

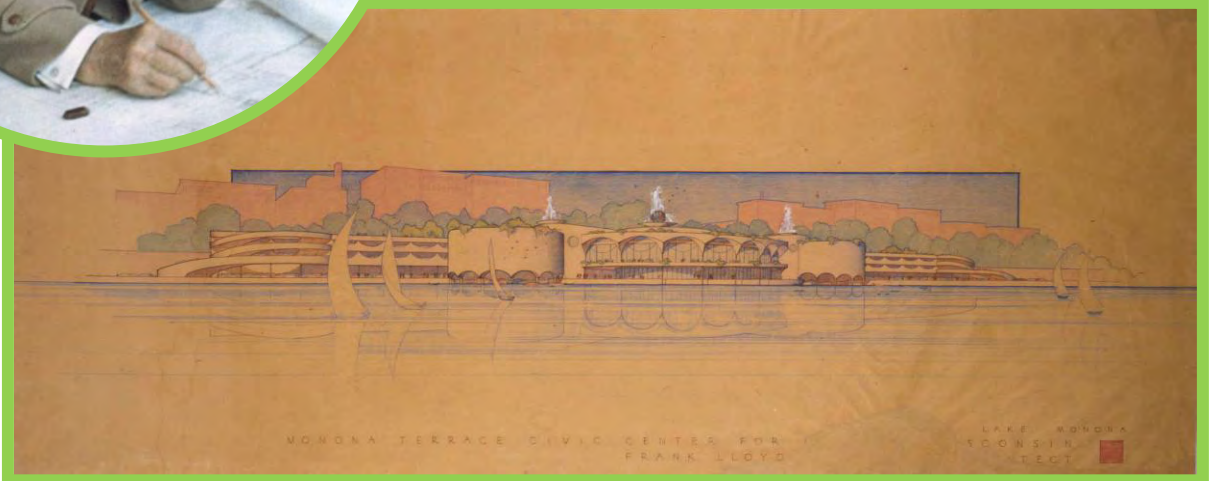
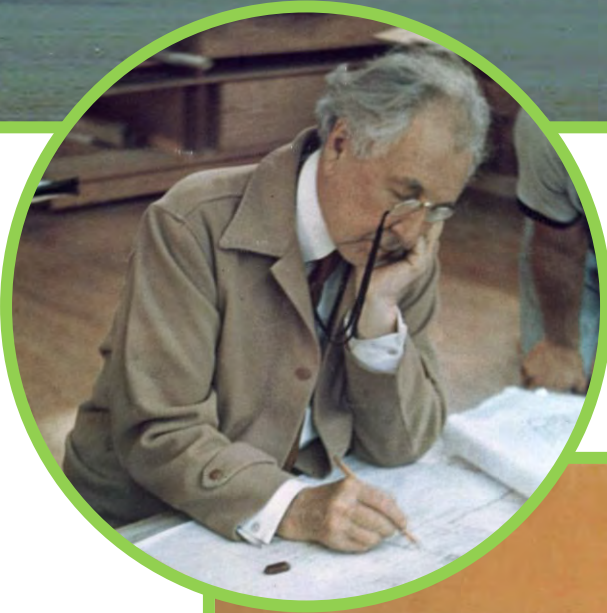
MONONA TERRACE TEACHER GUIDE



Above: Monona Terrace Community and Convention Center completed 1997

Left: Wisconsin Historical Society, WHS-87749

Below: Frank Lloyd Wright's 1959 Rendering of Monona Terrace
Used with permission of the Frank Lloyd Wright Foundation,
Scottsdale, AZ



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Welcome!

This teacher guide is a companion piece to Monona Terrace's student programs. Using Frank Lloyd Wright's architecture as a text, our programs can enrich your STEM, social studies, language arts, and art curriculum.

Tour and program facilitation is inquiry-based and encourages students to articulate their ideas, use reasoning, and make applications to real-world scenarios. All offerings are designed to support Common Core and state academic standards.

Contact the Tour Office to make reservations or receive more information.

