

# THE WRIGHT VIEW: GEOMETRY IN NATURE

**GRADE:** 1-5

**TIME:** Two 45-minute sessions

How are nature and geometry related? In this lesson, students explore this question as they learn about Frank Lloyd Wright's art glass window designs and then design their own Wright-inspired symmetrical viewfinders. Students will then take a nature walk with their viewfinders to discover how the geometric shapes in their design can be found in nature. After the walk, students will refine their designs and transform them into an art glass design inspired by their observations of nature.

**INTEGRATED SUBJECTS:** Visual Arts, Math

## OBJECTIVES

### MATERIALS | RESOURCES

Images of Frank Lloyd Wright's art glass designs

Pencils

Colored pencils

Paper

Black construction paper

Tissue paper (variety of colors)

Glue

Scissors

Access to nature

1. Explore geometry in Frank Lloyd Wright's art glass designs.
2. Identify symmetry and geometry in nature.
3. Design a Wright-inspired art glass viewfinder.
4. Synthesize observations of nature and design to create an original work of art.

## ESSENTIAL QUESTIONS

1. What geometric shapes are found in nature?
2. How does symmetry appear in nature?
3. What role does nature play in design?

# LESSON PROCEDURE

## EXPLORE

Session One

- Introduce the work of Frank Lloyd Wright and explore examples of his art glass windows designs. Examples can be found at <https://www.teachingbydesign.org/multimedia/> and <https://flwright.org/research-ex-plore/franklloydwrightleadedglass>.
- Ask students to identify any geometric shapes and lines of symmetry they see in Wright's art glass designs. **Have students consider:** What do you think inspired these designs?

## ENGAGE

Session One

- Ask students to use glue and four strips of black construction paper to build a rectangular frame.
- Instruct students to treat their frame as a viewfinder and use the viewfinder to explore their surroundings. Encourage students to observe their surroundings from multiple perspectives and sketch what they see. **Have students consider:** How does the frame's position and/or angle in space impact my view?
- If a classroom window is available, instruct students to look out the classroom window and take note of their view. **Have students consider:** How does the window's position on the wall impact my experience of the room? How would my view change if the frame of the window was a different shape or size?

## DESIGN

Session One

- Instruct students to alter their viewfinder by using glue and extra strips of black construction paper to create a symmetrical Wright-inspired design. Encourage students to test a few design ideas before applying glue.
- Challenge students to identify the line of symmetry as well as any geometric shapes that were used in the design. **Have students consider:** How does my design compare or contrast to the art glass designs of Frank Lloyd Wright?

## EXPLORE

Session Two

- Review Frank Lloyd Wright's art glass designs. Emphasize Wright's interest in geometry.
- Explore how Wright's geometric art glass designs were inspired by nature. Images to support this discussion can be found at <https://www.teachingbydesign.org/multimedia/>. **Have students consider:** How can geometry be found in nature?

## ENGAGE

Session Two

- Instruct students to treat their altered frame as a viewfinder and use the viewfinder to explore their surroundings. Encourage students to observe their surroundings from multiple perspectives and sketch what they see. **Have students consider:** How do the geometric shapes and lines used in my design impact my view? Are any of the geometric shapes in my design repeated elsewhere in the room?
- With students, take a nature walk. Instruct students to treat their altered frame as a viewfinder and use the viewfinder to explore their surroundings. **Have students consider:** Are any of the geometric shapes in my design repeated elsewhere in nature? (Tip: If students are unable to locate geometric shapes in nature that match their viewfinder designs, instruct them to collect natural objects such as leaves or flowers that could be arranged to depict the same shapes that are in their viewfinder!)

# LESSON PROCEDURE (continued)

## ENGAGE

Session Two

- Once a similar object in nature is identified, ask students to sketch the object. The sketch should be the same size as the viewfinder's outer frame. Encourage students to use colored pencils to apply color to their sketch.

## DESIGN

Session Two

- After the nature walk, encourage students to make revisions to their viewfinder design so that the design can better represent the object they sketched.
- Instruct students to use tissue paper to apply color to their designs. Encourage students to test out a few ideas before applying glue. Have students consider: How will I use negative space in my design?

## CRITIQUE & INTERPRET

Session Two

- Have students display their geometric art glass viewfinders on top of their sketches so that peers can draw comparisons between each student's design and natural inspiration. Display designs in the classroom.
- Challenge students to identify how their designs are related to an object in nature.



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# APPENDIX: PROJECT SAMPLE

