

# Frank Lloyd Wright: Organic Design and Green Architecture

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## ABOUT THIS LESSON

This lesson serves as an introduction to the American architect Frank Lloyd Wright's architectural style and his design influences. Once students are exposed to who Frank Lloyd Wright is, they will design and build a model of their own house that is environmentally friendly using the principles of design that they learned from Wright.

## GRADE LEVEL

Middle/High School (6th - 12th)

## CLASSROOM TIME

30 minutes - Introduction to Frank Lloyd Wright and Organic Architecture

30 minutes - Analyze a Frank Lloyd Wright Home (could also be assigned as homework)

Optional: 30 minutes - Share out their findings with the class.

4-5 class periods - Creating a model of an environmentally sustainable house

## RESOURCES

For this message

- [Frank Lloyd Wright: The Art of Organic Design Powerpoint](#)
- [Ukiyo-e woodblock printmaking with Keizaburo Matsuzaki](#) (8:47)
- [Frank Lloyd Wright Foundation](#)

## SUGGESTED MATERIALS

- Foamboard
- Craft sticks (various sizes)
- Wooden blocks
- Wooden beads
- Balsa wood
- Tacky glue
- Scissors
- Tape
- Acrylic paint
- Paint brushes

- Cardstock
- Clear Acetate
- Pebbles

- Sand
- Mosaic tiles

## BACKGROUND

Arguably the most famous and influential American architect, Frank Lloyd Wright, revolutionized the modern living space. He designed houses, offices, churches, schools, skyscrapers, hotels and museums. Over the course of his 70-year career, he designed over 1,000 structures, 532 of them were actually built, creating some of the most creative and innovative spaces ever designed.

But where did he get his design influences from? Did they spring forth, unaided from his own mind? Of course not. His design aesthetics was greatly influenced by his upbringing, the world around him and what he was exposed to, mainly Louis Sullivan (Wright's first employer), nature, music, Japanese art, prints, and buildings, and Froebel Gifts.

“The making of a good building, the harmonious building, one adapted to its purposes and to life, [is] a blessing to life and a gracious element added to life, is a great moral performance.”

– Frank Lloyd Wright

## OBJECTIVES

Students will...

- Analyze the residential designs done by Frank Lloyd Wright and evaluate their environmental and sustainability features
- Research a specific environment and evaluate the challenges that an architect would have to build in such a climate and present on their findings
- Design and build a model of their own environmentally sustainable house influenced by Frank Lloyd Wright's designs
- Write a description of their environmentally sustainable house

## STANDARDS

### ***Next Generation Science Standards:***

HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-3. Evaluate a solution to a complex real-world problem based on

prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

HS-ETS1-4. Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

## **LESSON**

The lesson begins with the **Introduction to Frank Lloyd Wright and Organic Architecture PowerPoint**. The PowerPoint introduces students to who Frank Lloyd Wright is, as well as his major accomplishments and architectural influences, focusing heavily on his interest in woodblock prints. It also provides a basic introduction into Wright's design philosophy of organic architecture.

At the conclusion of the PowerPoint, students will, either alone or with a partner, be asked to choose one of Wright's residential designs to analyze and answer the following questions:

1. What is the name of your structure? When was it built?
2. Where is your structure located?
3. What are some of the environmental challenges for homeowners in this location?
4. What are some design features that Wright used to solve some of these issues?
5. What inspiration can you take from Wright's design if you were going to design your own home?

Once students have finished analyzing one of Wright's structures, they can share their findings with the class.

Once students have completed their background research on Frank Lloyd Wright's designs, they will begin creating their own environmentally sustainable house in groups of 2 or 3.

### ***Brainstorm/Background Research:***

Students will begin their house design by doing some initial research and brainstorming for their house. Student will answer the following questions/complete the following tasks:

- Choose a location where you would like to build your house: Desert, rainforest, mountain, prairie, waterfront, etc.
- What are the environmental/climate challenges that are associated with your location?
- What local building materials will you have at this location?

- What terrain will you have to design around?
- How have indigenous people in your location traditionally constructed homes to suit the climate?
- What options do architects have for being environmentally friendly to address the needs of your occupants?
- Use the information that you gather in your research to make a digital collage/mood board of your initial ideas when designing a house for this location.

### ***Architectural Design:***

Students will sketch out their initial ideas for their environmentally friendly house. On their sketch they will make note of the following in one or two sentences per question:

- How does the design protect against climate?
- What materials would you use when constructing this house?
- Are there any unique natural features that you can take advantage of? How is that being done in your design? Remember Wright wanted to blur the lines between the home and the outside world.
- What do you imagine the outside terrain to look like?

### ***Model Construction:***

Based upon their sketch, students will use the materials provided to construct a model of their house.

### ***Realtor's Brochure:***

To wrap up their design, students will create a brochure for their model as if there were a realtor providing clients with information about their design.

- A written description of your environmentally friendly house including all relevant design features
- A description of how you were inspired by the designs of Frank Lloyd Wright
- An analysis of how you took advantage of, and responded to the natural world surrounding your house?
- Pictures and sketches of the model that you constructed

## **EXTENSIONS**

Students can always develop their own floor plan for their environmental design as well using Google Sketch Up or another CAD design software.