## Geometric Design in Ohio Quilts

## An Integrated Math, Art, Social Studies and Language Arts Curriculum



THAT SUPPORTS PUBLIC
PROGRAMS IN THE ARTS
Geometric Design in Ohio Quilts Quilt Project Introduction ..... 2
Background Notes for Teachers ..... 2
Lesson Plans
Quilt Introduction ..... 4
Quilt Introduction Handout ..... 5
Quilt History ..... 6
Quilt Geometry ..... 6
Ohio Star ..... 7
Shoo-Fly ..... 9
Pine Burr ..... 11
Grandmother's Flower Garden ..... 14
World Heritage Quilt ..... 16
Quilt Shape Game ..... 18
Quilt Glossary ..... 20
Resources
Bibliography ..... 21
Internet Resources ..... 22
Video Resources ..... 22Circle

## Introduction

The Decorative Arts Center of Ohio is a model for community-based arts education and a focus for research and communication in the decorative arts. The historic Reese Peters House in Lancaster, one of the great Greek Revival houses of Ohio, serves as home to the organization. The mission of the Decorative Arts Center is to foster knowledge, enjoyment, and appreciation of the decorative arts and to celebrate the architecture and heritage of the Reese Peters House by providing programs, exhibitions that teach, and arts education opportunities for children and adults, as well as developing curriculum materials for use in schools throughout the state.

The staff of the Decorative Arts Center, in collaboration with teachers and students in Fairfield County, have developed this curriculum unit, which integrates art, mathematics, social studies, and language arts, as the culmination of a year-long project in the schools. It was designed to be used with the fourth grade curriculum, but can be adapted to other grade levels. The unit offers students a practical approach to grasping mathematical concepts. The role of quilt making in Ohio history and culture and the concept of heritage is explored in the final project of the packet. Students will learn about cultural groups that have settled in Ohio, experience the process of quilt making, and discuss the social value of quilts. Finally, there is ample opportunity to develop language arts skills around the quilt theme. Beyond the academic curriculum, the project offers training in dexterity and handeye coordination.

Each of the 611 school district offices in Ohio have received a copy of this curriculum packet. Teachers may borrow it and photocopy any of the pages. We will periodically update the unit on our Web site, and teachers may download any of the materials for use in the classroom at www.decartsohio.org. We will also be producing six loan boxes for teachers to borrow, with additional materials, such as quilts, books, and videotapes. To obtain a loan box or schedule a tour, please call the Center at 740-681-1423.

## History

There is evidence that quilting of various textile products was known in the ancient world before the birth of Christ, and in Europe by the $14^{\text {th }}$ century. Early American settlers brought quilts on the first small ships from Europe, especially England. The scarcity of fabric in the American colonies led to the invention of patchwork from worn clothing. Prior to 1775 , quilts in the colonies tended to reflect their European origins, but in the period from 1775 to 1840 American quilt making came into its own. In 1835, quilt patterns began to appear in ladies' magazines. Geometric pieced quilts saw the most development and innovation from the time women began working outside the home in the 1840s until the Civil War. During the Civil War, women of both the North and South made 250,000 quilts for soldiers. The Centennial celebration in Philadelphia in 1876 and the colonial revival in furnishings produced a "quilter's frenzy," but by the turn of the century, the quilt fad passed, giving way to a fashion for manufactured goods. Another quilting revival occurred between the World Wars, with depression era quilts often made from feed bags. In 1933, Sears, Roebuck and Company sponsored a quilt contest at the Chicago World's Fair with a $\$ 1,000$ prize. There were 24,678 entries! Over 400 newspapers ran regular quilting columns by 1934. In the 1960s, Vogue magazine editors introduced quilts into their interior design spreads, and by the end of that decade, quilt making was the most popular form of needlework. 1970s nostalgia as the Bicentennial approached fueled this second quilt revival, as museums hung "art quilts" on walls. A result was the emergence of quilt research activities, such as the Ohio Quilt Research Project, in which residents were invited to bring family quilts to be photographed, dated, and appraised. The results of the Ohio Project were presented in the book Quilts in Community: Ohio's Traditions.
continued...

