

Batik Workshop



Batik is one of the "resist" processes for making designs on fabric, like Tie Dye, Shibori, Serti technique, etc., using wax on fabric to prevent dye from penetrating the cloth. Wax is applied to fabric, followed by dye, perhaps in many successive layers in complex Batiks. Batik is especially unique because the wax will crackle during handling, either intentionally or not. On subsequent dye baths, the crackles in the wax fill in with darker colors. Batik can be done with many types of dye or fabric paints & waxes on cottons, silks and other natural fabrics, particularly the finer weaves for detail work. "Faux" batik employs types of water soluble resists that are easier to remove than wax (and safer to work with for children), but never quite achieve that beautiful crackling. In this example we will be using Dharma Pigment Dyes and Soy Wax, on cotton, but can be adapted to other fabrics or dyes. The basic principles remain the same.

Introduction to Batik

Batik masters employ a process of repeated waxing and tub dyeing to achieve the final result. This method requires mastery of color mixing and over dyeing, as each layer of dye is applied over the last, producing a mixed color. After many different applications, the background usually comes out dark brown, black, or gray. The waxed areas remain the lighter shades produced by each individual application and combinations thereof. The Tub Dye technique is described below in more detail.

An easier method of batik, especially for beginners, is the Paint-on method. This method has fewer steps and allows for great variations of color and shade without having to master the complicated blending of successive layers of color. Wax is applied to outlines and other portions of the design that are to remain white later. Dye is then painted on in many colors to areas inside the waxed lines, allowed to set and the fabric is washed and dried. The whole design can then be waxed over and the background is dyed by either painting or immersing the fabric in a dye solution (the tub dye method). The simpler Paint-on technique is discussed below.

A third method is so called "Faux" batik, mentioned above, which we will discuss last. Teachers of young children prefer this method because it employs other types of resists instead of hot wax. Not only are the resists easy and safe to work with, but they wash out with plain water. Because of that, they may not be submersed in a dye bath. Instead, dye or thin Fabric Paints can be applied with brushes, or sprayed on, etc., fixed according to their directions, and the whole thing washed out. If paints are used, they are totally non-toxic, and there are no associated chemicals (except perhaps Versatex No Heat Fixative if you don't want to heat set the paint).

When choosing a Dye or Fabric Paint, the first and most important piece of information you MUST know is what type of fabric or surface you will be working on. The second is what kind of technique you want to do. Some techniques you can only use dyes, some only paints, but on certain fabrics you can use dyes or paints for a technique, depending on whether you want a professional job and don't mind working with dye chemicals, or working with small children and need something completely non-toxic with easy cleanup, do or do not want a "feel" on the fabric, prefer to work with liquids over powders, don't mind heat setting paint, etc., etc. A complete comparison chart is available on www.theCoC.com website in the "how to" section.



The Basics

The steps for this process are few and relatively easy, but care must be used to ensure consistent and predictable results.

1. **Pre-washing your fabric**, ideally with a professional dyer's product called Dharma Professional Textile Detergent and/or an enzyme detergent. This removes most oils, sizing, and pre-shrinks the fabric allowing the dyes will adhere better. It also gets out excess dye better and faster than normal household detergents so that items are safe to wash with others in the future and is non-toxic and has no fumes. Regular detergent will work if you aren't working on a critical piece of artwork.
2. **Stretching the fabric** - this is easiest on a Stretcher Frame that will keep the fabric flat, horizontal, and suspended. Use stainless steel push pins or silk thumbtacks to stretch the fabric. You can also use cardboard that is large enough for your fabric and ideally, has been waxed. When you wax your fabric, it will stick, but you peel it off later. This wax layer keeps the dye from going into the cardboard and getting on your piece where you don't want it. Though a layer of newsprint will soak up excess dye, you do risk transfer. If doing clothing, you must make sure you have something between the layers so that the wax and dye doesn't bleed.
3. **Melting your wax**- premixed Batik Wax, Soy Wax, or your own combinations of Beeswax, Sticky wax, and Paraffin waxes. The more paraffin, the more the wax will crackle. Beeswax and Sticky wax don't crackle by themselves, and Paraffin crackles too much. The wax mixture should be melted in a double boiler, electric wax pot, or old electric frying pan set at about 220-240° (CAREFUL! If you heat the wax over 240°, it can give off toxic smoke or burst into flames!) Work with these kinds of hot waxes in a well ventilated area (they give off toxic fumes), and never leave hot wax unattended!! In case of emergency, you can douse the flames with baking soda, NOT water. However, if you use the appliances recommended above, you should be able to control the temperature of the wax safely. Never use pots directly on the stove! Soy wax is what we use, which can be melted in a double boiler and at a much lower temperature than the other waxes. It is not as sturdy, but worth working with its limitations because it is a renewable resource and totally non-toxic, including the fumes. It is also water soluble and can be completely removed with just soapy hot water, without causing damage to your plumbing.
4. **Apply the wax**, using tools like the Tjanting (also known as canting) to make outlines. You can also use a paint brush with natural bristles to produce painted strokes, metal cookie cutters to stamp designs, or anything else that you can think of to produce an interesting pattern (remember, soy wax is water based and will wash off easily). Thin layers of very hot wax will often allow some dye to stain the fabric under the wax, whereas a thick buildup will keep the wax off. You can use this knowledge to apply your wax creatively for shading effects. When applying wax, no matter what method you are using, regulate the temperature so that it penetrates the fabric, not so cool that it sits on top, and not so hot that all of your lines spread out. The wax should have a clear appearance, indicating it has penetrated to the other side. When done, check the back of the piece and apply a little wax anywhere it didn't penetrate. If you do not insure that it has gone through the fabric, it will bleed when you paint it, and you will lose the detail of your design.

