

FROEBEL QUILT BLOCKS

GRADE: 3-8

TIME: Four 50-minute sessions

Discover how Frank Lloyd Wright’s architecture, furniture, and geometric patterns may have been inspired by Froebel Gifts—sets of wooden blocks designed by Friedrich Froebel in the mid-1800s to help children make connections across subject areas and play creatively. In this lesson, students will use Froebel Gifts 3 and 4 to explore patterns before creating a unique Froebel-inspired quilt block design. Students will sew their quilt block design and combine it with the work of other students to form a collaborative classroom quilt top. This lesson can serve as an extension to the Teaching by Design lesson entitled *Froebel Blocks and Frank Lloyd Wright*.

INTEGRATED SUBJECTS: Visual Arts, Math, Social Studies

OBJECTIVES

MATERIALS | RESOURCES

Graph paper (Appendix A)
Pencils
Paper
Rulers
Sewing materials (thread, needles, scissors, pins, pin cushions)
Precut 8-inch squares of fabric for base
Images of geometric quilt block patterns
Felt fabric for appliqué
Sewing instructions (Appendix B)
Example images of quilt blocks (Appendix C)
Froebel Blocks (Gifts 3-4) (To rent a FLWT Education learning kit, which includes blocks, figures, and grids visit: <http://flwright.org/education/learningkits>.)

1. Explore the work of Frank Lloyd Wright and the geometric emphasis in his designs.
2. Understand how Froebel Gifts informed the work of Frank Lloyd Wright.
3. Understand the relationship between three-dimensional objects and two-dimensional patterns.
4. Design a two-dimensional pattern using three-dimensional blocks.
5. Transfer a pattern onto graph paper and then onto a quilt square.

ESSENTIAL QUESTIONS

1. How are math and design related?
2. What role does geometry play in the craft of quilting and in other art forms?
3. How do quilt styles vary across cultures and time periods?

LESSON PROCEDURE

EXPLORE

Session One

- **Introduce the architecture of Frank Lloyd Wright and show examples of the geometric elements used in his designs. Emphasize geometry used in the designs of the Robie House, Fallingwater and the Larkin Company Administration Building.** (Tip: Compare and contrast with other architectural styles in order to highlight the geometric emphasis in Wright's work!)
- **Introduce Froebel Gifts and their role in early Kindergarten.** (For more information about the development of Kindergarten, see Norman Brosterman's *Inventing Kindergarten*. More information about Froebel Gifts and Frank Lloyd Wright can be found at <https://glasstire.com/2014/08/03/the-kindergarten-of-the-avant-garde/> and <https://froebelgifts.com/>) Explain that Wright played with Froebel Gifts as a child and share how Wright cited them as an essential influence on his work as an architect. Ask students: What similarities do you see between the Froebel Gifts and Wright's work?

ENGAGE

- **Give students an opportunity to spend time playing with the blocks, arranging and rearranging them into various patterns.** (Optional Extension: Challenge students to build one of Wright's buildings from Froebel blocks, as well as one two-dimensional detail from Wright's work, such as a window design.)
- **Have students consider:** Where are geometric patterns found in the world? **Encourage students to identify any geometric patterns that they see in the classroom.**
- **Introduce the importance of geometry in the craft of quilting by demonstrating how a quilt block is formed.** (Tip: A great video explanation can be found at <https://illinois.pbslearningmedia.org/resource/4e0f37ff-9151-42e2-906a-9b80fca6f2ac/geometric-quilts-in-the-style-of-martha-osborn/>, though note that construction paper is used in lieu of fabric in the demo.) **Then with students, explore the role of geometry in historic quilt block patterns (e.g., Log Cabin, Flying Geese, Bow Tie, Churn Dash, Irish Chain, etc. Images can be found at <https://www.nps.gov/home/planyourvisit/quilt-discovery-experience.htm> and <https://quiltindex.org/quilts/pattern-names/>)** When exploring various quilt block designs, have students consider: What geometric shapes form these quilt block patterns? What role does symmetry play? Can this pattern be constructed with Froebel blocks? What might inspire these block designs?
 - ◇ Optional Extension: Compare and contrast the classic geometric quilt block designs with improv quilt designs by the Gee's Bend artists. (More information can be found at <https://www.soulsgrowndeep.org/gees-bend-quiltmakers> and <https://www.arts.gov/stories/blog/2015/quilts-gees-bend-slideshow/>.) **Note how some Gee's Bend quilts incorporate classic block designs yet appear more improvisational and loose in style. Have students make hypotheses about how this effect is created. Have students consider:** How might math play a role? (Tip: Gee's Bend quilts and other improvisational quilts are famously created without the use of a ruler or precise measuring. To demonstrate, students can practice using a ruler to draw and cut a geometric shape and then try drawing the same shape without a ruler.)
- **Demonstrate sewing skills to be used in creating a quilt square. These include threading a needle, tying a knot at the end, simple stitches, and knotting when complete. Distribute the sewing instructions as needed to show students how to thread a needle (Appendix B). Use pin cushions for storing needles and pins. Students may want to practice on some scraps of fabric.**