## Design and Production

Traditional quilting technique calls for the stitching together of three layers of fabric, including a decorative top, a middle-layer batting for warmth, and a backing. The earliest tops were built one "patch" of fabric at a time ("patchwork") until the desired size was reached ("one patch" technique), but by the 1830 s and ' 40 s most were constructed in blocks, usually 10 to 20 inches square each, an important American contribution to quilting. In a geometric quilt, each block was made by piecing together shapes that created a motif, such as a star. The shapes were produced with templates of cardboard or metal. The individual blocks were then pieced together to form an overall pattern. The portability of blocks made the quilt making process much easier. The sewing machine was available by the mid-1840s. It is estimated that one half of the quilts made after 1860 were machine pieced, although quilting continued to be done by hand. The colonial housewife who could afford it hired someone else to do the quilting.

## The Social Role of Quilts

Needlework skills were a social necessity and an important part of a girl's education in colonial times. Children as young as three were taught to piece cloth squares to make quilts for dolls. Girls started their first quilt between the ages of six and eight. When married, each bride took a dowry of a baker's dozen of quilts with her. The thirteenth was the bridal quilt, made after the betrothal. If made before, it was said, the girl would never marry. The Amish prepare dowries for both boys and girls. Another tradition was that only the bridal quilt could contain hearts. Placing hearts in the other twelve quilts invited spinsterhood. Although girls started young to prepare quilt tops, the quilting was often saved until the betrothal period because it was the most expensive part. In some areas it was considered unlucky for a girl to make her own thirteenth quilt. Sometimes a betrothed man might design a quilt for his wife-to-be to make for their new home. Nineteenth-century boys were also taught to cut and sew patterns. Presidents Calvin Coolidge and Dwight Eisenhower both helped their mothers to piece quilts.

Quilting bees, beginning in colonial times, were an American contribution to the history of quilting, and provided Ohio frontier women with opportunities for social contact. Ladies arrived early at the quilting bee, admired the quilt top, and attached it to the quilt frame. The rest of the day was spent quilting and talking. Usually at the quilting bee were the hostess and seven guests, so that two worked from each side of the quilt. Alternatively, fifteen could be invited to work on two quilts, the two alternating between quilting and preparing the evening meal. Husbands and sweethearts were invited to supper in their best clothes, and after supper activities included talk, games, and dancing. One tradition was that while young men and women held an open quilt, a cat was placed in the center. Whoever the cat jumped over to get off the quilt would be the next to get married.

Sometimes women at the quilting bees combined their efforts to make commemorative quilts for a bride or minister. Fabric was shared and needlework skills were a source of pride. Quilts were taken to county and state fairs to be judged. Album quilts were offered as gifts of friendship, and freedom quilts were presented to young men at their coming of age or at the completion of an apprenticeship. Girls held friendship bees, for which each friend brought enough scraps to make a block. The completed top was given to one girl, who then organized the next bee, until each girl had received a quilt. For a bride-to-be, the friendship quilt was like an announcement of engagement. In urban areas "album parties" were held to make commemorative quilts. Quilting bees were also held to raise money and may have been the sites of the beginnings of the feminist movement. Susan B. Anthony was known to give right-to-vote speeches at quilting bees in church basements.

In the 1840s quilting bees became exclusively female; the dinner dance ended, as did the courtship aspect. For pioneer women of the western migration, the social bees continued, especially because of the scarcity of frames. For the Amish, quilting bees are frequent, and involve several generations.

Bibliography for Background Notes is found on page 21.

## Topic: Introduction to Geometric Design in Ohio Quilts

Objectives: To introduce the relationships among quilts, geometry, art, and Ohio history. To introduce the concepts of the quilt block and tessellations. Use specific examples in the quilt along with geometric terms when discussing this unit with the students.

