

# Science Mini Quilt Club

from Quilt Lab by Alexandra Winston

Using the skills and designs in this book, students will learn the basics of piecing rectangles, triangles, and circles and turn these designs into mini quilts. Four sessions - one for each technique and a finishing class - can be taught as a series or individually for more experienced students looking to learn new skills and have fun with friends!



## Class Length

90 - 120 minutes

There are 3 classes, one for each skill, and an optional fourth class that discusses finishing options - quilting, binding, and creating a pillow. You may not need as much time if your students are more advanced, but plan on 2 hours for beginners to give them time to socialize, ask questions, and ensure that they are confident with their new skill(s).

## Class Supplies

Quilt Lab by Alexandra Winston

All sewing directions and techniques for the mini quilts will come from the book. Use the fabric and cutting directions here to make the mini versions.

Students will need 3 sheets of graph paper per class, plus pencils and erasers.

Since there isn't any prep work at home, have students bring in a color inspiration photo and shop for fabrics before class. Or you may wish to curate a few bundles for students to choose from. To finish the mini quilts students will need batting and spray basting. (Let the students know if you don't carry it.)

## Class Preparation

Before each class make a sample so that you are comfortable with the process and have something to reference during the lesson.

Print the cutting and directions page for each student. The Calculus quilt requires copying the templates. You may wish to have template plastic available. Cultured requires glue sticks, compass, and freezer paper.

Make sure that you have extras of all supplies on hand in the shop for students to buy.

# Basic Binary Mini Quilt

Find inspiration in binary code and create your own secret message!

Refer to Basic Binary on pages 44 - 49 in Quilt Lab. Since you will be creating your own coded message, remember that your quilt may not end up being the same size as everyone else's.

Message: \_\_\_\_\_

(Remember to keep it short - under 20 characters works best unless you want a table runner)

Number of Characters: \_\_\_\_\_

Approximate width desired: \_\_\_\_\_

Divide width by # of characters to get block width = \_\_\_\_\_, add 1/2" = 

(round to the nearest 1/4")

Approximate length desired: \_\_\_\_\_

Divide length by 7 = \_\_\_\_\_, add 1/2" = 

(round to the nearest 1/4")

On your graph paper, lay out your message, filling in the boxes with 1 or 0. Refer to the planning on page 45.

Decide on your color scheme:

1's will be \_\_\_\_\_

0's will be \_\_\_\_\_

# of blocks: \_\_\_\_\_

# of blocks: \_\_\_\_\_

Once you have your fabric cut, lay out the pieces and double check that the colors work well together and that the 1s and 0s are in the right places. TAKE A PICTURE!

Sew together in columns first (7 blocks), then sew the columns together (number of characters in your width).

010 0000	space
010 0001	!
010 0010	"
010 0011	#
010 0100	\$
010 0101	%
010 0110	&
010 0111	'
010 1000	(
010 1001	)
010 1010	*
010 1011	+
010 1100	,
010 1101	-
010 1110	.
010 1111	/

011 0000	0
011 0001	1
011 0010	2
011 0011	3
011 0100	4
011 0101	5
011 0110	6
011 0111	7
011 1000	8
011 1001	9
011 1010	:
011 1011	;
011 1100	<
011 1101	=
011 1110	>
011 1111	?

100 0000	@
100 0001	A
100 0010	B
100 0011	C
100 0100	D
100 0101	E
100 0110	F
100 0111	G
100 1000	H
100 1001	I
100 1010	J
100 1011	K
100 1100	L
100 1101	M
100 1110	N
100 1111	O

101 0000	P
101 0001	Q
101 0010	R
101 0011	S
101 0100	T
101 0101	U
101 0110	V
101 0111	W
101 1000	X
101 1001	Y
101 1010	Z
101 1011	[
101 1100	\
101 1101	]
101 1110	^
101 1111	_

110 0000	,
110 0001	a
110 0010	b
110 0011	c
110 0100	d
110 0101	e
110 0110	f
110 0111	g
110 1000	h
110 1001	i
110 1010	j
110 1011	k
110 1100	l
110 1101	m
110 1110	n
110 1111	o

111 0000	p
111 0001	q
111 0010	r
111 0011	s
111 0100	t
111 0101	u
111 0110	v
111 0111	w
111 1000	x
111 1001	y
111 1010	z
111 1011	{
111 1100	
111 1101	}
111 1110	~

# Calculus Mini Quilt

Learn how to cut different angles to create different polygons

Refer to Calculus on pages 76 - 85 in Quilt Lab. You will be making the medallion from the quilt back, but I have also included directions for creating a table runner.

