Quilting Arts MAGAZINE PRESENTS

BEYOND THE BASICS

Dye Your own Fabric

Photography by HornickRivlin.com

Beyond the Basics

Dye Your Own Fabric

Are you ready to move beyond working with commercial fabrics and create your own palette of colorful cloth? You can expand your creative horizon by making your own stash of hand-dyed fabric, and it is easier than you think. Once you've mastered the basics, it is time to experiment with techniques such as resist dyeing, color mixing, and more.

Art quilters from around the world share a passion for surface design. Creating an array of unique fabrics that are dyed in a specific color way is a goal for many fiber artists. This eBook contains a compilation of articles about creating one-of-a-kind hand-dyed fabrics. From textured itajime to creating your own gradations, you'll be surprised by the many ways you can add color to cloth.

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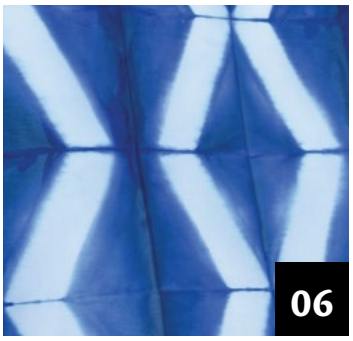
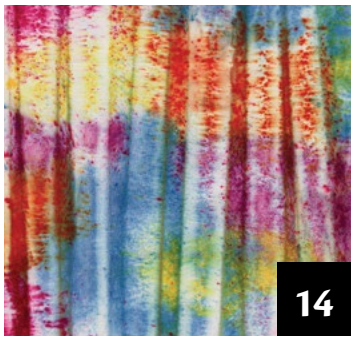
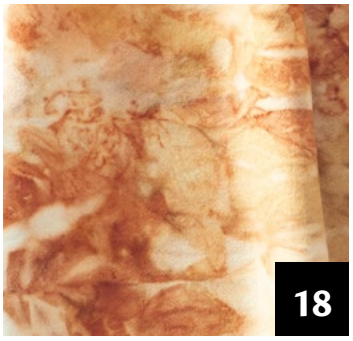
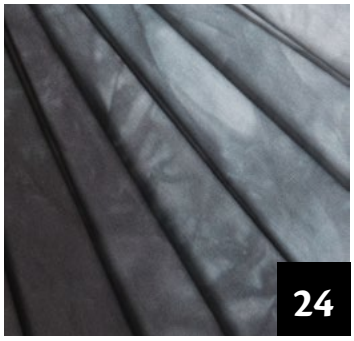
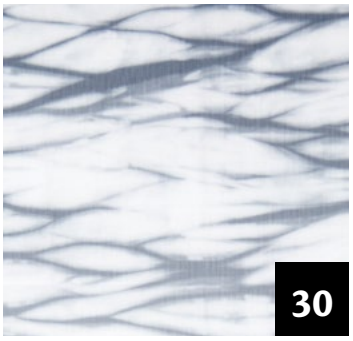
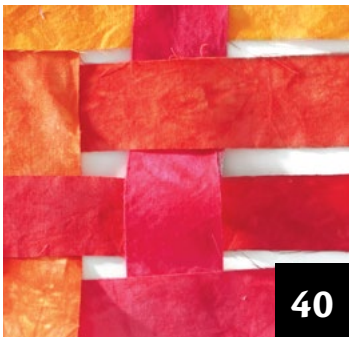


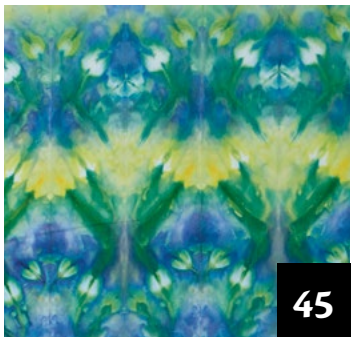












INDIGO Itajime

An ancient art with a modern feel

by Candy Glendening

Photo by HornickRivlin.com

Indigo is both a color (deep blue) and a type of natural dye called a "vat dye." Although you and I may think the term "vat" refers to a big vessel that one puts dye and cloth into—it is actually a term that applies to a specific type of dye, indigo being the best example. Vat dyes are molecules that can't dissolve in water until they have been "reduced" (a chemical term that refers to the loss of oxygen) in the presence of a base. When this happens, the molecule changes its shape/color and becomes soluble in water. Once soluble, the dye can penetrate fibers, and then when it becomes exposed to oxygen, that molecule changes back to its insoluble form/color, and becomes stuck in the fiber.

Indigo dye can be recovered from the leaves of *indigofera tinctoria,* through a rather lengthy process that involves a very strong base (lye) that requires careful handling. However, indigo can be manufactured and purchased in a pre-reduced form. This dye has already been chemically processed down to a state in which it is water-soluble, so it is a safer and easier product to work with. Instead of having to add a harsh base, such as lye, it only needs a mild one, soda ash, to complete the process—along with a reducing agent that will remove most of the oxygen from the vat, which causes the dyebath to change from blue to yellow green. In this state, the liquid will penetrate the fabric placed in the dyebath; as soon as the fabric is removed from the vat, it begins to oxidize within the fabric and returns to its original blue color. Once this happens, all the indigo that has penetrated the fibers will remain permanently. The process happens quickly, with not very much hands-on time, making it an ideal process for a busy textile artist.

MATERIALS

- Jacquard Indigo Tie-Dye Kit (See Resources)
- Fat quarters of PFD (prepared-for-dyeing) cotton
- 5-gallon bucket with lid
- Container wide and deep enough to easily place clamped fabric bundle (dishpan size or larger)
- Long stirring stick (a paint stirrer from a hardware store works well)
- Long gloves
- Pairs of similar-sized pieces of wood, such as furring strips, garden stakes, or chopsticks
- Clothespins
- Small and large bulldog or C-clamps
- Floor covering if working inside

Optional:

- Clothesline
- Skimming tool, such as a slotted spoon

Photos courtesy of the artist unless otherwise noted

figure 1

figure 2

The patterning illustrated in this article is called *itajime,* a sub-set of the larger class of shaped-resist dyeing known as *shibori*. "Shaped-resist" indicates that the fabric is manipulated in some manner and then a physical resistance is applied, allowing some areas of the fabric to resist being dyed, while other areas absorb the dye. The color difference between these two areas becomes the pattern.

Itajime patterns start with a set of folds that reduce the fabric to a small bundle that will then be enclosed between a pair of shapes of identical sizes. Several bulldog clamps, C-clamps, or rubber bands compress the shapes, squeezing the folded fabric. The fabric underneath the clamped shapes will be light blue or white because it will resist the dye.

Directions

Prepare the vat

1. Following the manufacturer's instructions, prepare your indigo vat. Do this at least 1 hour before dyeing, although the day before is ideal. With a cover on the vat to minimize the oxygen exposure to the dye, the vat will remain active for weeks if your dyeing plans get pushed back.
2. Gently move the vat to your dyeing location at least 15 minutes before dyeing, to allow for any sediment that may have been stirred up to return to the bottom of the bucket.

Prepare the fabric

1. Fold each piece of fabric into a rectangle, using a fan-fold method. In this way, the edges of fabric created will have equal exposure to the dye.
2. Fold the rectangle into its final shape by starting at one of the short edges and fan-fold that long rectangle into a square, rectangle, or triangle. *(figure 1)*
3. Gently immerse the fabric bundles in water. Remove the bundle onto a flat surface and press out the excess water. Repeat with each bundle until they are all damp.
4. Clamp the bundles by either clipping clothespins or smaller clamps around the exterior bundle or align a pair of resist items (such as 2 pieces of wood) on the top and bottom of your bundle. Clamp the resists to securely enclose the bundle. Either use a few large clamps or rubber bands at each end of the resist where it meets the fabric bundle. *(figure 2)*

figure 3a

figure 3b

figure 3c

figure 3d

Photos courtesy of the artist

Time to dye

1. Remove the lid of the bucket and skim off any blue crystals or foam that has collected on the surface. Reserve this and place it in a small container to return to the vat at the end of the dyeing session.

NOTE: This is oxidized indigo that won't penetrate and dye your fabric. Returning it to the vat will give it a chance to become reduced and dye fabric in a later session.

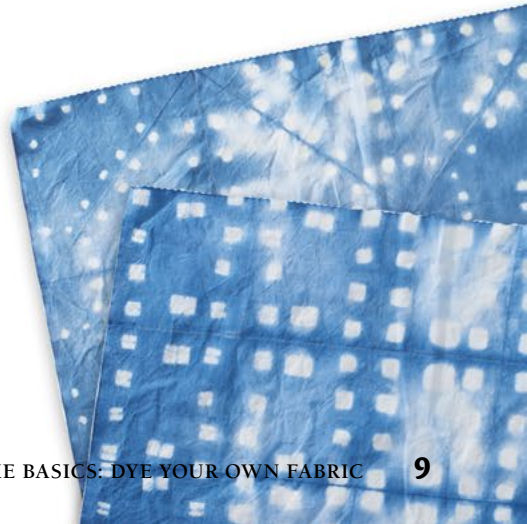
2. Wearing gloves, submerge 1 bundle under the surface of the dye bath. Gently massage the bundle and 'riffle' the folded edges of the bundle for 30 seconds to a minute. This encourages the reduced indigo to penetrate through the layers of the folded cloth.

3. Remove the bundle, and gently squeeze any excess liquid back into the bucket while the bundle is just above the surface of the vat. Mixing, agitation, and drips all introduce oxygen into the vat; the less this happens, the more indigo remains reduced and ready to dye more fabric.

4. Set the dyed bundle aside to oxidize. You will see it turn from yellow green to deep blue over a period of about 20 minutes *(figure 3)*. Separate the folds occasionally over this time, allowing the inner surfaces of the fabric to oxidize as well.

NOTE: I used a pair of chopsticks on either side of a bundle—I found a single chopstick didn't provide enough force to resist the indigo.

Photo by HornickRivlin.com



5. Once oxidized, rinse the bundles by dipping them into a bucket of clean water and re-dye in the indigo vat. I usually dip fabric at least twice, and as the dye bath weakens I'll increase both the number and length of dips to continue achieving a deep blue.
6. After the final dip, wait at least 20 minutes for the indigo to oxidize, and rinse it 1 last time in a bucket of water. Remove the clamps and unfold the fabric. The entire piece of fabric will continue to oxidize over the next few minutes.
7. Hang the fabrics to dry on a clothesline or place them on a covered floor.
8. When the fabrics are totally oxidized, rinse them again in cold running water.
9. Wash the fabrics in a washing machine on the delicate cycle using a gentle detergent that doesn't contain bleach. (A small amount of dishwashing liquid will also work.) Dry them in the dryer and then enjoy your beautiful fabric.

To use your vat another day, first return the skimmed blue crystals to the vat by dipping the container holding them into your vat and stir them gently into the yellow-green solution. Cover the bucket and use this vat again and again. You should always test the vat with a small scrap of fabric before beginning another dyeing session—when the liquid is no longer yellow/green and the test fabric is no longer blue, pour the contents of the bucket down the drain.

resources

For Jacquard Indigo Tie-Dye kits, visit dharmatrading.com

Candy Glendening

Redlands, California

Not every surface designer has the opportunity to dye outside nearly every day of the year, but Candy Glendening's dye studio, located in the backyard of her home in southern California, affords her that luxury.