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About Frank Lloyd Wright and Monona Terrace

Monona Terrace Community and Convention Center was designed by the world-renowned architect Frank Lloyd Wright. He spent more than 70 years of his life creating designs that revolutionized the art and architecture of the 20th century. Many innovations in today's buildings are products of his imagination. In total, he created 1,141 designs - including homes, offices, churches, schools, libraries, bridges, museums and other types of structures. Of those, 532 were actually constructed and today 409 still remain in existence. But Wright didn't just design structures, he also designed furniture, glass artwork, lamps, dinnerware, linens and the list goes on. To better place his creative mind into perspective - he was born in 1867, just two years after the Civil War ended and lived until 1959, two years after the first space satellite was sent into orbit; a remarkable time for a remarkable man.

Monona Terrace opened its doors on July 18, 1997, after nearly 60 years of controversy. This beautiful facility is located on the shore of Lake Monona, and was first designed by Frank Lloyd Wright in 1938 as a cultural, governmental and recreational building. Wright reworked the design several times between 1938 and 1958 before signing off on the final plans seven weeks before his death in 1959. In 1992, Madison residents voted to construct Monona Terrace- on the Lake Monona site originally proposed by Wright- as a community and convention center. While Wright's final 1959 design was used for the building's exterior, the interior was redesigned by Wright's apprentice and Taliesin architect Anthony Puttnam.

Today this magnificent 5-level, 352,610 square foot structure hosts national and community events, and is an architectural destination for thousands of visitors every year.

Pre-Visit Discussion

Monona Terrace's Architect, Frank Lloyd Wright

Vocabulary words in bold type

Architect Frank Lloyd Wright (1867-1959) sat at his drafting table and looked at his drawings for a city auditorium called Monona Terrace. He had **designed** hundreds of buildings in his lifetime... but this one was unusual. For over twenty years, government officials disagreed about the building plans and about whether Wright should be architect. And yet Wright believed that the people of Madison, his hometown, would eventually build Monona Terrace to add a special building to this beautiful city.

What did Frank Lloyd Wright design in his career?

Frank Lloyd Wright worked on over 1000 **designs** for all kinds of buildings, including homes, churches, offices and public buildings. Wright also created all of the parts inside a building, like furniture, fabric, and stained glass windows. He even gave one of his clients a doghouse!

What were his childhood experiences?

Wright lived in southwestern Wisconsin for most of his life. He grew up in Madison and spent summers with his relatives in the country. Young Frank loved to spend time outdoors. His nature walks took him through woods, hills and valleys. He and his friends raced ice-boats on the Madison lakes.

At age nine Frank received a set of **Froebel** (*froy-ble*) **blocks** from his mother, and it quickly became his favorite toy. He was **inspired** by the shapes of the blocks and began to see that **geometry** was everywhere in the world around him.

Why were his ideas so different?

Frank Lloyd Wright's architecture was very unique for its time. He called his buildings **organic** because he designed them to blend into their surroundings. He chose **materials, shapes, colors, and textures** to make the buildings appear as if they grew out of the ground.

As a designer, Wright thought about how a building would be **functional** for the people inside. He also wanted to make places that were beautiful, inspiring, and connected to nature. He believed that architecture could make our lives better.

What efforts took place so that Monona Terrace could finally be built?

In 1957, state lawmakers passed a bill that said no buildings over 20 feet tall could be built on the Lake Monona lakeshore. Frank Lloyd Wright died just two years later so he was unable to see construction of Monona Terrace. (The bill was finally repealed.) City leaders became interested in the project again in the 1980's. One of Wright's students was able to use the architect's **exterior plans** to design a convention center. The citizens of Madison voted to approve the project in 1992, and in 1997 the building was finally completed!

Pre-visit Discussion Continued...

Conversation Starters:

1. What do you learn from toys or games that you play with?
 2. What interests do you have that might lead to a career?
 3. Why would Frank Lloyd Wright want to design the furniture and dishes for a house he designed?
-

Vocabulary

architect - person who designs and draws a building

cantilever- a free horizontal piece, such as a tree branch, that projects away from a support, such as a tree trunk

design- an outline, sketch or plan for an intended purpose

exterior- outside

form- three-dimensional shape

Froebel blocks- educational toys invented by German Friedrich Froebel

function- use

geometry- branch of mathematics that studies shapes

green design- design that is environmentally responsible and resource-efficient

inspire- helps to spark an idea, gives one the urge to create

interior- inside

materials- what a structure is made of

organic architecture-buildings that are in harmony with, and draw inspiration from, the environment

plan- drawing that shows the building with its roof removed as seen from above

scale- size and proportion of a building in relation to the people who inhabit it

site- the geographic location of a building; the land on which a building is constructed

structure- arrangement of parts of a building to help it stand up

Student Handout

What Does an Architect Consider When Designing a Building?