Fabric requirements:

1/2 yard Brown (background)

1 Fat Quarter Orange

1 Fat Quarter Coral

1 Fat Quarter Red

1 Fat Quarter Blue

*Since the pieces are so small you don't need much fabric of each color. However you may choose up to 4 fabrics in each color for a scrapier look, or use 4 fat quarters and make all the blocks in the same color.*

Orange:

1 square 8 1/2" x 8 1/2"

Follow step 1 on page 80.

Brown:

1 square 8 1/2" to be used with orange

8 of template a2 (4 mirror image pairs)

Coral:

8 of template a1.

Sew together following steps 4 and 5.

8 of template b2 (4 mirror image pairs)

4 of template b3

Red:

12 of template b1.

Sew together following steps 8 and 9.

8 of template c2 (4 mirror image pairs)

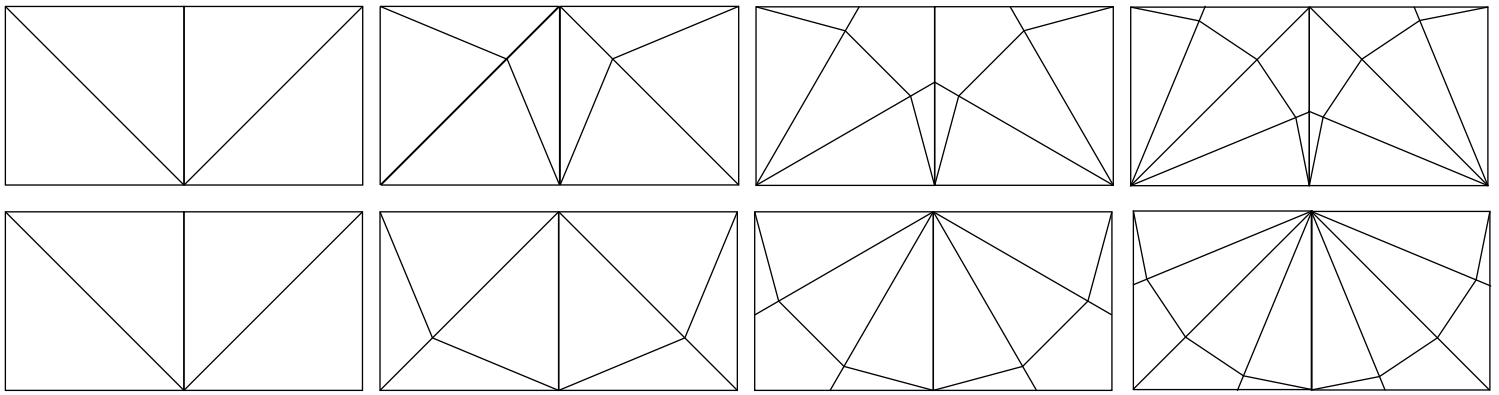
8 of template c3 (4 mirror image pairs)

Blue:

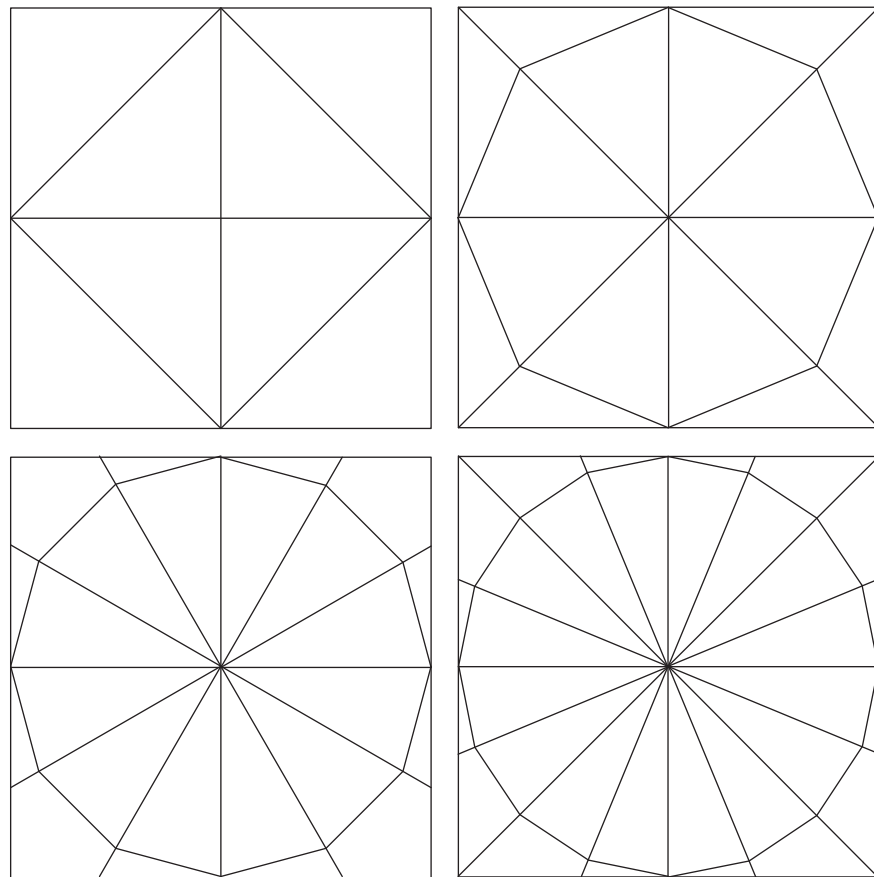
16 of template c1.

