# LOG CABIN QUILTS

## Historical Context

A log cabin quilt is designed to remind you of the logs used to build cabins in early America, and the ways they were tightly connected – vertically and horizontally – to each other. The design was – and still is – a popular one, and you see many log cabin quilts in homes and exhibits. In the *Quilts of Alaska* exhibit one of the oldest looking quilts is a log cabin design.

*FIGURE 10: Log Cabin, 1865-1885, Waring/deGruyter, 33" x 30"*

## Artist and Origin

Either Frances (Charles) Waring or her daughter, Jeanette (Waring) deGruyter made this quilt sometime between 1865 - 1885. The family lived in Kentucky, when "Nettie" married Ferdinand deGruyter in 1884. A year later they had a daughter who they named Jeanette Ralston deGruyter. "Ferdinand traveled up to Skagway at the height of the Klondike Gold Rush of 1898, where he built a modest home for his family. He worked at Lee Guthrie's saloon at the gaming tables and had a reputation as an honest gambler. Nettie and their thirteen-year-old daughter joined Ferdinand the following year. The quilt and an heirloom sewing kit were probably brought to Skagway at that time." *(Quilts of Alaska, pg. 29)*

When Ferdinand traveled to Skagway it was a wild and booming community. Unlike what most people may think, many women settled there. "Women made up 48% of the white population before the Gold Rush in 1898." Many couples or families traveled far through dangerous conditions to reach the gold fields and " plunging into the rush for gold caused families to abandon all but their most precious possessions." *(Quilts of Alaska, pg. 27)*

*FIGURE 10A: Sewing kit, dated Aug. 20, 1877, inscribed: "Mamma to Nettie"*

## Design Elements

"Log Cabin quilts are often studies in contrasts and can present wonderful dimensional illusions.... the dark and light strips of "logs" are typically sewn to form positive and negative diagonal halves of the blocks. The quilt artists were careful to alternate values..." *(Quilts of Alaska, pg. 90)*

The Waring/deGruyter quilt is made of wool and because of the colors of the fabric chosen looks like you are looking at the ends of logs stacked neatly in a pile.

## Compare/Contrast

Find the Lang Log Cabin quilt, (FIGURE 11) made by the Lang sisters and brought to Alaska from New Hampshire.

*FIGURE 11: Log Cabin, 1865-1900, Lydia Lang, 63" x 73"*

- List the ways in which it is like the Waring/deGruyter quilt (FIGURE 10) and the ways it is different.
- Decide which quilt you find more visually appealing. Defend your opinion to others in a small group discussion.

Look at the Smith-Sharp Log Cabin quilt (FIGURE 12), made about the same time as the Waring/deGruyter quilt by Helena Smith-Sharp. It was carried over the Chilkoot Pass, near Skagway, and down the Yukon River.

*FIGURE 12: Log Cabin, 1865-1900, Helena Smith-Sharp, 63" x 76"*

- What makes them both Log Cabin quilts?
- List the ways in which the Smith-Sharp quilt is similar and different from the Waring/deGruyter quilt.
- Imagine that you are the judge of the annual quilting exhibition in Skagway in 1899 and both the Waring and deGruyter quilts are brought in for judging. Which would you select as the "Best of Show" and explain why. What might you give to the winner for the first place award?

# QUILTS: A GEOMETRIC CHALLENGE

*Why does measuring matter?*

Level: Middle School (grades 6-8)

## Part 1

Show students a sample sheet with possible quilt designs laid out geometrically. Review the state mathematics standards that students will be learning and demonstrating during this activity.

## Part 2 (Directions to give to students.)

PHASE ONE: CREATE A MODEL FOR YOUR QUILT BLOCK.

- On a blank piece of paper, draw a 3" square.
- Make a design within the square, using a ruler and pencil and protractor. There can be no more than 15 total shapes in the design, and you must include each item on the Quilt Square Checklist (included at the end of this section).
- Complete the Checklist and have your teacher check your work.

PHASE TWO: ENLARGE THE MODEL.

