

LESSON FOUR: Exploring the Design Process



IMAGE TWELVE: Ludwig Mies van der Rohe. American, born Germany. 1886–1969. Seagram Building, New York. 1954–58. View of north side. Photo: Hedrich Blessing. The Museum of Modern Art, New York

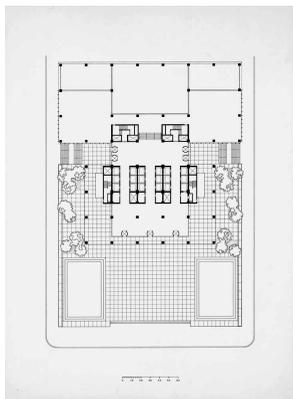


IMAGE THIRTEEN: Ludwig Mies van der Rohe. American, born Germany. 1886–1969. Seagram Building, New York. 1954–58. Site and floor plans. Ink on illustration board, 27½ x 20" (69.9 x 50.8 cm). The Mies van der Rohe Archive

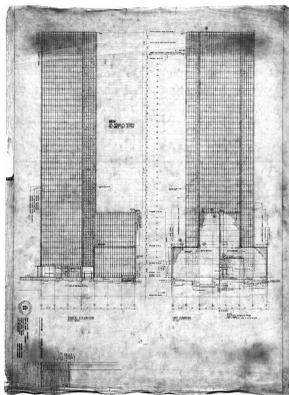


IMAGE FOURTEEN: Ludwig Mies van der Rohe. American, born Germany. 1886–1969. Seagram Building, New York. 1954–58. North and west elevations. Pencil on ozalid, 37½ x 52" (94.6 x 132.1 cm). Revised February 18, 1957. The Mies van der Rohe Archive

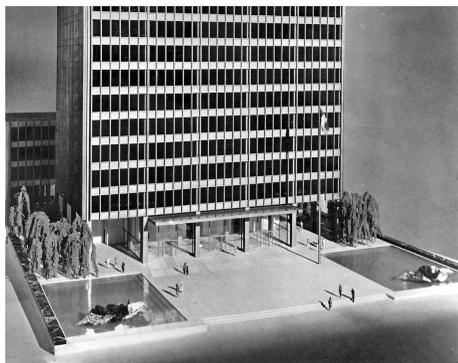


IMAGE FIFTEEN: Ludwig Mies van der Rohe. American, born Germany. 1886–1969. Seagram Building, New York. 1954–58. Model, aerial view of plaza and lower floors. Photo: Louis Checkman. The Museum of Modern Art, New York



IMAGE SIXTEEN: Ludwig Mies van der Rohe. American, born Germany. 1886–1969. Seagram Building, New York. 1954–58. Construction photograph showing steel frame. Photo: House of Patria. The Mies van der Rohe Archive. Gift of the architect



IMAGE SEVENTEEN: Ludwig Mies van der Rohe. American, born Germany. 1886–1969. Seagram Building, New York. 1954–58. View, office interior. Photo: Ezra Stoller. Esto Photographics



IMAGE EIGHTEEN: Ludwig Mies van der Rohe. American, born Germany. 1886–1969. Brno Chair. 1929–30. Chrome-plated steel and leather, 31 ½ x 23 x 24" (80 x 58.4 x 61 cm). The Museum of Modern Art, New York. Gift of Knoll International, Inc., USA

INTRODUCTION

In 1954, Joseph E. Seagram & Sons announced that in celebration of its hundredth anniversary the company would build a corporate office building in New York City to house its headquarters. The company purchased land on the east side of Park Avenue between 52nd and 53rd streets as the site for the building. Architects Ludwig Mies van der Rohe and Philip Johnson, who at the time was director of the Department of Architecture at The Museum of Modern Art, were commissioned to design the building, which was completed in 1958. The Seagram Building stands 525 feet (160 meters) tall and has forty-two floors, and the total budget for the project was \$45 million. In 1983, the company sold the building to Lehman Brothers, a prominent New York financial investment firm, for \$375 million. The Seagram Building (as it is still known) became an icon of modern construction, setting the style for skyscrapers in New York for years to come.

LESSON OBJECTIVES

- Students will explore the design process through photographic documentation and architectural plans and elevations.
- Students will use primary-source documentation to explore the history of a building.
- Students will compare and contrast works of architecture and industrial design.
- Students will become familiar with the work of Mies van der Rohe and the **International Style** movement.
- Students will learn the terms **plan, elevation, cantilever, ornamentation, and scale**.

INTRODUCTORY DISCUSSION

Mies was a prolific architect, designing homes, office buildings, banks, museums, and school buildings in the United States, Canada, and Europe. The youngest of five children in Aachen, Germany, Mies worked in his father's stone-cutting shop until he was thirteen years old, gaining valuable experience that he would later draw on as an architect. When he was nineteen, he moved to Berlin to work with Peter Behrens, an architect who specialized in the design of factories and houses. It was during this time that Mies received his first commission, a private residence for a professor at the university in Berlin. From 1930 to 1933, Mies was

the director of the **Bauhaus**, a school for art, architecture, industrial design, and crafts that was founded in 1919 in Weimar, Germany, and moved in 1928 to Dessau. Mies's position at the school coincided with the rise of Adolf Hitler, who severely restricted many freedoms and activities, including cultural and artistic production. Under political pressure from the Nazi regime, which was staunchly opposed to modern art and architecture, Mies was forced to close the school. In 1938, he came to the United States, where he became director of the architecture department at the Armour Institute of Technology (now the Illinois Institute of Technology). He died in Chicago, Illinois, in 1969.