Site: the place where a building will be located

The site chosen for a building will often influence an architect's decisions about size, materials and shape. Frank Lloyd Wright encouraged his clients to build in natural settings like the one depicted in the photograph so they could be closer to nature.

Photo: Fallingwater Residence, Bear Run, Pennsylvania

Materials: what a structure is made of

For his home and studio buildings in Arizona, Wright designed concrete walls embedded with colorful rock found on the desert floor. He often chose local materials to make a structure look like it belonged in its environment.

Photo: Taliesin West, Scottsdale, Arizona



Shape (two-dimensional) or Form (three-dimensional)

The Marin County Civic Center's circular theme is an example of Wright carrying one main shape throughout a building's exterior and interior design. With rooms, furniture and details using the same geometry, all the parts fit together and create a feeling of unity.

Photo: Marin County Civic Center, San Rafael, California

Scale: size and proportion of a building in relation to the people who inhabit it

Wright designed buildings with a human scale and low ceilings that created a feeling of shelter, as shown here at the entrance to the Unitarian Meeting House. Sometimes this more confining space introduces you to a larger one with higher ceilings and big windows so that the feeling of freedom is more powerful!

Photo: Unitarian Meeting House, Madison, Wisconsin





Color

Designers often use color to create feelings. Color has the power to energize, to calm, or create other emotions. Frank Lloyd Wright often relied upon the natural color of the building materials he selected, but would add brighter color to textiles and stained glass windows he designed.

Photo: Annie Pfeiffer Chapel, Florida Southern College, Lakeland, Florida

Structure: arrangement of parts in a building to help it stand up

Wright designed tall, thin columns to support the weight of the ceiling of the Johnson Wax Company's Great Workroom of the Johnson Wax Headquarters. He was required to test one first – it successfully supported 60 tons, much more than the 12 tons required. These columns were referred to as “dendriforms” because of their tree-like appearance. The supporting pads on top were called lily pads.

Photo: Construction site of S.C. Johnson Administration Building, Racine, Wisconsin Credit: WHI-1911



Function: use of a building

The Monona Terrace Ballroom is a large space of over 13,000 square feet, designed to accommodate a large event. Moveable walls can be pulled out to convert the large room to smaller ones. The result is a highly functional space that serves many different types of gatherings.

Photo: Monona Terrace Community and Convention Center, Madison, Wisconsin

Organic Architecture: buildings that are in harmony with, and drawing inspiration from, the environment

Wright incorporated native materials and natural land features into his designs so that his buildings would “blend in” with their surroundings. Today's architects continue to practice “green” architecture by choosing materials and construction methods that are energy efficient and less harmful to the environment.

Photo: Jacobs II Residence, Madison, Wisconsin



Pre-Visit Activity

Reading a Building

Students will be asked to look closely at Monona Terrace's architecture during their visit. In this activity, students practice observing details of another Frank Lloyd Wright-designed building.

Objectives:

- Students will understand that an architect makes choices about a building's materials, shapes, colors and textures.
- Students will analyze and interpret Frank Lloyd Wright's specific choices to create an organic building, or one that is harmonious with the site.

Observe and Describe

Review the activity to prepare for discussion. Print and disseminate the sheet marked "Student Handout." Allow the students several minutes to make observations and write their responses to the worksheet questions:

Describe the natural features of this site in Pennsylvania.

Describe the shapes, colors and materials of the building.

Describe two building features that Frank Lloyd Wright designed so that people could enjoy a view of the outdoors.

Invite the class to share their answers. You can add to the discussion with these facts about Fallingwater.

The horizontal rectangular terraces give the building a low, flat profile.

The building materials are concrete, steel and limestone. The limestone is native to the site- pieces have been put together to resemble how rock appears in nature. You cannot see the steel inside the concrete that strengthens the terraces.

Projecting terraces provide private areas where you can enjoy nature. The Kaufmann Family would often eat meals or read on the terraces. The continuous band of windows means that your view is not interrupted.

Analyze and Interpret

Ask students analytical questions to probe further into Wright's design.

Do you think any parts of the design were inspired by the site?

Do you think the building is harmonious with the surroundings as Wright intended? Why?

What kind of experience did he want the inhabitant to have at Fallingwater?

Imagine you were at Fallingwater. What would you see, hear and smell?

