinions of the design are, whether they like it, and why or why not.**

The Chrysler Building was not the world's tallest structure for long. It was soon surpassed by the Empire State Building, which was completed the following year.

ACTIVITIES

Both the Eiffel Tower and the Chrysler Building were landmark structures of their time. Have your students research other significant constructions from the past, such as those of the Egyptians, as well as modern structures of the twentieth and twenty-first centuries.

Consult the online resources section of this guide to research more images of the Chrysler Building. Have your students pay close attention to the sculptural ornamentation that was added to the building after construction was finished. Print out 8½-x-11-inch copies of the image of the Chrysler Building and have your students design and create a new skin and ornamentation for the building with collage; provide paper in a variety of colors and textures to allow them to explore a range of possibilities. Have them share their work with a classmate and discuss what their new designs would look like towering high over the New York City skyline.

Give your students a hands-on structural-engineering experience using toothpicks, string, and gumdrops. Have them experiment with ways to make their structures stable by pushing together the materials (to create **compression**) and pulling them apart (to create **tension**). Some materials, such as bricks, are strong when compressed, and others, such as steel cables, provide tension, which keeps the building's elements from falling down.