"We don't get much rain and the temperature is never too cold to work outside, so this location is perfect for dyeing." Candy's husband hooked up an outdoor sink on their patio shortly after moving to Redlands, 14 years ago. Having her workspace outside allowed for multitasking when her boys were young: she could dye yardage and watch them swim at the same time.

"I love working early in the morning when it is still shady; I'm surrounded by herbs, fruit trees, and flowering vines. It is the epitome of peacefulness and contentment."

Photos courtesy of the artist

"I'm surrounded by herbs, fruit trees, and flowering vines. It is the epitome of peacefulness and contentment."

Candy prefers 'orderly chaos' when dyeing. She measures her dyes with absolute precision (not a surprise for a woman who works as a science professor at a local college) and has all of her tools and materials stored within reach. And keeping only the dyestock she needs for a particular dye session close by reduces the risk of grabbing the wrong color.

The best part of her studio? Candy calls it "my custom dyeing sink of awesomeness!" (It even has its own hashtag: #CustomDyeingSinkOfAwesomeness.) "I spent over 10 years dyeing with a six-foot enameled sink top placed atop a rough plywood cabinet." The sink was small and awkward, and she did most of her measuring on two small plastic tables set on either side. "About four years ago, I started dreaming of a larger work surface with a larger shallow sink that would make measuring dyes and rinsing fabric easier." She found a local stainless-steel fabricator who took her ideas and expanded them. The shallow sink with a custom backsplash fits four dishpans that she uses for dyeing. The large work surface has a slight channel that funnels all the water into the sink. Her faucets are from a commercial kitchen supplier.

Candy notes that the sink also does double-duty as an entertainment hub for family gatherings. "When all my dyeing materials have been put away and the sink has been cleaned and polished, it also makes a great place to set up a party." The sink also doubles as an ice bucket—yet another way this dye studio melds right into her family's lifestyle.

Beating the southern California heat, most of Candy's dyeing is done in the early morning and she leaves her fabrics to batch in the afternoon. The final rinse may be done under the soft lighting of the stars and a few low voltage lights from her pergola. Then, as an energy and water saver, she soaks her newly dyed fabrics in cold water before washing them by machine. Her hand-dyed fabrics are now ready to become part of her art.

candiedfabrics.com

confetti dyeing

One technique, three distinctly different results

Folded fabric technique

MATERIALS

NOTE: All supplies and tools must be dedicated to nonfood use.

- Plastic to protect work surface
- Plastic bucket or large dishpan
- Soda ash
- 1 yd. cotton PFD (prepared for dyeing) fabric
- Procion® MX dyes in a variety of colors
- Measuring spoons and cups
- Mesh sink strainer
- Spray bottle
- Respirator
- Disposable gloves
- Access to a clothesline to hang dyed fabric
- Synthrapol

by Carol R. Eaton

This technique is a fresh approach to dyeing fabric and allows the artist an unusual amount of creative freedom. Some results will resemble party confetti scattered across the fabric, while others create beautiful blended designs as the dyes intermingle.

Rather than thoroughly mixing dye and water together as in traditional methods, the confetti technique is the complete opposite. By adding dry dye powder directly to the surface of damp fabric, many of the individual dye particles remain separated. The multicolored patterning is different every time. Because the end results can't be anticipated, it's impossible to make a mistake. Each piece will be a one-of-a-kind treasure.

CAUTION: Always wear a respirator and gloves while working with powdered dyes and chemicals. All measuring and mixing tools used in this process should be dedicated to nonfood use.

Directions

Summer is a great time of year to work outside and take advantage of the easy cleanup it affords. Create an outdoor work space. Get messy and have fun!

1. Cover your work space with a layer of protective plastic and gather your supplies. *(figure 1)*
2. In a bucket or large dishpan, mix 1 cup soda ash with 2 gallons of warm water. Mix the solution thoroughly with a gloved hand. Fill a spray bottle with the soda ash solution and set it aside.
3. Tear or cut your fabric into 4 fat quarter pieces. Soak the fabric in the remaining soda ash solution for

Photos by Carol R. Eaton

figure 1

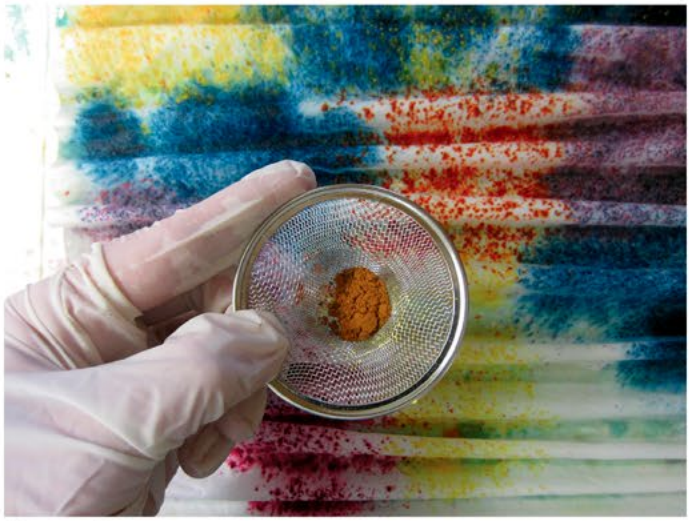


figure 2

30 minutes, being sure the fabric is totally submerged.

TIP: Unused soda ash solution will last indefinitely so save it for future projects.

4. Remove the fabric from the soda ash solution and squeeze out the excess liquid. Spread the fabric across the work surface and don't worry about the wrinkles.

Note: With the confetti dyeing technique, you can vary your approach slightly and achieve distinctly different results. Each method begins by sprinkling dry dye powder directly onto the damp fabric using a mesh strainer. *(figure 2)* Work with 1 color at a time by scooping up to ¼ tsp. of dye powder into the mesh strainer. Hold the strainer about 6" from the fabric and lightly tap or shake the strainer as you sprinkle the dye across the fabric surface. Be sure to thoroughly clean and dry the spoon and strainer after applying each color to avoid cross contaminating the dyes.

Mottled confetti dye

This technique allows the dye to remain undisturbed on top of the fabric surface, leaving a spotted or mottled effect. Non-primary dyes tend to yield the most interesting results because their color is made up of a combination of dyes. Select 1–3 colors of dye for this method.

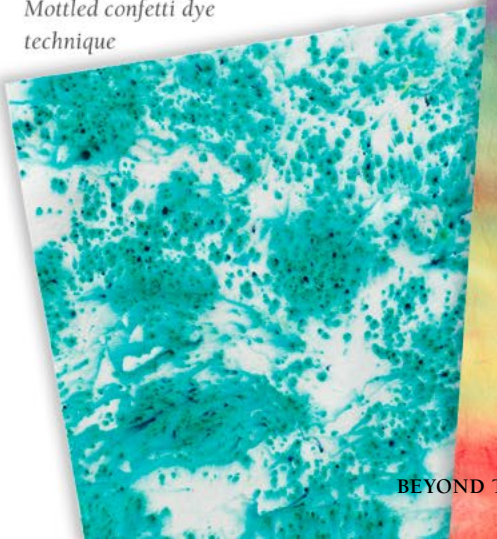
1. Wearing a respirator and gloves, and using a clean measuring spoon, scoop up to ¼ tsp. of dye into the mesh strainer. Sprinkle the dye evenly across the surface of the damp fabric. There will be some white spaces where the fabric isn't completely covered with dye, which allows room for the dye to spread. Repeat with several more colors of dye until you are pleased with the result.
2. Allow the fabric to remain undisturbed for several hours.
3. Rinse and wash following the directions provided on page 13.

Folded fabric confetti dye

This approach allows the dye to migrate and pool in areas, creating concentrated colors and secondary designs. The lightly folded ridges in the fabric encourage the dye to roll off the high spots and to blend and collect in the low areas. Select up to 3 colors of dye for this method.

1. With gloved hands, loosely fold the damp fabric to create soft ridges.

Mottled confetti dye technique



Blended confetti dye technique

figure 3

figure 4

2. Wearing a respirator and gloves, and using a clean measuring spoon, scoop up to ¼ tsp. of dye into the mesh strainer. Sprinkle the dye across the surface of the ridges. Repeat with several more colors of dye until you are pleased with the result.
3. Lightly spray the fabric with the soda ash solution to jump-start the color blending process. *(figure 3)*
4. Allow the fabric to remain undisturbed for several hours.
5. Rinse and wash following the directions provided at right.

Blended confetti dye

Use this technique if you want to create freely blended colors that cover the entire cloth. The hang-and-spray method forces the dyes to run together and produces secondary colors.

1. Use primary colors (red, blue, and yellow) for this technique to create a rainbow of purple, green, and orange after the fabric is sprayed and the colors blend.
2. Wearing a respirator and gloves, sprinkle the dye onto the damp fabric surface using the dye placement example as a guide. (*figure 4*) Careful placement of the dye allows you to capture all six color combinations as they blend together.
3. Place a sheet of protective plastic under the clothesline to catch the dye as it runs off the fabric.

Option: Place the fourth fat quarter under the clothesline to catch the dye as it drips off the fabric. You'll be delighted with the unexpected results.

4. Hang the fabric on the clothesline. Spray the soda ash solution across the top of the fabric, allowing the dyes to run freely down. Take your time and let the colors blend before continuing to spray.
5. Once the dye is blended and stops running down the fabric, remove it from the clothesline. Turn the fabric upside down and pin it back to the line. This allows the dye to run in the opposite direction, creating a softer and more blended appearance.
6. Allow the fabric to hang until it is dry.

rinse & wash

The confetti dyeing technique yields a high concentration of dye in the fabric so extra care during the rinse and wash process is needed.

- Soak fabric in cool water for 5 minutes. Swish the fabric, releasing the excess dye. Rinse the fabric under a faucet and repeat until the water starts to run clear.
- Wash the fabric with synthrapol using the washing machine's hot cycle.
- The fabric can be air dried or placed in the dryer.

7. Rinse and wash following the directions provided above. ✹

carolreatondesigns.blogspot.com

resources

Chemicals, dye, and PFD fabric

- dharmatrading.com

Wrap & Roll

Photography by HornickRivlin.com

Combine rust and botanical dyeing for unique contact prints

by Maggie Vanderweit

Wrap and rust dyeing is a fabulous, unpredictable surface design process that uses the exciting natural pigments in specific botanical materials to create unique contact prints. We all know that rust can stain fabric, but combine it with leaves, seeds, flowers, roots, and stems wrapped in tight bundles of prepared-for-dyeing (PFD) cloth (plus mordants, heat, vinegar, and water) and you'll get some stunning results.

There has been a great resurgence of interest in all things natural, including rediscovering plants that historically were used to put pigment onto cloth. A felting class with artist India Flint in 2011, where we dyed our work with plants, set me on a journey of passionate experimentation that has preoccupied my studio practice and inspired many of my art quilts. I have spent six years figuring out which local plants work using this process, and also include rust and sometimes chemical dyes. This process works on a variety of fabrics. In addition to cotton, I use PFD linen, bamboo, silk, rug hooking wool, and even a variety of blends.

Experimentation is encouraged with this type of dyeing. Be prepared to accept that this is an organic and natural process that often produces very unexpected results, generally lovelier than you could have ever imagined.