Materials: A quilt with a simple block pattern; 7-inch paper circle; selection of warm or cool color crayons for each student; $3 \times 5$-foot warm or cool color construction or roll paper background; scissors; glue stick; rulers; pencils

Multiple Intelligences: Logical, spatial, interpersonal, bodily kinesthetic
Subjects: Math, art, social studies
Teacher Preparation: Read the Background Notes on pages 2-3. Hang the background paper as a rectangle of about 3 by 5 ft in a place where it can be left until it is replaced by the World Heritage Quilt. The background works best if it is a dark warm or cool color. Choose the same color family for the crayons and background-that is, warm (reds/ oranges/yellows) or cool (blues/violets/greens). Your choice of warm or cool colors will apply to the entire class. This enhances the overall appearance of the quilt and emphasizes cooperative learning and the history of quilting bees. Photocopy page 5 and the back cover of this booklet for each student.

Procedures: Look at the quilt with your students, talk about quilt history, how quilts are made, and let the students touch the quilt. Use a quilt with a simple block pattern, such as squares cut into two triangles, or the Ohio Star or Shoo Fly found on pages $7-10$. Talk about the shapes in the quilt and how the quilters made the shapes. Introduce the concept of the quilt block, and show how each block in the quilt becomes part of a tessellation that makes up the quilt pattern. Have the students return to their seats and pass out the circle handout. Have students cut out their circle. Talk about the circle with the students. Ask them to define what a circle is in geometric terms. Have the students be geometry detectives and try to find the center of the circle. Help the students to discover that if they fold the circle in half they create a diameter. Into how many parts have they divided the circle? The center of the circle will be located somewhere on this diameter. If they fold the circle in half again, they create a radius and discover the center of the circle. Into how many parts have they divided the circle now? Fold it in half once more so that you end up with 8 equal pieces of pie.

Open the circles. Have the students place a clear mark on each fold where it meets the circumference. Pass out the handout from page 5 . Using their rulers, the students connect 4 marks to make the largest square they can in the circle (every other mark). Have them do the same with the other four marks. They should then have two squares turned at a $45^{\circ}$ angle, which create an 8-pointed star, as in Figure 1 on the handout. Then have the students turn the circle over and again place the 8 marks on the circumference at each fold. The students are now to connect every third mark to create another 8-pointed star, as in Figure 2. It is least confusing if you show this to them as a tic-tac-toe board. Then connect the other dots to make another tic-tac-toe board. This is a "true star," which means that you can place your pencil on one mark and trace the star without picking up your pencil. This is the star that will be decorated.

Have the students decorate their star using your choice of warm or cool colors, so that there is no white showing. Students cut out their stars when they have finished decorating them and the stars are glued on the background paper to create the tessellation in Figure 3. When all the students have finished, talk about the quilt, the history of quilting bees, the positive (stars) and negative (background) shapes, and why you chose one family of colors. Note that this star, sometimes called the Lone Star is similar to but not the same as the Ohio Star, which is not inscribed in a circle but created on a grid of nine squares (nine-patch).

Suggestions: You may want to have an assistant when the students are drawing the stars. This lesson is greatly enhanced if a quilter comes to talk to the students about quilts a few days after you have completed the project. It is a good idea to get one of your local quilting groups involved in this curriculum unit from beginning to end.

Figure 1


Figure 2


Figure 3


Topic: An introduction to the history of quilting and quilting bees
Objectives: To increase understanding of Ohio history and quiltmaking
Materials: An illustrated children's book chosen from the Bibliography on page 21 or from your own library. Eight Hands Round is a good choice because it touches upon the history of traditional patterns. The Quiltmaker's Gift is also recommended.

Multiple Intelligences: Logical, spatial, interpersonal, intrapersonal
Subjects: Art, math, language arts, social studies
Teacher Preparation: Read the Background Notes on pages 2-3. Read the children's book you have chosen and consider how you might engage your students in a discussion about the book.

Procedures: Read the story to the class and discuss the history and social aspects of quilting and quilting bees. Look again at your quilt and at the transparencies provided in this packet. Divide the students into groups of four or five. Ask each group to write a short play about a quilting bee and then perform the play for the class.