- **As a class, discuss what the term "modern" means.**

"Modern" can mean "related to current times," but it can also indicate a particular set of ideas about form and structure that, at the time of their development, were new and experimental. "Modern architecture" is a term that refers to buildings designed in a style that first appeared in the early-twentieth century and continued through 1970.

IMAGE-BASED DISCUSSION

- **Begin the lesson by showing your students the photograph of the Seagram Building, view of north side (Image 12).**
- **Have them describe the shape of the building.**

Mies's works are often referred to as belonging to the **International Style** of architecture. Some of the distinguishing features of the International Style are sleek, simple designs; flat surfaces and rectangular shapes; and the use of materials such as glass and steel. This term was coined for a 1932 exhibition at The Museum of Modern Art called *Modern Architecture: International Exhibition*. It was an exhibition that ignited the public's interest in modern architecture.

- **Share with your students the definition of the International Style. Ask students if the design of the Seagram Building reflects the characteristics of the International Style. Discuss why or why not.**
- **Continue the exploration of the Seagram Building by showing your students the site and floor plans and the north and west elevations of the building (Images 13 and 14).**

Before construction can begin, architects and engineers create two-dimensional plans and drawings of the design and build a three-dimensional **model** of the building to clarify their intention for it. This elevation is a side view of the north and west sides of the Seagram Building. Both of these sides are visible in the photograph. The plan is a two-dimensional drawing from a bird's-eye view.

Plans and elevations serve as orientation tools for architects and engineers as the building is being constructed. Once they have refined their drawings and made all the necessary revisions, they will create a master (finished) set to serve as the official record of the project.

- **Show your students the photograph of the model of the building (Image 15).**

The three-dimensional model of the building was constructed to **scale**, according to the architect's instructions.

- **Ask students to describe what they see.**

- Have them compare the plan and elevation to the photograph. Ask them to locate in the elevation the shapes that they see in the photograph.
- Ask students why they think it's necessary to create two- and three-dimensional versions of a design before it is built.
- Have students think about how this practice informs the final construction of the building.
- Show your students the construction photograph that displays the steel frame of the building (Image 16).

This photograph was taken as the building was being built. Construction photographs, along with the plans, elevations, and models, serve as documentation of the entire project from start to finish.

- Have students compare the construction photograph to the plan and elevation drawings.
- Ask them which features in the plan correspond to those in the photograph.
- Ask them whether all of the features in the plans are visible in the construction photograph. Discuss why or why not.
- Have them look at the front (west) side of the building and ask them what they see.

In Mies's design, the building is set back ninety feet from the sidewalk, creating a plaza in front of the building. This allows people to see the building from multiple viewpoints—they can stand back and admire it or come right up close—and provides space for a flow of people and activity between the structure and the surrounding environment.

- Show your students the photograph of the office interior (Image 17).
- Ask them what kinds of activities they think happen in this space.

The Seagram Building was designed primarily as an office building, which was the most common function of skyscrapers at the time, but Mies expanded the building's use by including two restaurants and an apartment building. Both architects, Mies and Johnson, contributed to all aspects of the design, including the development of signage and way-finding throughout the building.

- Have students make a list of all the objects they see in the photograph of the office interior. Have them gather in small groups to compare their findings with those of other students.
- Now show your students the Brno Chair (Image 18).
- Ask them if they can locate the chair in the photograph of the office interior.

All of the objects in the office were designed to be mass-produced, including the Brno Chair. The chair was designed in 1930 for a house, also designed by Mies, in Brno, Czechoslovakia (now the Czech Republic), but it was intended for both residential and office use. The tubular steel frame of the chair is based on a cantilever and is a familiar style today, but at the time it was considered avant-garde. This chair is still in production and can be purchased through furniture dealers.

- **Have students compare the furniture to the building itself. Ask them what common design elements or characteristics they see.**
- **Ask students if the Brno Chair fits the ideals of the International Style movement. Discuss how.**

Nonstructural glass walls were hung on the steel frame of the Seagram Building. The glass does not contribute to the building's stability; instead, it is used like a wrapping. Mies liked to use glass, which provides light, transparency, and reflection, and made conceptual plans for many glass skyscrapers that were never built. (He didn't know it at the time, but glass is a material that would later be used in developing **sustainable** architecture.) Mies had wanted the skeleton of the building to be visible, but building codes dictated that structural steel could not be exposed because it was a fire hazard. Instead, he used nonstructural bronze I-beams to imply structure.

- **Ask your students if they can locate the I-beams in any of the images.**

The beams are visible from the outside, running vertically from the very top of the building to the bottom. Mies hoped that people would look at the building and see the illusion of structure. In keeping with his less-is-more ideal, Mies used colored glass and the skeletal structure in place of applied **ornamentation**.

- **Ask students if they feel Mies accomplished his goal of creating an illusion of structure.**

ACTIVITIES

Have your students create plan and elevation views of the classroom. They can use simple shapes to develop a key (a map legend) to identify various details, such as furniture, windows, and doors. They can introduce the concepts of scale and **ratio** by using graph paper and assigning a ratio of one box to one foot. Before they begin to draw, ask students to decide, as a group, what kind of information should be included in their maps. You can expand this lesson by asking the students to map rooms in their homes. Consult the information included in the Bibliography and Resources section of this guide for further information about plans and elevations.

As a follow-up, students can participate in You Design, an interactive activity featured on the Web site Red Studio (www.moma.org/redstudio), in which students design a school environment.