MATERIALS

- Prepared for dyeing (PFD) linen, cotton, or other natural fabrics
- Powdered milk
- Rusted metal items
- Plants (see list on page 18)
- Plastic to cover work surface
- Latex gloves
- Undyed elastic bands or natural colored string
- Alum (This can be found in the bulk food or spice department of your grocery store.)
- Large canning pot with lid
- Tongs
- Large plastic container
- Resealable plastic bags
- White vinegar

Optional

- Drying rack
- Electric hotplate (2-burner is best)
- Camera
- Lint roller

DIRECTIONS

Rust dyeing

For this type of dyeing, any type of fabric works: it can be printed, patterned, silk, wool, or plain white cotton.

1. Lay out the fabric on a table covered with plastic. Using gloves, carefully arrange the rusty objects on the fabric. *(figure 1)* Wrap the fabric around the rusted objects, keeping in mind the rust will transfer where it touches the fabrics. Bind the bundles tightly with elastics. *(figure 2)*
2. Immerse the wrapped bundles in a plastic bin filled with a 1:1 (or stronger) vinegar and water solution. Let them soak for 20–60 minutes to to completely absorb the vinegar.
3. Remove the bundles and place them in sealed plastic bags to batch. When the rust shows through the fabric, they are done.

NOTE: This process "takes the time it takes"—usually a few days or more. Be patient to get better results.

4. Wearing gloves, unwrap the bundles carefully and rinse the fabrics thoroughly with water. Hang the cloth to dry.

Keep in mind that rusty fabrics can be stiff, hard to sew through, dull your needles, and leave dirty residue on your iron. But at the same time, their ethereal beauty and unpredictable patterning can add so much to an art quilt.

CAUTION: Always wear a dust mask and gloves while working with chemicals. All measuring, mixing, and cooking tools used in this process should be dedicated to nonfood use. Use care when handling rusty metal scraps.

Above: "Here and There" • 39" × 12" (detail)

figure 1

figure 2

A Short List of Plants that Dye

Both fresh and dried plants work. I live near Toronto, Ontario, Canada, and most of these grow nearby but I get some from the florist. This list is for the leaves plus any other plant parts noted. Make sure that plants from the florist have not been dyed.

- Golden rod flowers
- Maple keys
- Birch
- Grape vines and grapes
- Day lily flowers
- Walnut pods
- Chestnut
- Catalpa pods
- Sumac seeds
- Eucalyptus seeds
- Plum
- Strawberry roots and runners
- Raspberry fruit
- Hibiscus flowers
- Ferns
- Sage
- Corkscrew hazel
- Queen Anne's lace
- Beets (vegetable)
- Purple cabbage (vegetable)
- Onion skins
- Coral bell
- Seaweed
- Oak leaves
- Tea

Plant dyeing

For this type of fabric dyeing, PFD protein fabrics (such as wool and silk) work best. These fabrics require no presoaking, so you can get started right away. The marks made on PFD cellulose fabrics (fabric made from plants such as cotton, bamboo, and linen) require preparation. The results are less distinct than with protein fabrics, but will be enhanced and sharpened by pre-soaking the cloth in a powdered milk solution.

1. If using cellulose fabrics, mix 2 cups powdered milk in approximately 2 gallons of water. Soak the fabrics thoroughly. The fabrics can then be air-dried or used damp. This can be done more than once—consider spraying milk on the fabric for a dotted effect, or drawing with milk over flat fabric.
2. Spread the fabric on a table covered with plastic. Place the plant material onto the fabric, and then add rusted metal scraps and additional layers of cloth if you wish. Wrap it all up very tightly (roll, fold etc.) and bind it with elastics.
3. Arrange the bundles in a canning pot. Add water to cover and 3–5 teaspoons of alum. Bring the pot to a boil with the lid on and simmer, adding more water if needed. (I usually do this outside using an electric hotplate but you can also do it indoors if you have good ventilation.)

CAUTION: Set up an outdoor studio with a sturdy inflammable table for the immersion dyeing. Always be aware of the boiling pot. Handle hot bundles with tongs and let them cool before unwrapping. Wear a mask and gloves if working with powdered dyes. Use oven mitts around the hot pot.

4. Turn off the heat after a few hours of boiling and let the pot sit for as much time as it takes to start to see color coming through to the outside of the fabric. This may be hours, but usually a few days. I often boil the pot again. Patience is a virtue!
5. When the color is showing through quite distinctly, remove bundles from pot. Let them drain in a metal bowl. Carefully unwrap each bundle, discarding the elastics and plants, but find and reuse the rusty bits.
6. Rinse, wash, or hose down your cloth thoroughly then hang to dry. Use a lint roller to clean off botanical bits. Lastly, press the fabric—these boiled-in wrinkles require more than a once-over!

See what is growing in your garden and start experimenting! Find books on natural dyeing. There are wonderful online eco-dyeing groups. Then use your fabrics in beautiful one-of-a-kind art quilts!

stonethreads.ca

Maggie's Tips for Effective Rust & Plant Dyeing

- Photograph your bundles before wrapping so you have a record of the materials you used.
- Wrap all bundles as tightly as possible. Wrapping ensures good contact between the rust and the fabric.
- If the fabrics dry out before the rust has fully transferred, soak them again in the vinegar and water solution.
- Rust stains can be removed from your iron. Clean your cool iron with a damp, soft cloth and a bit of household cleansing powder if needed.
- Rust dyeing is great on its own, but can be enhanced by combining the process with botanical plant dyeing.
- Dried plants can be reconstituted—soak or spritz with water.
- You can also cover your flat fabric/plants with iron or alum "blankets" (fabrics presoaked in iron/alum solutions).
- Want more color? Experiment with adding powdered dye, metal scraps, and whole plants to the pot.
- Try different ways of wrapping and folding your bundles. Think about using *shibori* folds and creating mirror images.

Want to know *more?*

Don't miss Maggie demonstrating her techniques for rust and botanical dyeing on "Quilting Arts TV" series 2100 available at **quiltingcompany.com** or check your local PBS listings.

shifting into neutral

by Susan Purney Mark

A study of color can take a lifetime—it can be a path of discovery, experimentation, and an amazing way of looking at our world. As a surface designer, I have only just started down that road ... and what a wonderful journey it has become. Come along with me as we explore together the wonderfully nuanced world of neutrals.

What is a neutral color?

Let's begin by considering what a neutral color is. Neutral colors do not show up on the color wheel. People in fashion, decorating, and other professions that work with color often refer to neutral colors as earth tones. These colors have a flexibility and visual balance that work in a number of settings. Neutrals also have a classic, subtle feel in rooms, clothing, and furniture that make room for use of bolder and more vibrant colors as accents. As artists, we use neutrals to convey meaning in our work, to allow bright colors to pop, and to imply nature or natural areas in a quilt.

Years ago, in my art and design program, we spent hours mixing colors to achieve neutrals. Sometimes it was mixing complementary colors and gradually thinning them with more and more water for the lightest and palest washes. Other times we added white and black to create tints and shades. It was a wonderfully creative process of exploration and it was always amazing to me how even the smallest incremental change in the amount of paint or water could yield a distinctly different pink, lilac, or sand color.

Let's have a few words about the processes we dyers use with our recipes. Most often, professional dyers and fabric companies dye fabrics by weight, giving them very precise and exact colors and values time after time. While my process is a little more relaxed, I use accurate measurements and also use the same cups and spoons for all my recipes. I find

terms of endearment

HUE: When we use the word "color," we technically mean "hue." When using dyes, hue is the color name that the manufacturer uses on the label and what we will refer to in this series. Blue, red, and pink are all hues.

TINT: Any color that has white added, making it a paler version, is called a tint. With transparent colors, tints can be achieved by adding more water or fabric to the dye bath—or by using less dye solution.

SHADE: When black is added to a dye solution, a shade is created. Since there are different black dyes from different manufacturers, subtle yet distinct variations are achieved when creating shades.

TONE: To create a tone, gray is added to the dye solution. You might think that by adding less black dye to the solution, you would have a tone, but grays, like blacks, are made up of other colors so the variables can be infinite.

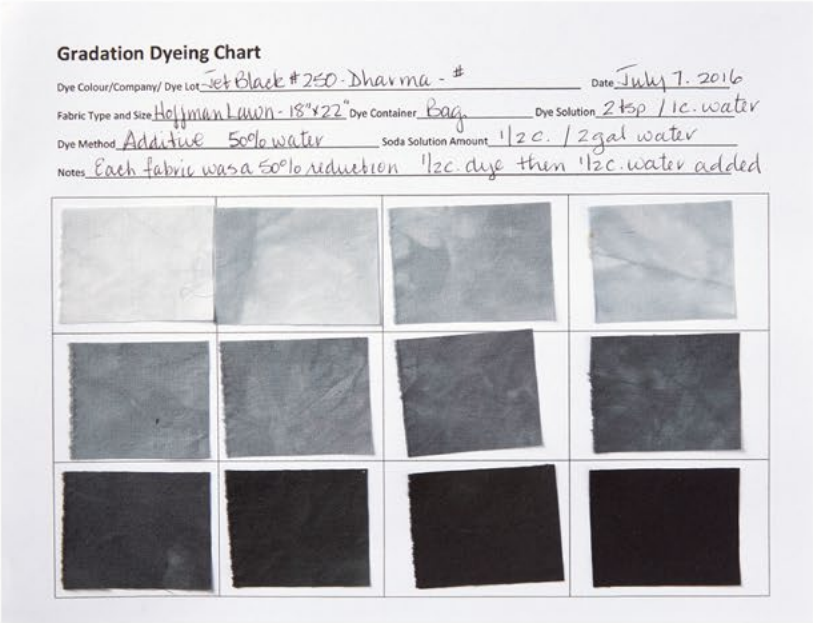


figure 1

this gives me consistent results in my dyeing routine. You may choose either approach, just be certain to keep good records.

Keep records

Consider working with fat quarters (18" x 22") of fabric. This size provides enough fabric of each color to use in a piece of art, plus a small sample to keep as a test swatch. In addition, a fat quarter fits comfortably in a resealable plastic bag or a one-quart plastic container, either of which can be used as a dye pot. (You may chose to use another amount or kind of fabric, but keep in mind that you will need to adjust the recipes accordingly.)

I have a chart that I use with each color that I dye and keep it as a reference for dye color, undertones, and value gradation. *(figure 1)* You can make your own and adapt it for your own use or print off the one that I've created.

MATERIALS

- Soda ash
- 2 gallon bucket
- Procion® MX Fiber Reactive Dyes (Have on hand several black dye powders, if possible—the variety is useful for comparison.)
- Plastic measuring cups and spoons. (Buy a good set for consistent measurements. Do not use anything that you have ever used for dyeing for food preparation—ever.)
- Rubber gloves
- Dust mask
- Old towels for spills
- Synthrapol® (fabric detergent)
- Plastic sheet to cover your workspace
- 12 (1-quart) resealable plastic bags
- 12 (1-quart) plastic containers

Dyes

When dying, I use Procion MX Fiber Reactive dyes. These dyes are the most user-friendly dye products available and lend themselves to a wide variety of surface applications. I use a method called low-water immersion; it is simple, straightforward, and yields excellent results. I personally prefer warmer browns and have a particular love of the new neutral gray that has been developed. Take a moment to look at the various dye manufacturers' websites and become familiar with their dyes. You might find over time that you develop favorite neutrals.

DISCOVER THE COLORS IN BLACK DYE

The first exercise is to look at the color components that go into making a black dye powder. When you open a container, it will not look purely black. You will see flecks of other colors mixed together.

When the powder is wet, those flecks will wick out and show what colors are used to make up the black dye powder.

