TEACHING BY DESIGN

FRANK LLOYD WRIGHT TRUST

BUILD IT WRIGHT

GRADE: 3-5, Middle School, High School
TIME: OPEN

With each design he created, Frank Lloyd Wright pushed the boundaries of architecture while also creating something personal and intimate for his clients. In this lesson, participants are challenged to create a design that is both innovative and unique while still meeting the needs of their client. Finished designs will be modeled in 3-dimensions and to scale.

INTEGRATED SUBJECTS: Visual Art, Math, & Science

MATERIALS | RESOURCES

Examples of Wright's designs
Rulers
Grid Paper with ½ inch squares (pre-cut to
    size of base)
Bases (foam core, tag board, or chipboard)
Tag board or cardstock
Pencils
Erasers
Ruler
Spray mount
Tracing paper
Glue
Coffee Stirrers
Scissors
Client Cards
Site Cards

OBJECTIVES

1. Understand the relationship between architect and client.
2. Be challenged to create something unique and innovative while still meeting specific requirements.
3. Build a three-dimensional model to scale.

ESSENTIAL QUESTIONS

1. What methods and strategies do architects and designers use to develop their ideas?
2. What is the relationship between the built environment and quality of life?
3. What is different about experiencing a design in three-dimensions versus two-dimensions?

LESSON PROCEDURE

EXPLORE

- Examine different Wright designs with participants and discuss how Wright met the needs of each of his clients. Examples include the Frederick C. Robie House, Laurent House, and SC Johnson Administration Building. For images and further examples explore https://www.teachingbydesign.org/multimedia/

ENGAGE

- Further discuss the relationship between architect and client. **Ask:** What might some of the challenges be? How do you balance what you want as the designer with the needs of your client? What design choices did Wright make to create a unique building specific to his client?
- Assign or have participants randomly choose a client card. Available at: https://www.teachingbydesign.org/multimedia/
- Optional: For an additional challenge have participants also choose a site card. Available at: https://www.teachingbydesign.org/multimedia/
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DESIGN

- Have participants create a design for their specific client. The designs should address each of the needs the client has listed. Initial designs can be done in sketchbooks.
- Once participants have had time to create a couple of sketches, help them begin to lay out their floor plan.
- The floor plan and model will be built using a ¼'' scale.

> ¼" = 1'
> ½"=2'
> 1" = 4'

- Discuss the concept and importance of scale with participants. Provide rulers and review a couple of quick examples together. Have participants note that the grid paper is marked with 1/2''squares. **Ask:** How many feet is each square equal to?
- Help participants mark out the outline for each room, creating a footprint for their building and a floor plan with each of the rooms. Remind participants to mark the placement of windows, doors, and other openings.
- Once floor plans are completed, have participants create a roof plan. For simplicity, have participants use 8' and/or 12' ceilings. (8' is normal)
- To create a roof plan:
- Label each room with either an "L" (low) or an "H" (high) to mark ceiling heights.
- Using tracing paper and a graphite pencil, trace the buildings footprint or footprint section. Make sure to create separate ceiling plans for each high or low ceiling. On exterior walls, you may want to create an overhang by extending the outline.
- Turn the tracing paper upside down and gently tape on top of a clean piece of cardstock.
- Re- trace the footprint or perimeter of the building to transfer the graphite outline onto the cardstock.
- Cut out the various roof/ceiling pieces. Make sure to label which ones are low and high.
- Set aside until all walls are completed.

- **To Build the model walls:**
    1. Have participants cut walls from cardstock keeping in mind the same ratio that was used to draw the floor plan. Walls should be either 2" or 3" (8' or 12') tall, depending on the ceiling heights that were chosen. Wall lengths should match the lengths drawn on the floor plan.
    2. Cut all windows and doorways before the walls are affixed upright.
    3. After walls are cut, put a small amount of glue on the bottom edge. Coffee stirrers work well to limit the amount of glue. Hold gently in place along the corresponding wall of the floor plan for several seconds.
    4. Continue to glue walls in place until all walls are completed.
- Tips:
    a. Build from the inside out
    b. If a low roof room and a high roof room share a wall, the wall needs to be 3" (or 12')
- Once all the walls are completed, the roof sections can be placed over top of the walls. Leave these unglued so they can be removed to view the interior floor plan.

CRITIQUE & INTERPRET

- Have participants write a brief reflection about their design. Have participants explain what their clients' needs were, what they did to meet them, and what inspired their work.
- Display each participants' work and provide time for them to look at the other designs. Have participants discuss the process and the success of their own work.