- Move the design from the 3" square to the full sized 6" square. (Remember to put "x2" on any shape that you intend to use twice in the final square.)
- Given the fabric available to the class, choose the colors for your square's design. Label or code each of the shapes with a color.

PHASE THREE: CUT OUT PIECES FOR BLOCK AND SEW.

- Cut on the lines of the 6" paper square so that you have each of the shapes. Include the color name or code on each separate piece.
- Measure 5/8 inch extra around each of the shapes on another piece of paper (so that you will have extra fabric when you sew them together.) Mark that line around each shape.
- Cut out each shape in fabric, remembering to cut on the line that has the extra 5/8 inch around the outside.
- Pin the shapes together so that, when they are all pinned to each other, the square looks like the design you created. (Use the 3" x 3" design to check)
- Hand sew the shapes together to form your square, or, if there is a sewing machine available, have someone sew the shapes together.
- Sign your square with a thin fabric marker or a permanent marker.
- If possible or appropriate, help assemble a class quilt, using everyone's squares.

**Visit the Alaska State Museum's website — www.museums.state.ak.us**


## Summary

Each student designs a 6 inch quilt square, first drawn on paper at 1/2 scale. Use no more than 15 total shapes, none of which can be irregular or cirular. Designs are then transferred onto fabric and squares are sewn. Individual squares may be sewn together into a class quilt.


## Estimated Time:

600 minutes. This unit has been completed by a class of 30 middle school students (grade 7) over twelve days, with daily periods of 50 minutes.

## Part 3

- Find and identify the lines of symmetry and the lines of reflection on your 3" x 3" design.
- Find the area of each shape within your final 6" square.
- Display the class quilt in a public place for others to see on exhibit. Make an exhibit label like the ones used in museums to go alongside the quilt.

## Assessments

- Completed Quilt Square Checklist and 3" x 3" draft design.
- Completed 6" quilt square in fabric.
- Self-reflection on project, using the following prompts or others more tailored to your specific class:
- Did you meet or exceed the standards that we focused on during this activity? What makes you think so?
- What did you learn the most about during this activity?
- How did this activity help you learn geometry?
- What might you have done differently to improve your square?
- What did you learn about quilts by doing this activity?

## Alaska Content Standards

In this activity students will focus on the following:

MATHEMATICS

A.2 Select and use appropriate systems, units, and tools of measurement, including estimation

A.5 Construct, draw, measure, transform, compare, visualize, classify and analyze the relationships among geometric figures

C.1 Express and represent mathematical ideas using oral... presentations, physical materials, pictures....

C.2 Relate mathematical terms to everyday language.

E.2 Use mathematics in everyday life.

## Materials

- Rulers, one per student
- Protractors and scissors, one per student or pair of students
- Scraps of fabric, enough so that each student in class can make a 6" square
- Pins
- Thread
- Sewing machines or needles to hand sew the squares together.
- Select appropriate books about quilts to read or display in the classroom.

OPTIONAL:

- Colored pencils
- Fabric marker (thin) or other marker/pen that will print on fabric
- Thin design paper for tracing
- "Kaleidoscopes, Hubcaps and Mirrors" book, in the Connected Math Project (CMP) series *Gateways to Algebra and Geometry: An Integrated Approach* published by McDougal, Littell.

We highly recommend *Quilts of Alaska: A Textile Album of the Last Frontier* for schools and teachers who plan to use the exhibit or materials from the exhibit in their classrooms. The catalog is extravagantly illustrated with full color pictures of selected quilts and historic photographs. Five chapters provide detailed information about quilting as it applies to Alaska. A full index, appendix, bibliography and endnotes make it a valuable resource for reference and teaching. Ordering information: The Store at the Alaska State Museum, 395 Whittier St., Juneau, Alaska 99801. $21.95 + $7 (postage /handling) per book.

Hall, June, Guest Curator. *Quilts of Alaska: A Textile Album of the Last Frontier*. Gastineau Channel Historical Society, 2001 ISBN: 0-9704815-0-0.