1. For every black dye powder source, fold a paper towel into quarters and dampen it.
2. Put on your dust mask and gloves. Gently sprinkle less than ⅛ teaspoon of each dye onto the damp paper towel.
3. Wait a few minutes and watch as the dye powders wick out.
4. Take a photo and make notes for reference. *(figure 2)*

figure 2

Seeing the various colors that go into making black can help you understand that black can be a finicky color as a dye. Understanding its complexity is a great learning experience for developing a deeper understanding of neutral colors.

Make a Smooth Gradation

Now that we can see the various colors that make up black dye, let's look at how changing the concentration of the dye in a consistent manner creates a reproducible gradation series.

For this value study you will need 3 yards of white fabric, cut into fat quarters. All fabrics must be natural cellulose fiber (such as cotton, silk, linen, or hemp). For a consistent value gradation, use the same fabric for all 12 pieces.

CAUTION: Always wear a dust mask and gloves while working with powdered dyes and chemicals. All measuring and mixing tools used in this process should be dedicated to nonfood use.

1. Make the soda ash solution by mixing ½ cup of soda ash into 2 gallons of warm water. Stir until the soda ash is dissolved. This solution keeps indefinitely and can be used to soak fabric for future projects.
2. Place each resealable bag into a plastic container and pour in 2 cups of warm soda ash solution. *(figure 3)*

figure 3

Dye solution

1. Dampen an old towel and place it on your plastic-covered work surface. As you measure and mix the dye powders, the damp towel will catch any stray dye particles.
2. Put on your dust mask and gloves.
3. Mix 2 teaspoons of dye powder into 1 cup of hot water. Stir well.

NOTE: I use hot tap water with all my black dyes. Dye companies recommend using 130°–150°F water, and I find that the hottest tap water works well. Since hot water thermostat settings can vary, test to see if you are close to this range.

The original black sample was too blue, so I added Deep Yellow—which made the solution too green. Next I added a small amount of Chinese Red—but the sample was still too green. I was successful with a good black when I added just a bit more Chinese Red. Experimentation and good record keeping are essential.

Dye process

1. Into the first bag, add ½ cup of dye solution to the soda ash solution, mix, then add 1 fat quarter. Seal the bag, squeezing out as much air as possible.
2. Add ½ cup hot water to the dye solution and stir.
3. In the next bag, add ½ cup of dye solution, mix, and add 1 fat quarter of fabric. Seal the bag, squeezing out as much air as possible.
4. Add ½ cup hot water to the dye solution and stir.
5. Repeat steps 1 and 2 for all the bags. Massage each sealed bag to make certain the dye solution reaches all parts of the fabric.
6. Leave the bags sealed for at least 3 hours, allowing the reaction to take place. This step is called "batching." I often let them sit longer and rinse out the fabric when I have time.

By adding ½ cup of water to the dye solution, you are pouring in an increasingly dilute dye mixture each time. The last bag will have the lightest gray that you can imagine.

Color correcting for undertones

As we've learned, it is very difficult to create a black dye because of the various color components. Even if what may appear to be a deep black on fabric, one or more of the component colors may wash out, leaving the color a dark brown or blue. I've found it easiest to begin with the best black dye I can buy and then make corrections if needed. The black dyes from each company will have some slight

Tips for Success

- I prefer using resealable (zipper) bags so that I can squeeze out most of the air. Air pockets will make a light halo on fabrics in dye baths.
- Invest in one quality measuring set and use it consistently.
- Save paint swatches or make a Pinterest Board for design inspiration.
- Keep a sketchbook with your color charts and fabric swatches.
- Plan a dye session with friends and each dye one black, then trade the swatches.

differences, but they provide information of the color cast/undertone of each black. This is important information to have when making color corrections to any black dye.

When making a color correction, add the dullest complementary color of the undertone as found on the color wheel. Thus, if the undertone is blue, add a deep yellow or orange to the dye solution.

This requires some experimentation at first but once you have made the corrections you have a good reference point for future dye sessions.

Start by making dye tests on paper. When the tests appear satisfactory, double check the corrections on fabric to be absolutely certain that you are getting a true black with the changes made. Trials on paper are just the first step.

1. Make a dye solution of 1 teaspoon of dye in 1 cup hot water.

NOTE: I don't use a intense dye solution. Seeing the colors in a lighter value makes it easier to correct toward a strong gray/black.

2. Test the dye solution on paper (good quality sketch or watercolor paper) and let it dry. Pay close attention to the edges of the sample to identify the color around the edge.
3. If the edges are blue, add a ¼ teaspoon (or less) of deep yellow or orange dye. Stir well. Test again on the paper. Keep the dye changes small, always less than ¼ teaspoon. You can always add a little more.
4. If the edges appear purple, then a small amount of yellow would be added. Keep testing and allowing the samples to dry. Once you have established the correction for the undertones on paper, test on fabric. When you are satisfied that you have achieved a true black, you are ready to use the dye solution/recipe for your sessions.

Start experimenting with gradation dyeing and create your own palette of black and gray fabrics.

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resources

- dharmatrading.com
- prochemicalanddye.com
- maiwa.com
- gsdye.com
- rainbowsilks.co.uk

shifting into neutral

Many, many shades of gray

by Susan Purney Mark

In the previous article, we examined the different values of black. Now let's do some experiments using a variety of gray dyes. While collecting gray dyes, check with several dye suppliers as they generally offer varied values and undertones. Research your choices online or join an online dye group; ask questions and learn from experiments that others have done.

Directions

Shibori dyeing with gray

In this exercise, we'll experiment with different grays while achieving *shibori* effects with simple tools. Traditionally, shibori uses fabric wrapped on poles—often PVC or plumbing pipes—but with my technique you can use empty glass bottles you have at home.

1. Cover your work surface with the plastic sheeting.
2. Make the soda ash solution by mixing ½ cup of soda ash with 2 gallons of warm water. Stir until the soda ash is dissolved. This solution keeps indefinitely and can be used to soak fabrics for future projects.
3. Measure the circumference of the bottle and add 1½". Cut or tear the fabric that width by the length of your choice.

NOTE: I find that a full selvedge-to-selvedge cut of fabric fits nicely onto a bottle.

4. Set your sewing machine for a long basting stitch. Fold the fabric in half lengthwise and sew the edges with a ½" seam allowance to form a long tube.
5. Slide the tube of fabric onto the bottle. Push the fabric tube tightly together to get as many folds in the fabric as possible. Secure each end of the fabric tube with rubber bands. *(figure 1)*
6. Using a funnel, fill the empty bottle with water to keep it weighted in the jug. Place the bottle in the jug and pour soda ash solution into the jug about 1" past the fabric tube. Let the fabric soak in the solution for 20 minutes.

MATERIALS

- 2 yards white fabric (I used Pima cotton.)
- Soda ash
- 2-gallon bucket
- Procion® MX fiber reactive dyes, in Neutral Gray and several other grays plus yellow, red, and blue (The variety of grays is useful for comparison.)
- Plastic measuring cups and spoons
- Empty glass bottle, any labels removed (I used a wine bottle.)
- Plastic jug that the bottle will fit into (I used a plastic pitcher.)
- Funnel
- Strong rubber bands
- Rubber gloves
- Dust mask
- Old towels for spills
- Synthrapol® (fabric detergent)
- Plastic sheet to cover your workspace
- 3 quart plastic containers
- Clamps and blocks for dye resist

CAUTION: Always wear a dust mask and gloves while working with powdered dyes and chemicals. All measuring and mixing tools used in this process should be dedicated to nonfood use.

figure 1

figure 2

Photos courtesy of the artist

7. Mix ½ teaspoon dye powder and ½ cup of warm water in a cup and stir well. Remove the bottle from the jug, pour the dye mixture into the solution, and replace the bottle. Set the fabric to soak in the dye bath for 3 hours. *(figure 2)*
8. In a sink, remove the fabric from the bottle. Rinse it well in cold water and then in hot water.
9. Machine wash with hot water and ½ teaspoon Synthrapol.
10. Dry the fabric and unpick the stitching.

Use this exercise with as many gray dyes as you have—try different concentrations of dye solution, overdye different grays on 1 piece of fabric … there are many ways of playing with this that are both interesting and exciting!

Overdyeing with grays

Overdyeing provides the opportunity to create pattern and texture with both the primary and secondary dye baths. It also allows you to calm bright, intense colors and to make exciting undertones with selected grays.

When dyeing any fabric with either a gray or a diluted black, the resulting color will be influenced by the undertones of the dye. A black dye with undertones of blue will shift the resulting color toward a blue/black rather than a pure gray. This may be desirable for some projects but if you want the first color to be simply a 'grayer' value, look for a dye color called Neutral Gray. I have found this gray to be useful for dyeing values from a gentle light tone all the way through to a much darker value of the original color.

To illustrate this, I chose two different exercises:

Primary colors with a gradation of gray overdye.

START WITH PRIMARY COLORS

I dyed white cotton with 3 close-to primary colors:

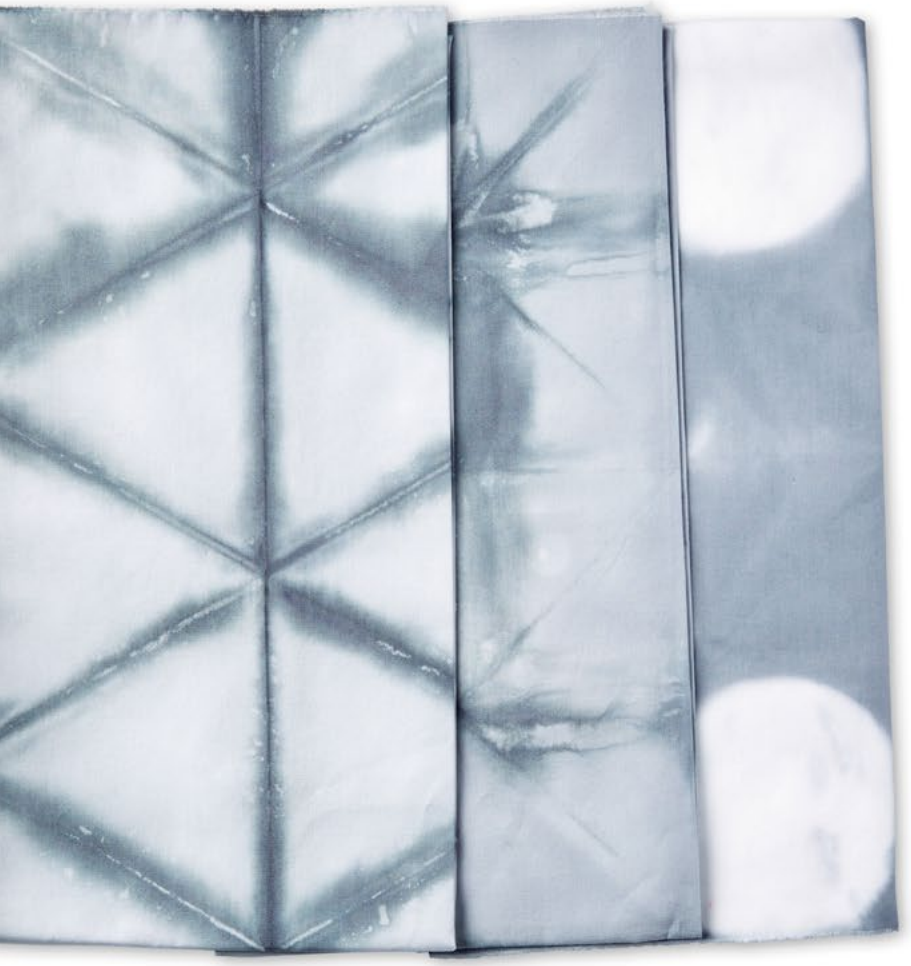
- Jade—a blue/green mix
- Daffodil—a medium value yellow
- Scarlet—an orange/red color

FIRST DYE BATH

1. Cut 3 pieces, ½ yard each, of white Pima cotton. Place each piece in a quart-size plastic container or dye pot. Add 1⅓ cups of soda solution to each dye pot and soak for 20 minutes.
2. For each of the 3 colors, measure ¼ teaspoon of dye powder and ½ cup warm water in separate cups and stir well.