## Lesson Plan

ouilt Geometry

Topic: The geometry of quilts
Objectives: To increase understanding of geometry through the observation of quilts
Materials: Photocopies for each student of the four Copy Sheets and four Worksheets on pages 7-15; colored pencils; regular pencils

Multiple Intelligences: Logical, spatial, interpersonal, intrapersonal
Subjects: Math, art Teacher Preparation: Prepare photocopy packets
Procedures: Pass out the Copy Sheets and Worksheets to each student as a packet in the order in which they appear on pages 7-15. As a class, look at and discuss the four quilt transparencies again, based on what the students have learned thus far. Ask the students to complete the Copy Sheets and Worksheets, according to your schedule, and then discuss each sheet as a class. Give each student a piece of graph paper and ask them to copy the grid from one of the Copy Sheets onto the graph paper by using rulers to add the diagonal lines. They can then use colored pencils to design their own pattern.

## Ohio Star Pattern

Name: $\qquad$ Date: $\qquad$

## The Ohio Star Quilt

This quilt is made up of four blocks. Draw a line around one block and then copy the quilt one block at a time onto the grid below.


Name: $\qquad$


1 This quilt is made up of 4 blocks. Outline one of them with a red colored pencil.
2 One block is equal to what part of the quilt?


3 Look at the Ohio Star quilt. If you were to make this quilt, how many gray right triangles would you have to cut for each Hook\&nany for a whole quilt?

4 Looking at one block of the Ohio Star quilt, show a fraction that would represent the number of the white triangles to the total number of triangles.


18


Use the table below to complete questions 5-6.

5. How many angles does each of the shapes have? \#1

6 How many right angles does each of these shapes have? \#1

## Shoo-21y

Name: $\qquad$ Date: $\qquad$

This quilt contains four blocks. Draw a line around one block and then copy the quilt one block at a time onto the grid below using two colored pencils.


Name: $\qquad$ Date: $\qquad$


## Show Your Work.

1. This quilt is made up of 4 blocks. Outline one of them with a red colored pencil.
2. Use your ruler to measure the perimeter of the Shoo Fly Quilt. $\qquad$
3. How many triangles with right angles can you find in a block? $\qquad$
4. Using a blue colored pencil, make a point at the center of the quilt.
5. Using a green colored pencil, color two congruent shapes on the quilt.

Extra Credit: How many squares and how many triangles make up one block of this quilt? Write a word problem about how many squares of fabric you would need to make this quilt. Solve the problem.

Name: $\qquad$ Date: $\qquad$

This quilt is made up of four blocks. Draw a line around one block and then copy the quilt, one block at a time, onto the grid below using three colored pencils. Hint: In each block, first copy the square in the center, which is turned to look like a diamond. Next copy the four equilateral triangles by connecting the corners of the center square with the corners of the block, using your ruler. Notice that to do this you must create new lines where there are no lines on the grid.


Name: $\qquad$ Date: $\qquad$


## Show Your Work.

1. This quilt design is made up of four blocks. Outline one of them with a red colored pencil.
2. It takes 8 minutes for a quilter to sew on a patch of the Pine Burr Quilt. How many minutes would it take to sew on 3 patches? 5 patches? 6 patches?

3 patches $\qquad$
5 patches $\qquad$
6 patches $\qquad$
3. Show two different ways to find the center on the square shape below.

continued...
4. What is the difference between the dark gray shape in the center of each block and the light gray shapes around it?

How are they similar?
5. How many equilateral triangles are there in one bock? Write a word problem about how many equilateral triangles there are in the quilt. Solve the problem.
6. How many triangles (white and light gray) are there in the entire quilt? How many would there be if the quilt had eight blocks instead of four?

Extra Credit: There is a row of different quilt blocks. A Pine Burr block is fourth from the left and sixth from the right. How many quilt blocks are there in the row?

## Copy Sheet

Name: $\qquad$ Date: $\qquad$
This quilt design is made up of hexagons drawn on a grid of equilateral triangles. In the center of the lower grid, color a small hexagon composed of six triangles. Then continue outward, coloring hexagons to copy the entire pattern using three colored pencils.


Name: $\qquad$ Date: $\qquad$


Show your work.

1. Use a complete sentence to define what an equilateral triangle is.
2. Use a complete sentence to define what a hexagon is.
3. Use colored pencils to draw the following shapes on the grid of equilateral triangles. The shapes may overlap each other.