Sew together following steps 12 and 13.

Assemble the 5 1/2" blocks of each color according to diagram C on page 83. If you prefer a table runner, use the diagram on the next page.



10 1/2" x 40 1/2" table runner



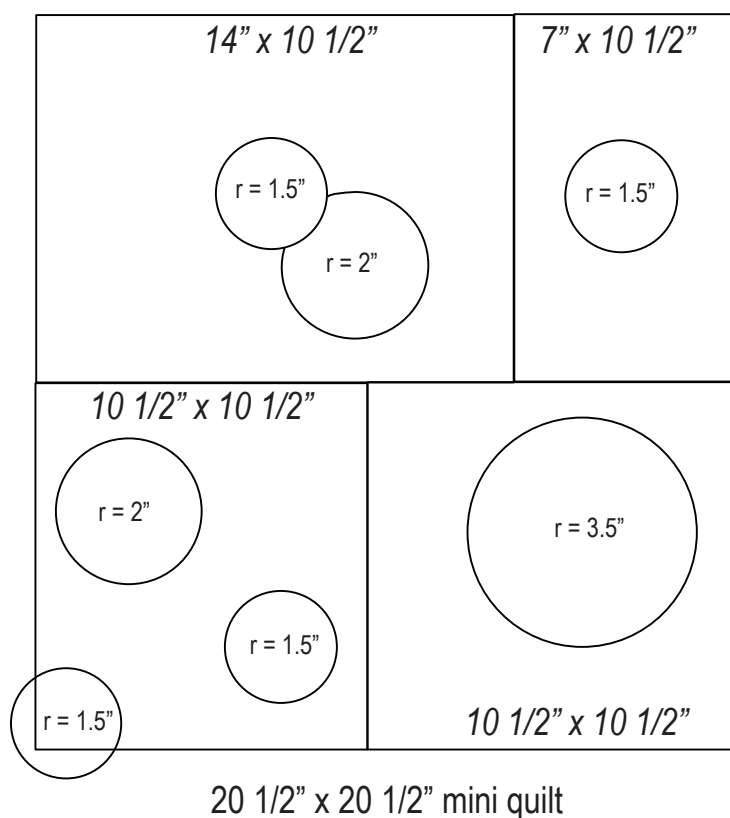
20 1/2" x 20 1/2" mini quilt

# Cultured Mini Quilt

Piecing inset circles is easy with patience, a zipper foot, and freezer paper!

Refer to Cultured on pages 104 - 109 and Basic Technique directions on pages 98 - 100 in Quilt Lab. Making a miniture version of this petri dish will allow you to practice all kinds of circle piecing using freezer paper!

Special Supplies: freezer paper, compass, paper scissors, glue stick, zipper foot



## Fabric:

3/4 yard background  
3 - 5 Fat Quarters for the circles

## Cutting:

### Background:

1 rectangle 14" x 10 1/2"  
1 rectangle 7" x 10 1/2"  
2 squares 10 1/2" x 10 1/2"

### Accent:

4 squares 5" x 5"  
2 squares 6" x 6"  
1 square 9" x 9"

### Prepare the freezer paper by cutting:

8 squares 5" x 5" (for radius 1.5" circles)  
4 squares 6" x 6" (for radius 2" circles)  
2 squares 9" x 9" (for radius 3.5" circle)

Iron the freezer paper squares together in pairs following the directions on page 98. Then follow steps 1 - 10 to create the circles in the blocks. The circle placement doesn't have to be exact and you can really place them anywhere you like on the background pieces. Use the diagram as a guide.

For the block in the upper left corner, follow directions on page 103 to make the overlapping circles.

The bottom left circle will be pieced with the freezer paper overhanging the edge of the block. Square up the corner when finished.

Sew together the top two rectangles and the bottom two squares. Then sew the two rows together.

# Finishing Your Mini Quilt

Baste and quilt your mini. Then turn it into something wonderful!

If you are making a simple mini quilt to hang on you wall, refer to the directions on pages 23 - 26.

If you are making a pillow, refer to the directions and sizing on pages 33 - 35.