TIP: The yellow I used was a little pale so I upped the measurement to ½ teaspoon of Daffodil dye powder to achieve a value similar to the other colors.

3. Remove the fabric from the soda solution, add the dye mixture, mix well, and replace the fabric.
4. Once in the dye bath, immediately massage the fabric well and then every 20 minutes for 3 hours.
5. Rinse the fabrics well in cold water, then in hot water.
6. Machine wash with hot water and ½ teaspoon Synthrapol.
7. Dry and cut each ½ yard of fabric into 4 fat eighths (11" x 18").



OVERDYE BATH

Before overdyeing, I set aside 1 piece of each fabric as a control piece. I sorted the remaining fabrics into 3 piles with 1 of each color, and then followed this recipe:

1. Soak a group of 3 colors in each of 3 dye pots with 2 cups of soda solution.
2. Mix 1 teaspoon of Neutral Gray in 1 cup warm water and stir well.
3. In the first pot, remove the fabric from the soda solution, add ½ cup of dye mixture, mix well and replace the fabric.
4. Add ½ cup of warm water to the dye mixture.
5. In the second and third dye pots, repeat steps 3 and 4.

NOTE: With the addition of water to the dye mixture, each subsequent dye pot will have less dye than the one before it. The resulting fabrics will have a subtle gradation of color.

6. Once in the dye bath, immediately massage the fabric well and then every 20 minutes for 3 hours.
7. Rinse the fabrics well in cold water, then in hot water.
8. Machine wash with hot water and ½ teaspoon Synthrapol.
9. Dry and press.

With these fabrics you will have a good comparison of what the Neutral Gray will be as an overdye and where those fabrics might fit into your art. You can vary the amount of fabric, change the base colors, and adapt the recipe to suit your needs and interests.

Further experimentation

Consider using the Neutral Gray as a simple dye bath and use a variety of folding and clamp resists with the fabrics. Neutral Gray gives an almost silvery tone to the fabrics. Each of these fabrics would work well as a background, a lightener for brighter colors, and an excellent contrast when using black.

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changing colors

SINGLE-HUE TINTS

by Candy Glendening

I love dyeing fabric for my quilts; I can make the hues and values that I need and my work is uniquely my own because it starts with fabric that I have created.

Tints are a great place to start your fabric dyeing journey because you deal with one hue at a time. It's also a great way try out new colors of dye. I recommend starting with the three primary colors: yellow, blue, and red.

In painting, a tint is achieved by adding white paint to any pure hue. With a bit of white an intense magenta becomes rose. Add more white and the hue becomes pink.

For a lighter, more pastel version of a particular hue when dyeing, water is added to the dye before it is introduced to the fabric. With less dye in the liquid, the more the white of the fabric will be visible, thus the lighter the created tint. A painter adds color that sits on the external surface of the substrate, be it wood, canvas, or fabric, dye penetrates the fiber, and is permanently linked to the fiber through a covalent bond.

Because dye is absorbed, dyed fabric has color all the way through. This is an advantage for fabric artists who do fused appliqué because the cut edges are the same color as the rest of the piece and the color is consistent throughout the fiber.

I use Procion MX fiber reactive dyes. They are professional cold water dyes, so they do not need to steam, simmer, or boil to create the permanent bond between the fiber and the dye molecules. These dyes are inexpensive and readily available.

My preferred dye method is called low-water immersion dyeing. In this method, the fabric is wet with just enough dye and soda ash solution, and then physically manipulated so that there are nooks, crannies, and/or folds of all sorts for the dye particles move to before finally bonding to the fiber. What is left is a glorious visual texture that is always distinctive, emphasizing the handmade quality of the fabric. When used in a quilt, it helps the observer's eye travel around the piece. In contrast, traditional dyebaths (called full immersion) have a high volume of water and dye. The cloth is kept moving during the dye process, so when complete, the fabric is evenly dyed in the single color.

For this article, I made gradations in three colors: red, yellow, and blue. The following directions are for creating the blue gradation, although the process is the same for any color. See "Measure and paste up" for dye concentrate recipes.

MATERIALS

- Procion® MX fiber reactive dyes See sidebar *Achieve Candy's Colors* on page 35 for specifics.)
- For each dye color: 1½ yards white cotton PFD (prepared-for-dyeing) cut into fat quarters*
- ½ cup soda ash
- 2-cup liquid measuring cup
- Teaspoons/tablespoons
- Plastic spoons
- Lidded containers for dye concentrate (I use water bottles with squirt tops.)
- 1 gallon jug
- 6 (1-quart) plastic containers
- Large plastic cups
- Plastic drop cloth
- Dishpan
- Dishwashing gloves
- Synthrapol®
- Flagging tape (I used DuPont™ Tyvec®.)
- Stapler
- Black waterproof marker

*fat quarter = 18" x 20"

CAUTION: Always wear a dust mask and gloves while working with powdered dyes and chemicals. All measuring and mixing tools used in this process should be dedicated to nonfood use.

DIRECTIONS

Prepare the fabric

1. With a waterproof marker, create labels on flagging tape. My labels read B1–B6 for the blue tints. Staple a label to the corner of each fat quarter. *(figure 1)*
2. Fill the gallon jug half full with warm water. Add ½ cup of soda ash. Stir or shake until dissolved.
3. Fill the jug the rest of the way with warm water and stir or shake again.

NOTE: The soda ash solution raises pH, allowing the dye to bond with the fibers. Save any solution leftover for later use.

4. Place all 6 fat quarters in a dishpan and cover the fabric with the soda ash solution. Let soak for at least 15 minutes—or as long as overnight.
5. After soaking, wring out each piece of fabric. Return the used solution to the gallon jug.
6. Place a fat quarter on the plastic drop cloth. Push in from all sides to create a textured, scrunched look. *(figure 2)*
7. Place each scrunched fabric in a 1-quart plastic container, leaving the corner label exposed. The label will make adding the correct dye to each container easier. *(figure 3)*

Measure and paste up

1. Place 1½ teaspoons of blue dye powder into a larger plastic cup.

TIP: Use the scoop & level method: Scoop the measuring spoon into the dye powder, pull it out and carefully scrape any powder above the rim of the spoon back into the dye container.

2. Add 2 tablespoons of warm water to the cup with the dye powder. Mix or grind the water and powder into a paste with a plastic spoon.
3. Add 2 more tablespoons of water and mix the paste into a slurry. Take your time. Make sure there are no little dry lumps of powder.

Container	1	2	3	4	5	6
Blue dye concentrate	4 T	3 T	2 T	1 T	1 t	½ t
Water	0 T	1 T	2 T	3 T	3 T + 2 t	4 T

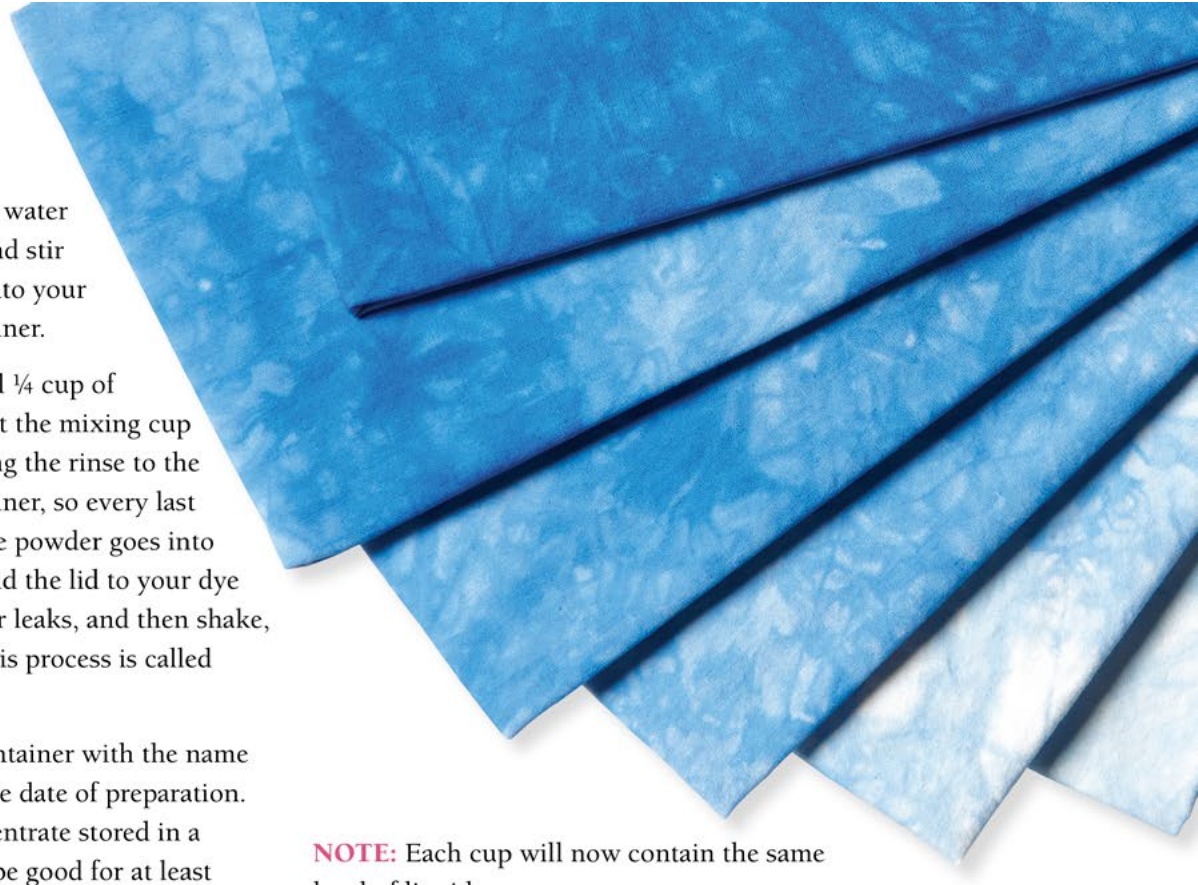
T= tablespoon • t= teaspoon

Process photos courtesy of the artist

figure 1


figure 2


figure 3



4. Add ½ cup more water to the mixture and stir well. Pour this into your lidded dye container.
5. Use an additional ¼ cup of water to rinse out the mixing cup and spoon, adding the rinse to the lidded dye container, so every last little speck of dye powder goes into the container. Add the lid to your dye container, test for leaks, and then shake, shake, shake! This process is called "pasting up."
6. Label the dye container with the name of the dye and the date of preparation. Excess dye concentrate stored in a refrigerator will be good for at least a month. Some dyes will hold their strength for up to 2 months.