*If you were to describe the building, what simile would you use? Fallingwater is like...
a stack of waffles?
a box with open drawers?
Something else?*

Background Information

Wait to share this background information with students until after they have engaged in close looking and describing.

In 1934 Frank Lloyd Wright accepted a job that would change his life forever. His client, Edgar Kaufmann, was a successful department store owner in Pittsburgh. The family owned a lovely piece of wooded property near Mill Run and its centerpiece was a magnificent waterfall.

Kaufmann and Wright toured the site, which Wright recalled in a 1954 interview with Hugh Downs:

*"There in a beautiful forest was a solid, high rock ledge rising beside a waterfall, and the natural thing seemed to be to **cantilever** the house from that rock bank over the falling water....Then came (of course) Mr. Kaufmann's love for the beautiful **site**. He loved the site where the house was built and liked to listen to the waterfall. So that was a prime motive in the design. I think that you can hear the waterfall when you look at the **design**. At least it is there, and he lives intimately with the thing he loves."*

Another prominent feature of the site was a large boulder where the family used to picnic. Wright's design incorporated the large boulder into the living room fireplace.

Another recommended resource-

CG animated video, running time: 4:31 <https://www.youtube.com/watch?v=9CVKU3ErrGM>

Extension Activity

Write about Fallingwater as a setting for a scene in a short story. Be descriptive about its materials and surroundings.

Student Handout
Reading a Building

Describe...

Look closely at this photograph of Fallingwater and answer the questions below.



1. A building “site” is land on which that building will be constructed. Describe the natural features of this site in Pennsylvania.
2. Describe the shapes, colors and materials of the building.
3. Describe two building features that Frank Lloyd Wright designed so that people could enjoy a view of the outdoors.

Planning Your Visit

Where to Find Us

Monona Terrace is located at One John Nolen Drive in downtown Madison, Wisconsin.

Phone: 608-261-4000

Fax: 608-261-4049

Website: www.mononaterrace.com

Hours

Programs may be scheduled in advance during public hours: 8am-5pm, seven days a week.

Lunch Facilities

Our rooftop is available for picnics in warmer months, as weather permits. Sorry, there are no indoor lunch facilities at Monona Terrace.

Accessibility

Monona Terrace is handicapped accessible; special accommodations are available upon request.

Gift Shop

Monona Terrace Gift Shop has a wide selection of items for children. Please let tour staff know if you would like to have time to visit the Gift Shop.

Booking Your Program

See our Program Menu for descriptions, costs, and time duration. An online form is available to make your program request: www.mononaterrace.com/studentprograms Staff in the tour office will contact you to complete the reservation and send a confirmation email with program details.

Payment Policy

When you have reserved your tour or activity please note that payment is due at least two weeks in advance. We accept checks, cash or major credit cards. See admission fees in the Student Programs Menu section.

Group Sizes

Your classes will go out on tour in smaller groups of 10-15. All educators are encouraged to create these groups prior to your visit.

Chaperones

Enlist the help of chaperones-one chaperone for every 10 children is requested. Please remind them of ways they can be of service, including keeping stragglers with the group, accompanying any students who may leave the tour or assisting with disruptive students.

There is an admission cost of \$4/chaperone for each program. Fees are waived for school staff.

Onsite Conduct

Please remind students that they are representatives of your school or organization. We request that all students show respect for the building and stay together as a group. We will ask them to keep voices at a low volume as Monona Terrace is a functioning convention center and may have meetings or conferences in progress.

Directions and School Bus Parking

Monona Terrace is located at One John Nolen Drive in Madison, WI.

If coming by school bus, the drop off and pick up location is the Gift Shop Entrance on Level 4, which is accessible from the Carroll/Wilson Street parking entrance. The clearance for the bus drop off is 12'. Do not attempt to park the bus in the underground-parking ramp, as the clearance there is only 8'.

Please note: If you are coming in a motor coach, please contact Monona Terrace tour staff in advance of your visit. Some motor coaches are too tall for our 12' clearance.

Bus parking passes may be arranged in advance if spaces are available. Passes are \$6 and valid for the day and time of the tour only. Bus passes must be posted visibly in the front window on the driver's side to avoid parking fines. It is your responsibility to communicate with your bus company and/or driver about parking restrictions.

