TEACHING BY DESIGN

FRANK LLOYD WRIGHT TRUST

SHAPE SEEKERS: GEOMETRY AND NATURE IN PUBLIC PARKS

GRADE: 1-5
TIME: Three 30-minute sessions

How is geometry related to organic design? Students will consider this question as they learn about Frank Lloyd Wright and explore geometric and organic shapes in the design of a local park! Then, students will design a new outdoor space for their school, incorporating geometric shapes to help connect visitors to nature.

INTEGRATED SUBJECTS: Visual Arts, Math

MATERIALS | RESOURCES

Examples of Frank Lloyd Wright's architecture
Sketchbooks
Pencils
A variety of images of a park in your community
Images of Millennium Park in Chicago (optional)
Model making materials (optional) such as cardboard, construction paper, and glue

OBJECTIVES

1. Understand the properties of geometric shapes and organic shapes.
2. Identify geometric shapes and organic shapes in the classroom, in architecture, and in the community.
3. Understand the concept of organic design and how it can be applied to the design of a public park.
4. Create a design for a new public park or outdoor space that incorporates geometric shapes.

ESSENTIAL QUESTIONS

1. How is geometry related to organic design?
2. What role does geometry play in the work of Frank Lloyd Wright?
3. Why might artists and architects use geometric shapes in their work?
4. What impact does geometry have on the design of a public park and how it is used?

LESSON PROCEDURE

[redacted] EXPLORE

Session One

- **Introduce or review the difference between geometric shapes and organic shapes. Ask students to identify geometric and organic shapes in the classroom.**
- **Introduce the work of Frank Lloyd Wright, highlighting how the architect used simple, geometric shapes. Ask students to identify geometric shapes in Frank Lloyd Wright's buildings. Examples can be found at https://www.teachingbydesign.org/multimedia/.**
- **Ask students:** What does it mean for something to be organic? **Introduce the concept of organic design, or the idea that architecture should be a product of its purpose, place, and time. Ask students to identify any organic shapes they see in Wright's buildings.**
- **Challenge students to identify ways that Wright designed organically, or in harmony with nature.** (Tip: Point out colors, materials, and forms in Wright's architecture that are connected to natural surroundings!)
- **Ask students:** What is the relationship between nature and geometry in the work of Frank Lloyd Wright?

[redacted] EXPLORE

Session Two

- **Review the work of Frank Lloyd Wright, the concept of organic design, and Wright's use of geometry.**

[redacted] ENGAGE

Session Two

- **Introduce the concept of landscape architecture, or the design of an outdoor area. Spend time exploring a park in your community. This can be done in person or virtually.** (Tip: If you live in Chicago, we recommend Millennium Park and/or Maggie Daley Park! Images of Millennium Park are available at https://millenniumpark-foundation.org/art-architecture/.)
- **Encourage students to sketch any inspiring details in the park. Ask students to note or sketch any simple, geometric shapes that they see as well as any organic shapes that they see. Have students consider:** Is there a relationship between the geometric and organic shapes that I see?
    - Optional: Create a scavenger hunt for students to complete while at the park.
- **Challenge students to analyze how the park connects its visitors to nature and then brainstorm ideas for improvement.**

[redacted] ENGAGE

Session Three

- **Encourage students to share any findings, insights, or ideas they have after visiting a park in their community. Ask students to determine whether or not the park is a good example of organic design.**
    - Optional: If students feel that the park is not designed organically, challenge students to consider ways to improve the park's organic design.

LESSON PROCEDURE *(continued)*

DESIGN

Session Three

- **Ask students to design an outdoor space, such as a park or a garden, near the school. Challenge students to incorporate geometric shapes in the design. Have students consider:** How will the geometric shapes I use harmonize with any organic shapes or features in the design?
    - Differentiation: Use free digital modeling software such as Tinkercad to design.
    - Optional Extension: Have students construct their designs with model making materials such as cardboard, construction paper, and glue.

CRITIQUE & INTERPRET

Session Three

- **Have students share their designs, citing ways that the design is organic and incorporates geometry.**
- **Ask students to reflect on the process of designing, noting any challenges that they came across and/or ways that they problem-solved.**
- **Have students consider:** Why might artists and architects use geometric shapes in their designs?
- **Ask students to reflect in writing how the use of geometric shapes can impact the design of a park or better connect visitors to nature.**