NOTE: For the blue and red dyes, use 1½ teaspoons blue dye powder. For the yellow dye concentrate, use 2 teaspoons yellow dye powder. Yellow dyes are "fluffier" than the other colors, so to create dye concentrates that have the same intensity, add 33% more dye when mixing up the concentrate.

Dye the fabric

1. Measure out dye concentrate as indicated in the chart on the previous page into 6 labelled cups. *(figure 4)*
2. Referring to the chart on the previous page, add the appropriate amount of water to each cup. *(figure 5)*

NOTE: Each cup will now contain the same level of liquid.

3. Gently pour the dye onto the scrunched fabric. Match the numbered cup with the numbered label. For instance, container 1 goes onto fabric B1.
4. Wearing gloves, massage the dye into the fabric. The more you massage, the less texture you'll have. For these fabrics I massaged by pressing gently up and down 10 times.
5. The dye needs a few hours to bind to the fabric, a process called "batching." On a sunny day this reaction will occur in 2–3 hours. Otherwise, batch overnight. *(figure 6)*
6. Repeat the dyeing process with red and yellow dyes.

figure 4

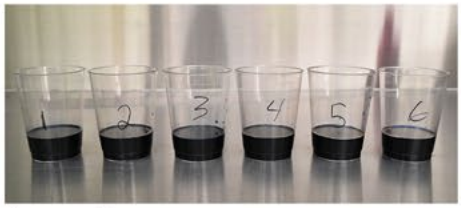


figure 5


figure 6

Wash the gradations

1. One primary color at a time, pour the dye into a sink.

TIP: Be careful of splashing. The dye may stain your countertop, grout, and clothes.

2. Rinse each fat quarter in cool water until the fabric loses its slippery feel and very little color runs off. When the slipperiness is gone, so is most of the soda ash. It is unlikely the dye will react with other fibers at this point.
3. Let the fabric sit in a dishpan of clean water for several hours or overnight.
4. Repeat for each gradation.
5. Wash all of the fabrics together in the hottest cycle your washing machine offers, adding a small amount of Synthrapol to the washer. Repeat this wash cycle.
6. Dry and press all fabrics.

Enjoy the hand-dyed fabric

After they're folded, rearrange the fabrics again and again because they're just so much fun to play with! But remember, they're ready to use; don't save them. Now that you see how easy and fun it is to dye your own fabric gradations, you can always make more.

I use recycled containers for most of my dyeing needs, so save larger plastic containers to dye larger pieces of fabric using this same method. To adjust the recipe for larger pieces, keep the proportions of the dye concentrates the same, just double the dye and water amounts to dye half-yard cuts and quadruple for full yards.

candiedfabrics.com

Achieve Candy's Colors

Want to try your hand at achieving Candy's exact gradations? Look for the following dye names:

Color	Procion®	Dharma Trading Co. dharmatrading.com	PRO™ Chemical & Dye prochemicalanddye.net
Yellow	Yellow MX-8G	PR1: Lemon Yellow (Primary)	MX108 Sun Yellow
Red	Red MX-5B	PR12: Light Red	MX305 Mixing Red
Blue	Blue MX-R	PR26: Sky Blue	MX400 Basic Blue

changing colors

Photography by HornickRivlin.com

Although Procion MX fiber reactive dyes are available in over 100 different colors, there's no need to buy individual dye powders to create a multitude of hues. The majority of colors are mixed starting with only 15–20 pure dyes. A pure dye is a molecule that is a single hue; most pure dyes are one of the three primary colors—yellow, blue, and "red." Red is actually a deep magenta. What we think of as red—such as the red crayon in the box—is actually magenta mixed with a bit of yellow.

MIX TWO PRIMARY COLORS FOR A TWO-COLOR GRADATION

by Candy Glendening

As you continue on your dyeing journey, test combinations of different pure dyes. Putting together one or two triads to use consistently will allow you to create a personal palette that will set your work apart. This idea of a personal palette is one of the main reasons I only work with fabric I dye myself; even when I create different color palettes for a particular piece, the colors across my art quilts are harmonious.

In this article, I'll show you how to mix two pure dyes in different ratios to create a gradation of secondary colors that spans the gap between those two colors.

MATERIALS

- Procion® MX fiber reactive dyes in red, yellow, blue

  NOTE: See sidebar *Achieve Candy's Colors* on page 72 for specifics.)
- Squeeze bottles for dye concentrate
- ½ cup soda ash plus gallon jug
- Various measuring spoons and cups
- 7 large plastic cups labeled 1–7
- 7 (1-quart) containers
- For each gradation: 7 fat quarters* white cotton PFD (prepared-for-dyeing) fabric
- Flagging tape plus waterproof marker

*fat quarter = 18" x 20"

Directions

Mixing dye for two-color gradations

The recipe to create two-color gradations is the same regardless of the colors being used. Use the chart below for the ratios of dye concentrate to make your own gradations. See *What is Dye Concentrate* on page 40 to begin.

1. Following the chart, measure out red dye concentrate into containers 1–7.
2. Add the appropriate amount of yellow dye concentrate to each container.

NOTE: Each cup will contain the same level of liquid.

3. Dye, batch, and rinse as outlined in the *Quick Start Dye Guide* sidebar.
4. Repeat this exercise with the following dye concentrate combinations:

- Red and blue dye concentrates
- Blue and yellow dye concentrates

Quick Start Dye Guide

1. Label the fabric with flagging tape.
2. Make soda ash solution: ½ cup soda ash to 1 gallon warm water.
3. Soak 7 fat quarters in soda ash solution for 15 minutes (or more).
4. Wring out fabric.
5. Scrunch fabric and place each fat quarter in a separate 1 quart container.
6. Pour 1 dye cup mixture into each container, and massage into the fabric.
7. Let sit for several hours (called "batching").
8. Rinse, wash, and dry.

CAUTION: Always wear a dust mask and gloves while working with powdered dyes and chemicals. All measuring and mixing tools used in this process should be dedicated to nonfood use.

Two-color Gradation Recipes

	Container Number						
Dye Concentrate	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Red	0	½ t	1T	2T	3T	3T + 2½ t	4T
Yellow	4T	3T + 2½ t	3T	2T	1T	½ t	0

T= tablespoon • t= teaspoon

Troubleshooting: Oops! What to do when it goes wrong

Dyeing with fiber reactive dyes is quite easy, but at times you will get unintended results—such as pastel fabric when you were expecting something vibrant.

Don't let these examples of fabric dyeing mistakes get in your way! I've experienced every one of these mistakes. Figuring out what went wrong and fixing it is exhilarating. Embrace it!

All the color runs out

It's discouraging to rinse your vibrant, just-dyed fabrics—only to watch the color run out leaving a pastel piece of cloth.

There are two likely causes. Most likely, what you thought was the soda ash solution was simply a jug of water—and the step of adding the soda ash was skipped. To test if you've actually got soda ash in your soda ash solution, wet your fingers with the solution. They should feel a little bit slippery, as if you're rinsing soap off your hands. The reason is that soda ash is a base, and bases are slippery. Without soda ash solution, the dye cannot cling to the fabric and it will simply rinse away.

TIP: Check the age and condition of the soda ash crystals—if they are old and clumped they could lose their reactivity. Soda ash is inexpensive, so it's better to throw away the old stuff and buy new. Store it in a tightly closed container to keep out humidity.

The other explanation for a large loss of color is that your dye is no longer reactive. This might be caused by dye concentrates or solutions that were contaminated with soda ash, stored at room temperature, or kept for more than two months in the refrigerator. It is also possible for dye powder to go bad. Date the containers when you purchase them. Dye powders kept in tightly sealed containers (to keep out moisture) and temperature-controlled environments should be good for several years. Storing powders in areas that fluctuate widely in temperature will dramatically shorten their life. Since the powder is the most expensive part of dyeing, treat it well. I place my dye powders in plastic bins with tight fitting lids and keep them in my laundry room.

TIP: Test older dye powders by mixing a dye concentrate and dyeing a test swatch. A deeply colored swatch shows the powder is good to use. If it's dull, throw away the remaining dye powder.

What is Dye Concentrate?

Dye concentrate is powdered Procion MX dye mixed with water. Dye concentrate is the starting point—it can be further diluted and mixed with other dyes to create new hues in the dyeing process. Once you have the dye concentrate mixed, you are ready to go for several dyeing sessions.

To make the concentrate: In a cup, mix 1½ teaspoons of dye powder with 2 tablespoons of warm water to form a paste. Add 2 more tablespoons to create a slurry. Add ½ cup more water and stir well. Pour this into your squeeze bottle. Use ¼ cup of water to rinse out the mixing cup and add this to the bottle. Shake to mix. Excess dye concentrate can be stored in a refrigerator for at least a month.

NOTE: Yellow dyes are "fluffier" than the other colors, so to create a dye concentrate with the same intensity, use 2 teaspoons of dye powder per cup of water.

Achieve Candy's Colors

Want to try your hand at achieving Candy's exact gradations? Look for the following dye names:

Color	Procion®	Dharma Trading Co. dharmatrading.com	PRO™ Chemical & Dye prochemicalanddye.net
Yellow	Yellow MX-8G	PR1: Lemon Yellow (Primary)	MX108 Sun Yellow
Red	Red MX-5B	PR12: Light Red	MX305 Mixing Red
Blue	Blue MX-R	PR26: Sky Blue	MX400 Basic Blue

Pastel vs. deeply colored fabric

What if your fabric took the dye, but the results seem so pale?

Two things may have happened. First, not enough dye powder was used to make the dye concentrate or, second, incorrect amounts of the concentrate were measured into the cups. Either of these mistakes is hard to determine until after the dyeing process because even a small amount of dye will color several cups of water quite brilliantly. My best advice is to pay close attention when measuring the powder for the dye concentrate. When you are measuring the dye concentrate into the different cups, a mistake is easier to see. If you measure the concentrate into all the cups before pouring them over the fabric, you will see if one cup has less than the others. Correct your mistake before adding the dye to the fabric, either by deducing what you left out or emptying that cup and starting over.

In any of these cases, the pastel fabric can be overdyed. Wash and dry the fabric, place it in another dye bath, and try again.

Dull vs. clear color

Start your dyeing adventures with fabric that is sold as PFD (prepared-for-dyeing). Not all white fabrics are the same; many have been treated to resist stains and will take dye poorly.