A large triangle
A large hexagon
A parallelogram
A trapezoid
A six-pointed star

Topic: Making a World Heritage Quilt
Objectives: To increase understanding of Ohio History, geography, immigration, geometry, and language arts through the process of quilt making

General Introductory Procedures: For the World Heritage Quilt, students are divided into groups of three and each group is assigned a foreign country. They will imagine that they were born in this country and that they left there to emigrate to Ohio in the year 1900. After researching the history and culture of their countries they will plot the route that they must follow to Ohio and write a brief diary of their journey, including where, why, and how they settled in Ohio. They will choose something to represent the heritage of their country of origin, and drawings of these symbols will form the basis for decoration of the World Heritage Quilt. Students will complete the project by making a family tree of how the quilt was passed down to their children and grandchildren.

You may wish to suggest a family of colors to choose from, such as warm or cool, to insure the overall harmony of the quilt. You may also have the students suggest and vote on a color scheme. The latter approach incorporates a democratic process, and touches on the history of quilt making as a community process of people working together.

It is traditional in quilting and quilting bees to finish the quilt with a party and food. Students could use this as an opportunity to write invitations and directions for the quilting process. Food could be drawn from some of the cultures represented in the quilt.

Here is the Ohio Star Block


## Materials: Option 1 - Traditional Quilt Version

Each student needs: 6-inch piece of fabric for the symbol; $1 / 4$ yard each of two different types of cotton fabric that are harmonious with one another; $1 / 2$ yard of fusible bond such as "Wonder Under"; small spool of thread matching the fabric; needles; pins

## Procedures: Option 1 - Traditional Quilt Version

Parent volunteers are asked to cut out triangles and squares to the pattern of the Ohio Star. Students then construct Ohio Star quilt blocks by hand sewing the patches together and adhering their fabric symbol to the center of their Ohio Star under the guidance of a quilt maker. The blocks are sewn together by parent volunteers. The children then quilt the top to the backing and batting by stitching or tying. Volunteer work can also be done by a local quilting group.

## Lesson Plan continued

## Materials: Option 2 - Printed Fabric Version

Each student needs: 6-inch piece of cotton fabric for the symbol; $121 / 2$-inch square piece of cotton fabric for a background; $1 / 4$ yard of harmonious cotton fabric; 1 yard of fusible bond such as "Wonder Under."

## Procedures: Option 2 - Printed Fabric Version

The fusible bond is pressed onto the back of the second fabric and to the back of the 6-inch squares. Students design and cut out their symbols with the help of teachers or volunteers. Teachers or volunteers cut out triangles and squares to the pattern of the Ohio Star. Students lay out their cut pieces onto the background fabric to the pattern of the Ohio Star, and place their symbols onto the centers of the Ohio Stars. The blocks are then pressed to adhere the fabrics. The blocks are sewn together and quilted as above. Symbols could also be drawn onto the blocks.

## Materials: Option 3 - Decorated Fabric Version

Each student needs: 14-inch square piece of light colored cotton fabric or muslin with little or no pattern; pencils; fabric paints and/or markers; rulers

## Procedures: Option 3 -Decorated Fabric Version

The 14-inch square fabric is wrapped around a 12-inch piece of cardboard or tag board and, using a ruler, students measure and then draw the nine-patch grid onto the block. Dividing the square patches on the diagonals will define where the star points will be. They then draw the Ohio Star and their symbols onto the fabric and use fabric paints and/or markers to decorate the squares. These fabric squares are sewn together and may or may not be quilted.

## Materials and Procedures: Option 4-Paper Version

Use good quality paper to do these versions. Wallpaper stores usually have extra books available for use in art projects. Some stores charge a small amount for these and others will give them away. For the paper version students need a 12 -inch square background, such as craft paper. Students organize and glue the triangles and squares onto this background. The background paper will be completely covered when done. Students then design their symbol in paint, markers, or collage, and place it in the center of their star.

Students may also use a colored or patterned background and then organize the triangles of the Ohio Star onto it, so that the background will be seen as the negative shapes surrounding the stars. The blocks are attached to a large section of paper or directly to a wall to suggest a quilt.