LESSON PROCEDURE

DESIGN

Session Two

- **Give students another opportunity to spend time playing with Froebel blocks, arranging and rearranging them into various patterns. Challenge students to produce new patterns and forms.**
- **Distribute graph paper (Appendix A). Encourage students to use all four quadrants of the graph paper to record any patterns they want to remember and to brainstorm designs for their quilt block. Show example quilt block sketches (Appendix C). After students have had time to experiment, encourage them to select their final two-dimensional pattern design to use for a quilt block. If needed, distribute extra graph paper for students to create their final design.**
- **Have students work independently to measure and cut felt fabric.** (Tip: An excellent demonstration of the process can be found at <https://illinois.pbslearningmedia.org/resource/4e0f37ff-9151-42e2-906a-9b80fca6f2ac/geo-metric-quilts-in-the-style-of-martha-osborn/>)
 - ◇ Optional Differentiation and/or Extension: Have students practice ratios by cutting out the shapes needed in their design for various sizes of finished blocks.
- **After students cut out their fabric shapes, instruct them to arrange the shapes on an 8-inch square of fabric. Encourage experimentation by trying a variety of patterns.**
- **Instruct students to use straight pins to secure the geometric shapes to their square.**

ENGAGE

Session Three

- **Review basic sewing techniques with students.**
- **Have students attach their shapes to their square using a running stitch. Make sure stitches are small and that knots are tied when complete.**

DESIGN

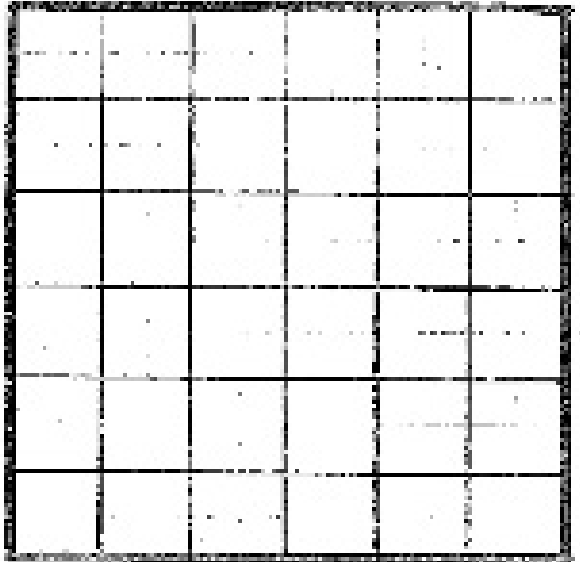
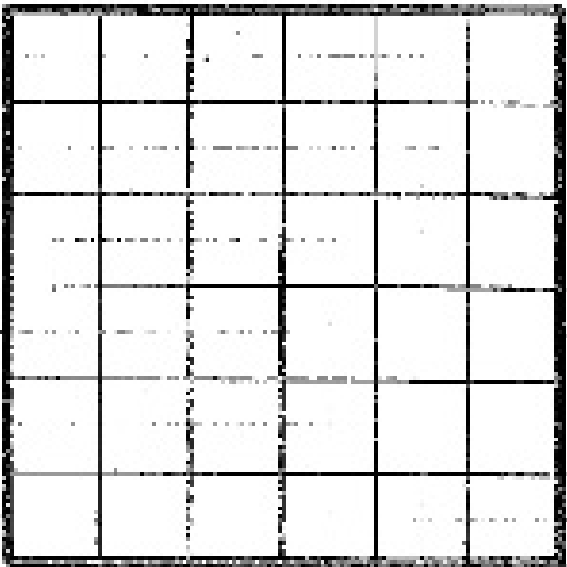
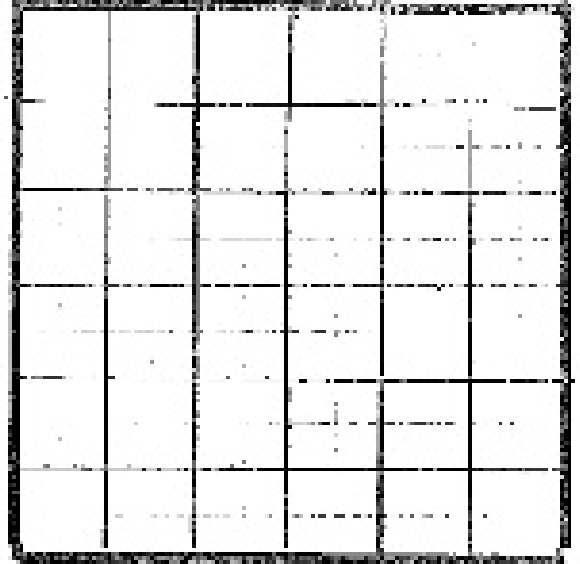
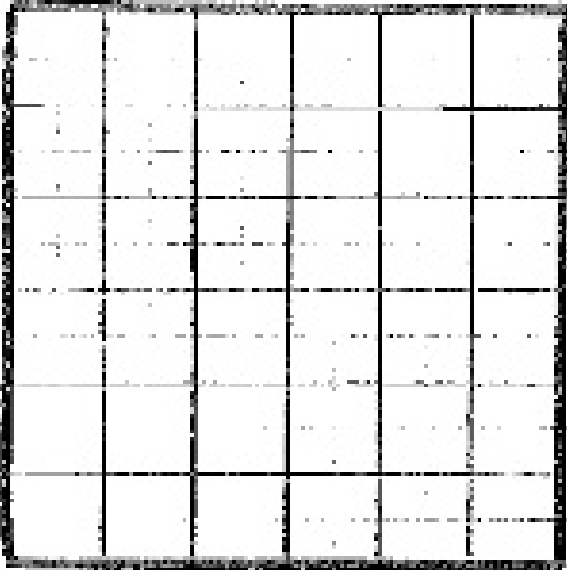
- **Display the completed squares on the floor or wall and collaborate with students to try various arrangements with the blocks into an overall quilt top design.** (Tip: An extra-large sheet of felt or wool is great for temporarily securing blocks!) **Have students consider:** Is there a unifying theme or pattern? What works well together? **Ask participants to consider color, balance, and harmony when deciding where each square should go. Encourage students to experiment with rotating each quilt square to create new designs and patterns.**
 - ◇ Optional Extension: Challenge students to draw a house or furniture design inspired by the collaborative quilt top.