## Vocabulary

**Polygon** — a simple closed two-dimensional shape made of line segments

**Perpendicular** — meeting at a 90 degree angle

**Hypotenuse** — In a right triangle, the side opposite the right angle; the longest side in a right triangle.

**Line of symmetry** — A line that divides a figure into two congruent parts.

**Reflective symmetry** — When a line is drawn through a shape to represent a mirror, the resulting shapes on each side of the line fit exactly together.

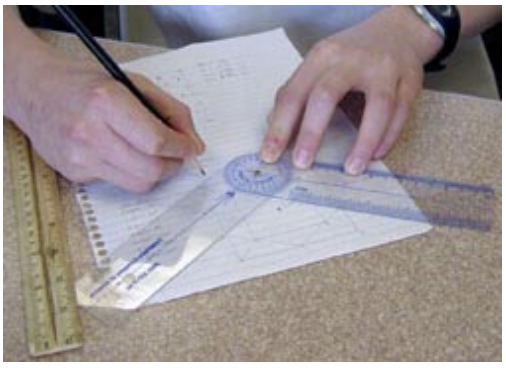
**Rotational Symmetry** — a pattern that consistently recurs when rotated around a center point.

**Supplementary angles** — two or more angles that equal 180 degrees.

**Complementary angles** — two or more angles that equal 90 degrees.

## Middle School students use geometric blocks for a class quilt

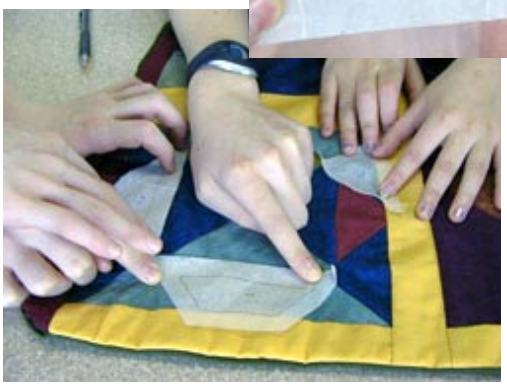
*Dzanti'ki Heeni Middle School, Juneau, Alaska.*



*Student uses protractor to create geometric paper patterns for quilt block*

*Students follow the check list for creating a block with geometry*

*Paper patterns are cut and sewn to create the fabric block*

This acitivty was adapted from a lesson created by Pam Wells-Peters and Wendy Gates at Dzanti'ki Heeni Middle School, Juneau, Alaska.

# Quilt Square Checklist

Your Name: _____

This is a checklist that must be checked off and signed by your teacher before you can move on to phase 2, which is actually making the 6" quilt square.

| Must Include: | Student Check | Teacher Initials |
|---|---|---|
| Two triangles, one of which is a right triangle. Triangles have at least an area of 1 $in^2$ (1/2 scale area of 1/2 $in^2$) | | |
| Two polygons, one of which is a regular polygon. Polygons have at least an area of 2 $in^2$ (1/2 scale area of 1 $in^2$) | | |
| All points of intersection must be labeled. | | |
| All shapes are numbered or labeled with a large letter. | | |
| All angles are at least 30 degrees. | | |

On design paper, include the following:

| Must Include: | Student Check | Teacher Initials |
|---|---|---|
| Draw the portion of this design that has reflective symmetry and write about which line of reflection it is symmetric with. | | |
| One set of supplementary angles is labeled. | | |
| One set of complementary angles is labeled. | | |
| Area for each shape at 1/2 scale is written. | | |
| Angle measurements for each shape are recorded. | | |
| Draw the portion of this design as rotationally symmetric. | | |

# Phase Two Checklist

Increase your design to full scale, and complete this checklist. When you turn in this checklist include everything from Phase One and the new 6" design.

| Must Include: | Student Check | Teacher Initials |
|---|---|---|
| All points of interaction are labeled. | | |
| All shapes are numbered or labeled with a large letter. | | |
| There is a list of colors for each shape/shapes are color-coded. | | |
| Sides of all shapes are labeled with length. | | |
| Area of each shape in full scale is included. | | |