Multiple Intelligences: Logical, spatial, interpersonal, intrapersonal
Subjects: Art, geography, math, social studies, language arts
Teacher Preparation: See materials section.
Suggestions: It is recommended that a quilting group be found to volunteer their help with this project. This is especially beneficial if you are doing the fabric versions of the quilts. Any of the project versions can be done as a quilt top alone. They do not necessarily have to be quilted onto a backing.

## Quillt

## Materials

Photocopies of playing grids and two different colors of pens or pencils

## Object

The object of this game is to reach the highest score by making shapes usin small triangles.

The shapes with their score value are:

| Square | 4 points |
| :--- | :--- |
| Triangle | 3 points |
| Rectangle | 2 points |
| Parallelogram | 1 point |

## Play

Players alternate turns in which they may color one small triangle. Triangl used to make a shape or to block the opponent from making a shape. Play use triangles to make more than one overlapping shape (see sample below) game ends when the playing grid is completely colored. Players then add $u$ scores.

The light gray player has two rectangles and 1 triangle in the diagram below.


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## Quilt Glossary

This terms in this quilt glossary were chosen based on their appropriateness to the forth grade student. Most of these terms were obtained from the web site: www.pbs.org/americaquilts/classroom/indes.html Quilts in the Classroom sponsored by PBS Broadcasting network.

Album quilt. A quilt in which each block is different. Many are friendship projects, in which friends sign blocks of the quilt either in ink or in stitching. A sampler can be referred to as an album quilt. Also known as an autograph quilt. (also see Baltimore album style)
Amish quilt. A quilt style originating in the Amish communities of Eastern Pennsylvania and the Midwest. These quilts are usually made from dark, solid colors with ample use of black as a background and simple geometric patterns with wide borders.
Appliqué. The process in which small pieces of fabric are sewn onto larger pieces of fabric by hand or machine. The French word for "to apply."
Background fabric. The foundation material on which appliqué is sewn.
Backing. The fabric used as the bottom layer of the quilt sandwich.
Baltimore album style. A form of hand appliqué which reached its height of popularity in 19th century Baltimore, Maryland. It is worked in traditional shades of red and green on white.
Basting. Large stitches made to hold fabric layers or seams in place temporarily, before final seams or quilting is done. Basting can also be done with straight or safety pins.
Batting. The filling in a quilt; the middle layer of a quilt sandwich. May be made of cotton, wool or polyester.
Bias. The diagonal of the fabric weave. Fabric cut on the bias stretches.
Binding. Strips of fabric used to cover the raw edges and batting of a quilt.
Block. The design unit of a quilt top, usually square. It can be made of piecework, appliqué or a combination.
Block-to-block set. A block arrangement set straight on the diagonal.
Border. A strip of fabric or pieced strip of fabric joined to the edges of the inner quilt and used to frame it.
Calico. Any small repeated print design on cotton, usually a floral.
Crazy quilt. A quilt assembled from irregular and often scrap pieces. Can be made as small blocks and assembled into a larger piece, or sewn as one complete
quilt top with no overall pattern. A popular design in the late 1,800 s, made with silks and velvets and embellished with much embroidery.
Design. The organization and placement of artistic elements within an artwork
Finished Size. The measurement or dimensions of a completed block or quilt without seam allowances.
Four-patch block. A Block with two, four, or multiples of four units per row.
Friendship quilt. A quilt made as a group project for one member of the group, with each participant making and signing a Block or more for the top.
Lap quilting. A method of completing the finished quilting one block at a time and then assembling the finished quilt from those pre-quilted squares. Squares are quilted in small lap frames rather than large ones.