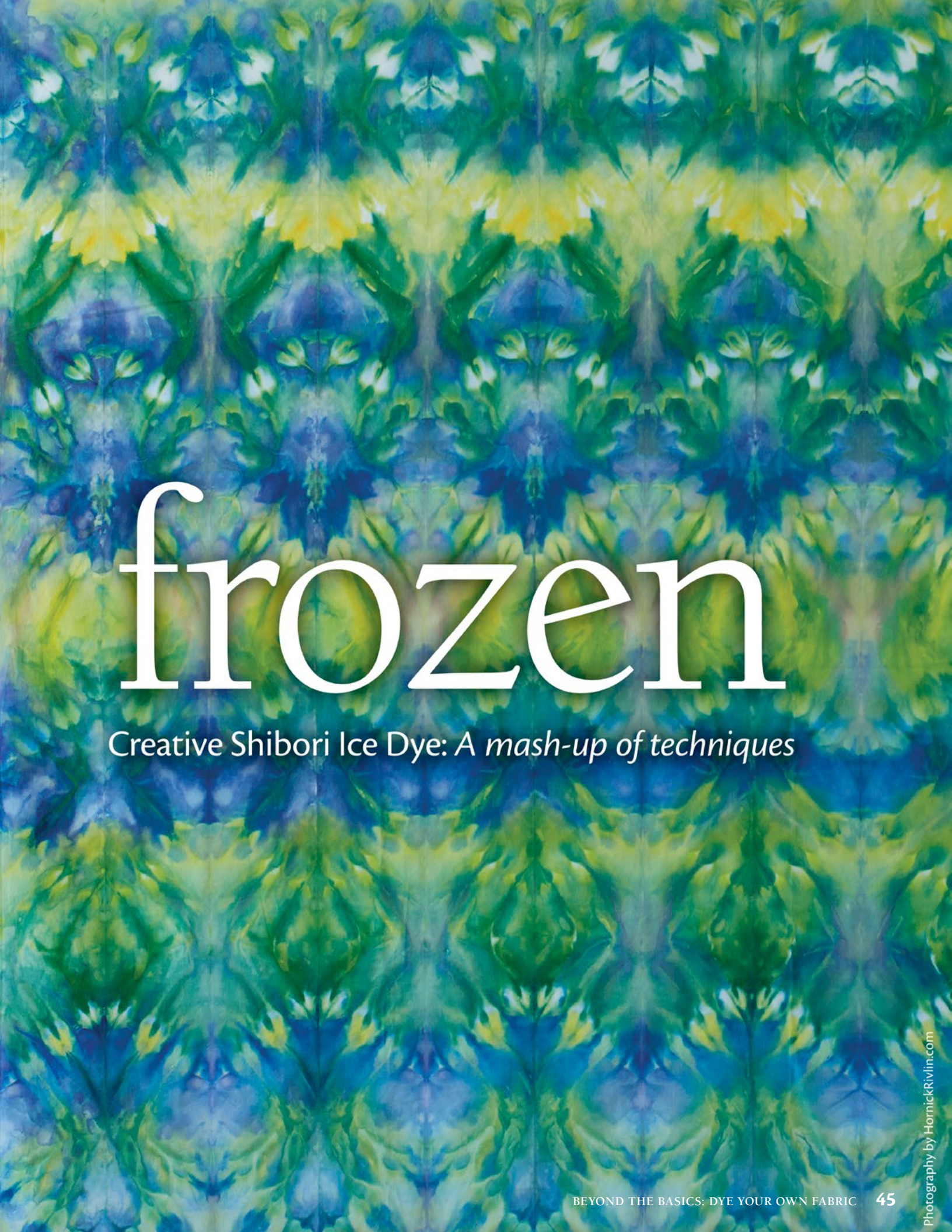
Once you are confident in your dyeing techniques, dye other fabrics that may not be sold as PFD but are 100% cotton (or other cellulose fibers such as linen, hemp, and rayon). Pre-wash non-PFD fabric using regular laundry detergent along with a tablespoon or two of soda ash. This will help remove any sizing that would limit dye penetration. Dye a test swatch or compare it to the results of purchased PFD fabric. I love dyeing linen and have had success by testing it in this manner.

candiedfabrics.com

get more online

For complete fabric dyeing instructions, visit **QuiltingCompany.com/2colorgradation**.

Dive deeper into Candy's dyeing process and explorations of color theory with her Quilting Arts Workshop™ DVD, "Dyeing to Stitch: A Comprehensive Guide to Creating Colorful Fabric Art" at **QuiltingCompany.com**.



frozen

Creative Shibori Ice Dye: *A mash-up of techniques*

Photography by HornickRivlin.com

About eight years ago, I fell in love with snow dyeing. The fractured, crystallized images that appear as the snow and dye mingle with the fabric were amazing. Living in Arizona, there wasn't a lot of snow for me to experiment with, so I quickly figured out that ice would work just as well.

For years I enjoyed this random and playful technique, and enjoyed seeing where the ice took the dye. After a time, however, I began to wonder about other possibilities. As a textile artist, I am constantly asking myself "What if?" In this case, "What if I try mashing up old-school tie-dye with *shibori* techniques, and use ice dyeing to apply color?"

My exploration resulted in some of my favorite pieces of fabric, with designs resembling ikat patterns, chevrons, and even radiant mandalas. As I believe in learning to walk before running, in this tutorial I'll show you the basic techniques for folding, marking, and clamping (with rubber bands) to make three glorious shibori ice-dyed designs.

Break out your fabric, dye, and rubber bands—and join the fun!

by Cindy Lohbeck

figure 1

MATERIALS

- White cotton PFD (prepared-for-dyeing) fabric, 4–8 fat quarters*
- Water-soluble fabric marker or light pencil
- Rubber bands
- Ruler with 45° markings
- Procion® MX Fiber Reactive Dye, 3 colors
- Soda ash
- Powdered urea
- Textile detergent, such as Synthrapol®
- Squeeze bottles (one for each dye color)
- Measuring spoons
- Rubber gloves
- Dust mask
- Plastic bin, roughly 17" x 27" x 6"
- Mesh, large enough to cover the bin
- Binder clips or clamps
- Ice
- Large black plastic trash bag

**fat quarter = 18" x 22"*

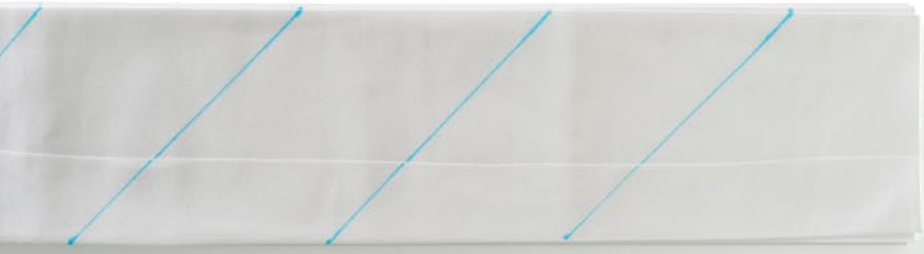


figure 2

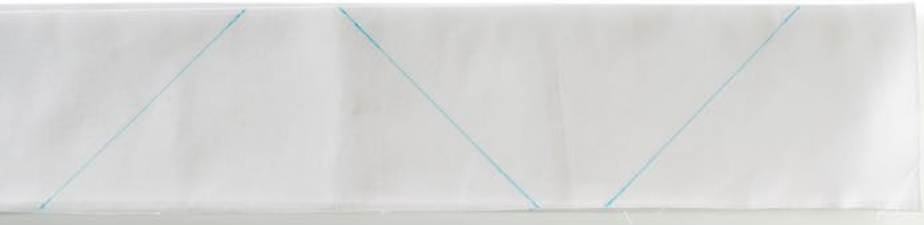


figure 3

DIRECTIONS

Accordion-fold the fabric

1. Crisp accordion-folds (also known as fan-folds) create an exposed edge of fabric to collect the dye.
2. Press a fat quarter of PFD fabric. Fold one long edge up approximately 3" and press the crease. Flip the piece over and create another 3" fold, lining up the raw edge with the new fold. Press.

NOTE: While you can use any length of fabric for this technique, smaller pieces (such as fat quarters) are more manageable as you learn the folds. They also allow the dye to penetrate more easily.

3. Continue folding and pressing until the entire length of fabric is folded. Fold and press the remaining fat quarters.

Pinch and pleat a bow tie

1. The designs in this tutorial use "bow tie" pleats. Pinching, pleating, and tying the fabric creates a resist that limits the fabric's exposure to the dye, which makes the pattern. As you pinch and pleat, aim for small tucks on either side of the pinch, between ¼"–⅜", just like making bow tie. If possible, start and end with both edge pleats facing the same direction. These pleats make little bowls to collect the dye.
2. Place an accordion-folded length of fabric on a flat surface. Pinch and gather a bow tie pleat in the middle. Bind it tightly, securing the pleats with a rubber band.

NOTE: The top of each pinched pleat provides another exposed edge to collect dye.

3. Continue making bow-tie pleats along the fabric strip, approximately 4" apart. Even and consistent pleats provide an even, consistent pattern. *(figure 1)*

Pleat variations

Diamonds & chevrons

Having mastered the basic pinch, change the direction of the pleats to create additional patterns.

1. To make a chevron, use a ruler and water-soluble fabric marker to draw angled guidelines about 3" apart, along the length of the accordion-folded fabric. In this example, the lines are at a 45° angle. *(figure 2)*
2. Pinch, pleat, and gather along each line, using the drawn line as the center of the pleats. Secure each pleat tightly with a rubber band on the line.
3. To make a diamond pattern, follow the instructions above for the chevron pattern, but alternate the direction of the marks. *(figure 3)*
4. After you have tried these patterns, experiment with your own variations for an endless variety of patterns.

Prepare the fabric for dyeing

1. Make a soda ash solution by filling a gallon jug half full with warm water. Add ½ cup of soda ash. Stir or shake until dissolved.
2. Fill the jug the rest of the way with warm water and stir or shake again.

NOTE: The soda ash solution raises the pH allowing the dye to bond with the fibers. Leftover solution can be saved for later use.

3. Soak the pleated fabric in soda ash solution for at least 15 minutes to ensure complete saturation. Squeeze excess soda ash solution from the fabric before dyeing.
4. Position the mesh over the top of the shallow bin and clip it in place using binder clips or clamps.

NOTE: The mesh creates a sling that will suspend the fabric and ice over the bin, allowing the melting water and excess dye to collect in the bin.

5. Arrange each of the fabric strips *with the folds facing up* in a single layer. Spread 2" of ice over the mesh and fabric.

NOTE: Put several pieces on the mesh at a time.

CAUTION: Always wear a dust mask and gloves while working with powdered dyes and chemicals. All measuring and mixing tools used in this process should be dedicated to nonfood use.

Ice dyeing—Cindy style

Many snow dyeing recipes call for powdered dye, so it is impossible to control the application of the powder. To achieve a more predictable result, I use a dye concentrate applied with a squeeze bottle.

Mix and Apply the Concentrated Dye

1. Mix a heaping tablespoon of powdered urea in a cup of water. Pour ⅓ cup of this mixture in each of the 3 squeeze bottles.

NOTE: Adding urea to the dye concentrate helps the dye dissolve more effectively and keeps fabric damp while it batches.

2. Add 1 tablespoon of dye powder to the urea mixture in each squeeze bottle. Mix/shake thoroughly.
3. The dye is applied deliberately to accentuate the folded patterns (unlike snow dyeing). With the fabrics

stretched the length of the bin, run the dye in stripes across the fabric. Consider alternating the colors, allowing the dyes to mix and touch on the ice. Use all the dye from the 3 squeeze bottles.

4. Slide the whole bin (ice, fabric, and dye) inside a large black garbage bag to keep it damp. Now leave it alone. Resist the urge to peak for at least 8 hours, and overnight if you have the restraint!

NOTE: The dye needs time to do its job. This is called "batching." It makes the colors brighter and rinsing easier.

5. After batching, thoroughly rinse your fabric before removing the rubber bands. Then remove the rubber bands and wash in good quality textile detergent. Enjoy the unveiling!

These are the basics of my Frozen technique. As a textile arts instructor, the only thing I love more than dyeing fabric is watching my students open their fabrics to see the beautiful results. Watching you be inspired by your hand-dyed fabric inspires me.