Student Program Menu and Corresponding Standards

Monona Terrace Tour- On guided tours, students explore how buildings are designed- from where architects draw inspiration, to their choices of materials, shapes and scale. The tour engages students in thinking about the impact of buildings on themselves and their environments. \$3/student

DISCover Domes Activity + Tour –Planning a field trip to the State Capitol to see the granddaddy of domes? Then visit Monona Terrace for hands-on dome building! This program begins with a tour highlighting the importance of domes and geometry at Monona Terrace. Through cooperative learning, students will use cardboard discs to build large scale domes and better understand these iconic structures. \$4/student

DISCover Structure Activity- Students will work in teams creating and building structures with cardboard discs. Facilitators will emphasize the structure of nature, skyscraper, or domes, based on your curriculum. \$3/student

Froebel Block Workshop – Frank Lloyd Wright played with these wooden blocks as a youth and acknowledged them as an important influence on his architecture. In hands-on block workshops, students create geometric designs and draw connections to the larger world. **Sessions take place at your school.** \$2/student

The Wright 3 - Monona Terrace offers a series of interdisciplinary lessons to accompany “The Wright 3,” a mystery book for 10-12 year old readers. Materials are available at no cost in pdf format upon request.

Schools may qualify for reduced rates based on the percentage of children participating in free-and-reduced lunch programs, as determined by the Department of Public Instruction.

Fees are waived for school staff. Chaperones are \$4/person for each program.

Monona Terrace programs address state standards for social studies, art and design, science and math.

Wisconsin Academic Standards		Tour	Froebel	Discover
Social Studies	Geog1.a.4-5 Summarize how location affects people, places and environment.	✓	✓	✓
Grade 4	Geog4.a.4 Describe how certain places may have meanings that distinguish them from other pl	✓		✓
	Geog5.a.3-4 Compare the positive and negative effects of human actions on our physical environment.	✓		✓
	Hist2.c.i Analyze individuals, groups and events to understand why their contributions are important to historical change or continuity.	✓	✓	
	Hist3.a.i Compare events in Wisconsin history to a current issue or event.	✓		✓
	Hist3.b.i Identify different historical perspectives regarding people and events in the past.	✓		
	PS2.c.4-5 Summarize how people organize to gain a greater voice to impact and change their communities.	✓		
Art & Design	C.4.1 Explore the elements of principle and design	✓	✓	
Grade 4	D.4.1 Know basic information, such as the history, public art, and unique architecture...	✓		
	D.4.2 Know about artists and designers, such as architects, furniture designers, critics....	✓		
	D.4.3 Know that the environment influences the use of art, architecture and design.	✓		
	D.4.4 Learn about basic concepts in art, such as “form follows function,” “less is more,” balance, symmetry, and originality.	✓	✓	
	H.4.4 Create three-dimensional forms with paper, clay, and other materials.		✓	✓
	K.4.1 Connect their knowledge and skills in art to other areas, such as the humanities, science...		✓	
Science	C.4.1 Use the vocabulary of the unifying themes to ask questions about objects, organisms, and	✓		✓
Grade 4	C.4.2 Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.			✓
	C.4.7 Support their conclusions with logical arguments.			✓
	D.4.6 Observe and describe physical events in objects at rest or in motion.			✓
	H.4.1 Describe how science and technology have helped, and in some cases hindered, progress in providing better food, more rapid information...	✓		
Common Core Standards		Tour	Froebel	Discover
Math	Mathematical Practice: 1. Make sense of problems and persevere in solving them.		✓	
Grade 4	Mathematical Practice: 6. Attend to precision.		✓	
	Mathematical Practice: 7. Look for and make use of structure, discerning patterns.		✓	
	Critical Area: Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.	✓	✓	
	Operations and Algebraic Thinking: Generate a number or shape pattern that follows a given rule.		✓	
	Geometry: Recognize a line of symmetry for a two-dimensional figure		✓	
Common Core Literacy in All Subjects				
Grade 4	College and Career Ready: Comprehend as well as critique. Value evidence. Respond to the varying demands of audience, task, purpose and discipline.	✓	✓	✓
	Reading: 4. Determine the meaning of general academic and domain-specific words or phrases	✓	✓	✓
	Reading: 7. Interpret information presented visually, orally, or quantitatively and explain how the information contributes to an understanding of the text in which it appears.	✓		
	Speaking and Listening: 3. Identify the reasons and evidence a speaker provides to support parti	✓	✓	✓