Loft. Thickness and resilience of batting. A high loft batting is thicker and fluffier than low loft batting.
Medallion quilt. A quilt with a central design as the focal point, surrounded by multiple borders.
Memory quilt. A quilt pieced from scraps of a loved one's clothing. May be made of children's outgrown baby clothes, or the clothing of a deceased relative or friend. More recently, memory quilts include transferred photographs of the loved one.
Miniature quilt. A small-scale reproduction of a full-size quilt.
Nine-patch block. A Block composed of nine units, joined in three rows of three units each.
One-patch. Any quilt pattern that uses a single shaped patch for the pieced top. May be squares, triangles, hexagons, etc. repeated in color patterns or different
fabrics.
Patch. An individual fabric shape joined with other patches to make a block or a quilt. Also known as a piece.
Patchwork. The process of making a quilt by sewing many small pieces of fabric together. Also known as piecework.
Pattern. A design made by repeating of a picture, motif, or symbol.
Pieced border. A long strip of fabric made up of patchwork units to be joined to the inner quilt.
Quilt. A quilt is made up of three layers, like a sandwich. The bottom layer is usually plain. The middle layer is called batting and looks like a large piece of cotton. The quilt top is decorated and can be made out of blocks, called patchwork or a whole cloth.
Quilt Top. The top layer of a quilt sandwich.
Quilting. In general, the process of making a quilt. Specifically, the small running stitches that hold the three layers of a quilt together.
Quilting bee. An important social event for colonial women and men. On the day of the quilting bee, the women and children would arrive early and bring some food for dinner. The children's job was to thread needles and they often played under the quilting frame. Since they lived far away from one another they would assemble the quilt while exchanging conversation and "catching up on old times". The quilt had to be finished before the husbands and boyfriends arrived in the late afternoon because that is when dinner was served. After dinner, there was very often a dance and music.
Quilting frame. A large free-standing floor structure made from wood or plastic pipe that holds the layers of a quilt together during quilting.
Quilting guild. An organization of quilters that may provide opportunities to share projects, instruction and community service.
Quilting stitch. A small running stitch that is made through all three layers of a quilt, can be done by hand or machine.
Sandwich. Traditional description of a quilt: a sandwich consisting of a quilt top, filling or batting, and a backing.
Sampler Quilt. A quilt constructed of a collection of blocks in different patterns, usually with no pattern repeated. Blocks may be the uniform or varying
sizes.
Scrap quilt. A quilt, usually patchwork, made of many different fabrics, often left over from other projects.
Setting. The arrangement of completed blocks forming the quilt top design. Blocks can be set side by side, or on point, like diamonds.
Stippling. Very closely stitched background quilting that can be done by hand or machine to create surface texture.
Strip piecing. A technique in which strips of fabric are cut and joined lengthwise to resemble striped fabric.
Template. A cardboard or plastic shape used as a pattern for tracing patches, or for tracing lines to be quilted.
Tied quilt. A type of quilt in which yarn or thread ties are used to secure layers of the quilt, instead of quilting stitches.
Wall quilt. A small quilt intended to be hung on the wall for decoration. Can contain specialty fabrics and embellishments that are not meant to be washed or undergo strain or wear.
White work. A quilt in which the entire design is in the quilting stitches. Usually made up in solid white fabric as a display of the quilter's stitching skills. Whole-cloth quilt. A quilt made from one large piece of fabric, usually a solid color, that is quilted only. Neither patchwork nor appliqué is used to decorate the Quilt Top.