CRITIQUE & INTERPRET

Session Four

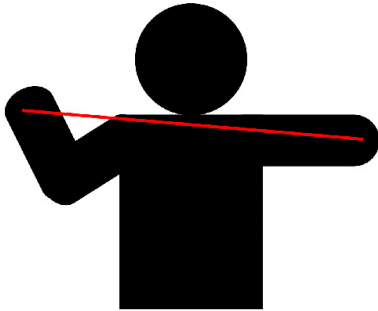
- **Sew all the squares together.** (Tip: It may be helpful to sew the quilt top on behalf of the students prior to the session.)
- **Ask students to describe what the quilt making process was like for them, noting any challenges, successes, or highlights. Ask students:** If you were to repeat this process, what would you change?
- **Display the finished quilt top in a prominent place in the school building.**
- Optional Extension: Have students design and develop an exhibition about quilt making, Frank Lloyd Wright, and Froebel gifts by displaying their collaborative quilt top alongside working drawings and other related materials. **Have students consider:** How can we teach other students in the building about what we've learned?
- Optional Extension: When the project is complete, have the students research where their quilt top may be displayed or donated.

GRAPH PAPER

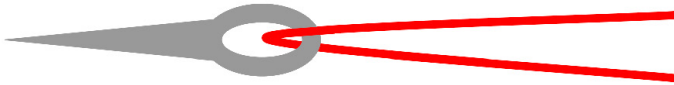


SEWING INSTRUCTIONS

1. Cut thread the length from one hand to the opposite shoulder.



2. Thread the needle.
3. Make both ends even.



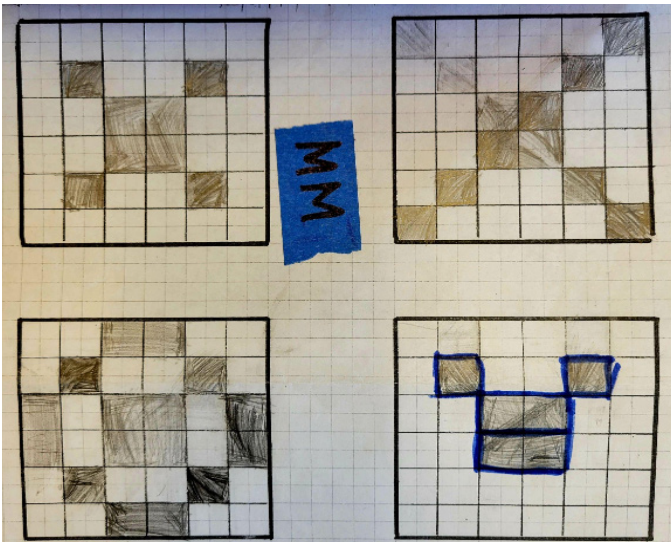
4. Tie both threads into a beginning knot at the opposite end from the needle.



5. Start sewing on the backside of the fabric.

QUILTING IMAGES

Example Quilt Block Sketches



Example Completed Quilts (Front view)



Example Completed Quilt (Back view)