Don't miss Cindy demonstrating this technique on "Quilting Arts TV" series 2100 available at **quiltingartstv.com** or check your local PBS listings.

resource

Dyeing kits and supplies

- handsonhanddyes.com

Cindy's Tips for Successful *Shibori* Ice Dyeing

- Use clean ice made from filtered water for the best results. I use about 2" of ice on top of my fabric.
- While snow dyeing is a random dye application, this method will accentuate the *shibori* folds. Arrange the fabrics on the mesh *with the folds facing up* so they collect more dye.
- Use only 3 dye colors per dye session. More colors may cause muddied results.
- Try using plastic zip ties instead of rubber bands. They work great and are easier to tighten than rubber bands.

in the
SPOTLIGHT
Cindy Lohbeck
SCOTTSDALE, ARIZONA

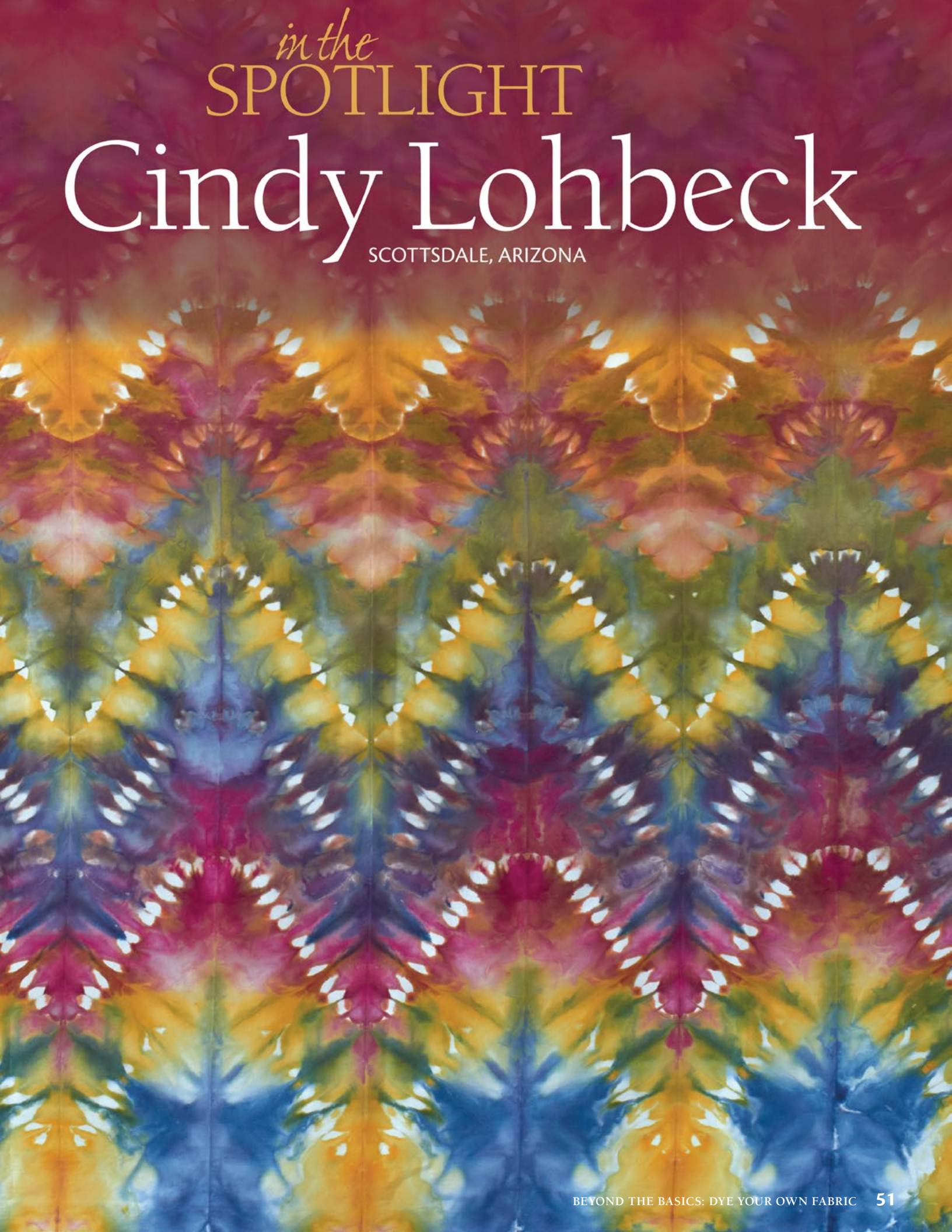


Photo courtesy of the artist

"My first exposure to fabric dyeing was in Mrs. Flanagan's eighth-grade home economics class. She was a brave soul leading a roomful of 12-year-olds first through tie-dye and then onto hot wax batik. I remember loving how the colors blended and being fascinated with the idea of using fabric manipulation and resists to create patterns.

I made my first quilt that same year. My denim crazy quilt made from jeans donated by friends and family won second place in a magazine contest on room redecorating! The prize was a sewing basket filled with notions, but the real gift was that quilt. I still use it for camping, concerts, and picnics.

I grew up watching my mother start and run a drapery business that eventually employed most of the family. She taught me the art of "thinking yardage," and passed on her entrepreneurial spirit.

As a young interior designer, I lived in Austin, Texas. One autumn evening, a group of friends invited me (and my denim quilt!) to a Grateful Dead concert. Sitting under a big orange moon while listening to the beautiful music, I was fascinated and inspired by the colorful tie-dyed T-shirts.

With a bunch of white shirts and dye, I began to experiment. Remember, this was the age of no Internet and limited books on the subject, so it was a journey of trial and error. The excitement of each unfolding, an attitude of analyzing and learning from each mistake, and constantly asking myself "What if?" were each part of the journey. I taught myself some fun techniques, with each one inspiring the next. Over the next 15 years, the resulting boxes of tie-dyed shirts paid my

Photography by HornickRivlin.com
unless otherwise noted

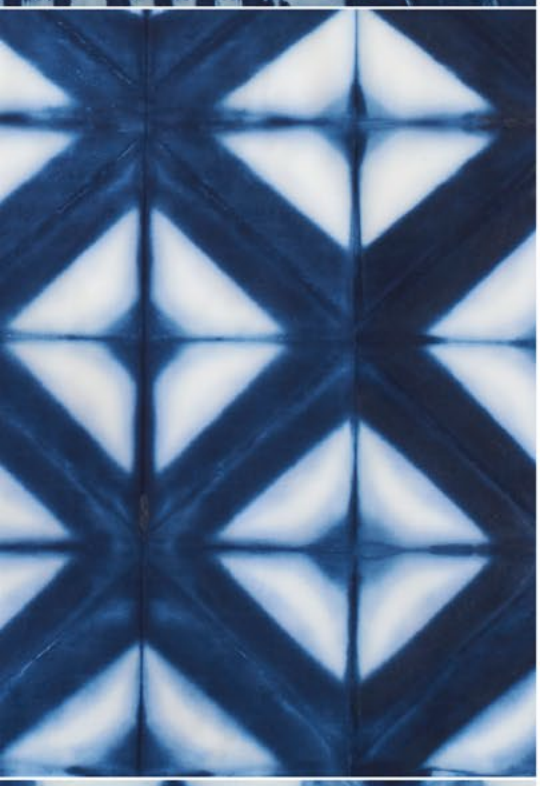
Photo courtesy of the artist

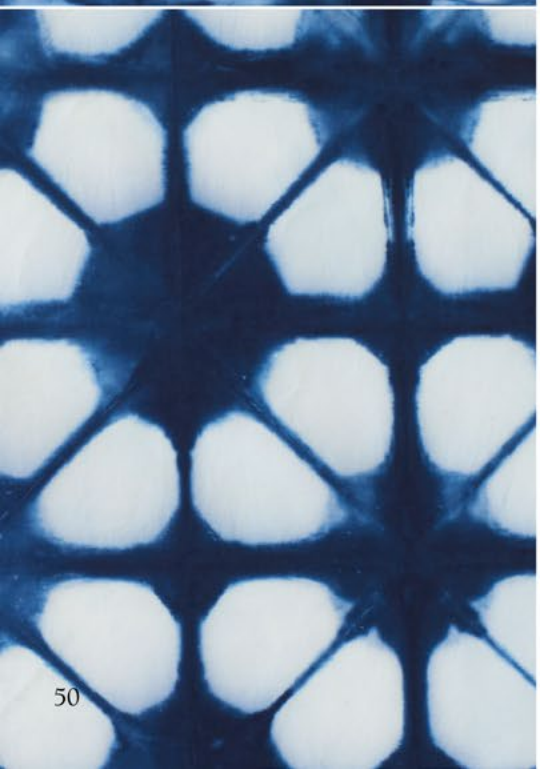
way to almost 50 Grateful Dead concerts all across the country—mostly with the same group of friends.

It wasn't long before I sold a line of tie-dyed exercise and beachwear in shops along the coast of Florida. The sun, water, and vacation atmosphere were a natural fit with the bright colors.

When the shabby chic design trend hit the world in the '90s, my tie-dye business was set aside for tea staining and faux painting. I was still manipulating fabric and mixing color, but I gave up the colorful dyes and sewing.

In 2002, my sister and I decided to check out a local quilt show. We had grown up sewing and I had just purchased a new sewing machine—but this was a whole new world! I grabbed my sister's hand and said, "I finally know what I want to do when I grow





up!" We giggled, but it was true. Over the next several years, I dyed fabrics exclusively for my quilting needs. Color gradations, value gradations, overdyeing, and backgrounds—each challenge became a new dye quest. Friends asked me to dye fabric for them, but I was busy quilting! When I suggested they learn to do it themselves, I always heard the same excuses: "It's so expensive," or "It's too messy," or my favorite, "I never know when to add the chemicals!"

At some point, the thought occurred to me, "If I put together a kit with all the dye, fabric, fixatives, tools, and crystal-clear instructions, I think quilters would like it!" The idea for my business Hands On Hand-Dyes was born. In 2007, I took out a small loan and built my first 100 kits.

Getting the business up and running was tough. Not only did the recession hit the first year, but I experienced several personal losses over the next 18 months, including the death of my mother, the closing of my interior design business, losing my condo, a dear aunt and uncle both passing, a major car accident, and last, my father's death.

At times, the only thing that kept me going was the thought of the next quilt show. Although I was still working full time, I took any chance I could get to set up my booth and demonstrate my kits. Although I felt I had lost my "Cindy-ness" in all of the grief, focusing on creativity and sharing my love of fabric dyeing was key to getting my feet back under me.

Over the last 10 years, I have developed kits for many different kinds of fabric dyeing and began teaching classes as a natural extension of my business. Today, I teach in a different city every four to six weeks where my students dye anywhere from three to ten yards per class. I meet amazingly talented quilters and friends in every location. I call my students 'Dyehards' because it takes a special kind of quilter to roll up their sleeves and dye their own fabric.

Seeing my students take pride in their results still inspires me. Last week, a 14-year-old girl took my class. I flashed back to Mrs. Flanagan, and can only hope to inspire others as she did me."

To learn more about Cindy, visit handsonhanddyes.com.

Share Your Textile Creations With Us

If you have a photo of your art that you would like to share with us, we want to hear from you. Email your digital image with a brief explanation of how you accomplished your work to **qasubmissions@fwmedia.com** with "Spotlight" in the subject line. QUILTING ARTS MAGAZINE does not pay for Spotlight articles. However, if chosen to be featured In the Spotlight, you'll be sure to receive much well-deserved recognition.