Resources

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Guerrier, Katharine. Beautiful Quilts: Amish \& Mennonite. New York, Sterling Publishing Co., Inc., 1995.
Hanisko, Dorothy. Simply Seminole. Lincolnwood, IL, The Quilt Digest Press, 1997.
Leone, Diana. Crazy with Cotton. Lafayette, CA, C \& T Publishing, Inc., 1996.
Magaret, Pat Maixner \& Donna Ingram Slusser. Watercolor Quilts. Bothwell, WA, The Patchwork Place, Inc., 1993.
Nadelstern, Paula. Kaleidoscopes \& Quilts. Lafayette, CA, C \& T Publishing, Inc., 1996.

## Quilting Books with Patterns for Kids

Phillips, Toni, and Juanita Simonich. Tender Loving Covers.
Rolfe, Margaret. Go Wild with Quilts.
Rolfe, Margaret. Patchwork Quilts to Make For Children. Sterling Publishing.
Rolfe, Margaret. Quilt a Koala. Sterling Publishing.

## Children's Story Books

Beatty, Patricia. O the Red Rose Tree. William Morrow Publishers.
Bolton, Janet. Mrs. Noah's Patchwork Quilt. Doubleday Publishers.
Bolton, Janet. My Grandmother's Patchwork Quilt. Doubleday Publishers.
Brumbeau, Jeff, and illustrated by Gail de Marcken. The Quiltmaker's Gift. Pfeiffer Hamilton Publishers.
Ernst, Lisa Campbell. Sam Johnson and the Blue Ribbon Quilt.
Flournoy, Valerie. The Patchwork Quilt.
Hesse, Karen. Lavender. Henry Holt and Co., Publishers.
Hopkinson, Deborah. Sweet Clara and the Freedom Quilt.
Johnston, Tony, and illustrated by Tomie de Paola. The Quilt Story.
Kurtz, Shirley. The Boy and the Quilt.
Kushkin, Karla. Patchwork Island. Harper Collins Publishers.
Laury, Jean Ray. 14,287 Pieces of Fabric.
Mills, Lauren. The Rag Coat.
Morrison, Meighan. Linda Lou. Scholastic Publications.
Paul, Ann Whitford. Eight Hands Round: A Patchwork Alphabet.
Pollacco, Patricia. The Keeping Quilt.
Ringgold, Faith. Tar Beach.
Schnur, Steven. The Return of Morris Schumsky.
Whittington, Mary K. The Patchwork Lady.
Willard, Nancy, and Tomie de Paola. The Mountains of Quilt.
Xiong, Blia, and Cathy Spagnoli. Nine in One GRR! GRR! Children's Book Press.

## Internet Resources

http://www.womenfolk.com/grandmothers/grquilts.htm
Grandmothers Quilts: Our Quilting History Periods and Styles, Our Quilting Heritage Family Heirloom Quilts, Vintage Gallery Quilts and a Coverlet. Quilts covered are Broderie Perse, Signature, Civil War, Victorian Crazy, Depression Era Amish, African American, and Native American.
http://www.si.edu/organiza/museums/nmah/ve/quilts/quilt.htm
Quilts, Counterpanes and Throws: A Selection from the National Collections of Quilts.
http://www.pbs.org/americaquilts/classroom/index.html
Quilts in the Classroom. Sponsored by PBS Broadcasting network.
http://www.cmsd.k12.co.us/Schools/cme/plans.html
Lesson Plans for Immigration Quilt Quest. This is an interactive Internet lesson on immigration.
http://members.aol.com/mathquilt/text/whatmq.html
What is a Math Quilt? This site has math-related quilt problems dealing with tessellation, geometric, perspective and fractal designs.
http://www.coolmath.com/kidsonly/mathetc.html
http://www.geocities.com/Athens/Delphi/5557/table.htm
Various Enterprises For Exploring Mathematics Through Quilts. This site has lesson plans and other great ideas integrating math and quilting. If you look further, there are lesson plans for various subjects that combine quilting lessons with core classes.
http://www.onlineclass.com/NAQ/NAQsub.html http://bvsd.k12.co.us/curriculum/5th/Immigration/immigract.html http://www.ghbooks.com/getpage.cfm?file=activity/19216115.html\&userid=10090294
http://www.ti.com/calc/docs/act/unquilt.htm http://teams.lacoe.edu http://www.aplusmath.com/cgi-bin/games/geomatho http://forum.swarthmore.edu/~sarah/shapiro http://quilting.miningco.com/hobbies/artscrafts/quilting http://www.quiltethnic.com http://www.quiltguilds.com http://www.quiltgallery.com http://204.249.244.10/MainQuiltingPage.html http://www.QuiltHistory.com http://members.aol.com/mathquilt http://www.sbgmath.com http://www.connectedteacher.com/home.asp http://www.learnnc.org http://www.geom.umn.edu http://www.pbs.org/teachersource/math/elementary_geometry.htm http://www.quiltersretreat.com http://www.quiltmakersgift.com

## Video Resources

The Patchwork Quilt. A Reading Rainbow Video, \#126.022. Call 1-800-228-4630.
Unraveling the Stories: Quilt as a Reflection of Our Lives.
Patchwork Quilts Made Easy. Jean Wells, 1997.
America Quilts. Quilts in the classroom, PBS. Call 1-703-739-5391.

## Computer Software

TesselMania!, MECC, 800-685-6322, www.mecc.com
Electric Quilt and Sew Perfect, Electric Quilt Company, 419-352-1134, www.wenet.org/ElectricQuiltCo


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