Paint-On ("Cold Batch") Technique

This is the simplest technique for beginners to get started creating pieces with multiple colors and detailed designs without advanced techniques and knowledge of how color works.

5. **Mix up your dye solutions**; we recommend 1 part pigment to 2-4 parts water using Dharma Pigment Dyes. This will prepare a dye paint which can be directly applied to the fabric. Paint the dye on the fabric with a brush or foam applicator where your design will be, using the wax lines to hold the dye within each area. If you wet the area that you are working with first the dye will flow easier and blend evenly. Thickening the dyes per the instructions helps them not to break through the wax outlines, which can develop cracks, as per the nature of wax! Curing should be done horizontally to avoid streaking and running. This dye recommends a 24 hour air-cure time; though this process can be sped up with a hair drier.
6. **Washing your piece** after the dye has cured, make sure to clean off as much wax as you can and soak it in hot soapy water, then fabric must be machine washed using the hot setting (140 degrees) to remove excess dye and wax. Soy wax is plant based product and will not damage your plumbing, though you have already removed the bulk of it anyway. And if you have pre-washed your fabric and cured your dye properly, it will not bleed. You can also use Professional Textile Detergent to help protect your piece. It is the nature of these particular dyes to have a stonewashed look, so it will look a little faded.

If you like, heat setting your piece for 1-3 minutes with an iron (set to the proper setting for the material you are using) will produce stronger colors, before your final wash.

If a colored background is desired, wax can be used as a cover for the entire design. After step 5 above, when the fabric is completely dry, re-stretch if necessary and paint wax over any areas which you wish to remain the current color, making sure to fully penetrate the fabric or it will bleed. Then follow the instructions for tub dyeing (or tie dyeing, for a more interesting background).

Allow fabric to soak in the **cold dye bath for no more than 30 minutes if you are using a dye that requires soda ash or your wax will start to erode.**

Remove the additional wax by soaking it in hot soapy water, then washing it again according to the tub dye instructions. The original design was already cured in step 5 and should not be affected if cured properly. You can add Professional Textile Detergent to your load, to hold the dye in suspension so that it doesn't re-deposit where it isn't wanted.



Wax and Tub Dye Method

This method requires a great deal more confidence in color mixing theory. Layers of wax and dye are repeatedly applied to the fabric, producing an overlapping color design that goes from light to dark, bright to dull. We suggest using Dharma Fiber Reactive Dyes because they are brilliant, vibrant, and permanent and far more superior to supermarket dyes in every way! They don't fade, even after repeated washings. They are economical, safe, and easy to use, and are color fast on all natural fibers. Ever see those commercially tie dyed shirts and think "Man the shirt I made at summer camp looked washed out and faded... how do they get the colors so bright?" well, these are the dyes they used.

5. **Mix up your dye** solution as instructed for tub dyeing.
6. **Tub dye the fabric**, first using the lightest or brightest color that will be on the piece and will mix well with successive colors, i.e. like a yellow, then the next dye bath could be turquoise, which would actually mix with the yellow to dye the fabric green in all the unwaxed areas. Remember - after Soda Ash has been added to the dye bath, don't leave your waxed fabric in for more than 30 minutes, as soda ash eats away the wax eventually, exposing areas to unwanted dye.
7. **Rinse and gently hand wash** the fabric in Professional Textile Detergent and allow to dry. Use room temperature water so as not to melt your wax!
8. **Repeats steps 2-6** above for each color you plan for your batik, waxing areas after each dye bath that you want to remain that most recent color, and re-waxing any areas that look eroded from the Soda Ash. Tub dye your darkest areas last.

The final mix of colors at the end will be a brown, grey or black, combining all of the colors used on the piece. Hint - Do a test strip 1st with all of the colors you are planning to use to make sure they are combining like you want.

9. **Remove the wax** the same way as above; by soaking it in hot soapy water, then machine washing it according to the tub dye instructions. You can add Professional Textile Detergent to your load, to hold the dye in suspension so that it doesn't re-deposit where it isn't wanted.



"Faux" Batik

Great for classroom situations and teaching young children because you can use non-toxic, water-based resists which are easy to clean up. They also don't require the use of heat, making for a safer work environment. The down side to this is that they will not crackle like traditional wax and you can not tub dye them because the resist will wash off.

3. Apply a water based resist such as water-based Elmer's Blue School Glue, Inko Resist or Presist, using Gutta applicators with tips for outlining. For covering large areas, you can paint it on, stencil it, block print, roll, or screen print it. Rubber stamps also work very well and can add great detail easily.
4. If using Dharma Fiber Reactive Dyes for cotton, follow instructions above for painting it on. Remember, these resists are water soluble, so you can't submerge your projects in any kind of a dye-bath.
5. For a hassle free project that is less time consuming, you can use a totally non-toxic thin fabric paint instead of dye. Examples are Dynaflow, Setasilk and Jacquard Marbling(Airbrush) Ink. For synthetic fabrics, you can use Pigment Dye also. After the resist is applied, you can apply the paints with foam or natural brushes, or even spray it on.
6. After the paint is dry, heat set it with an iron according to the directions of the paint you chose.
7. Wash the piece out with warm water and Professional Textile Detergent or any other gentle soap to remove the resist.

Trouble shooting common problems:

When you paint color the dye bleeds through to the other side of the line...

When you applied your wax it didn't fully penetrate the fabric, either your wax wasn't hot enough and cooled on the surface, there is a crack in the wax line, or your line is too thin and you didn't use enough wax. Turn your piece over and make sure the wax has penetrated the fabric, if not you can add more hot wax to the backside. You can't "fix" it after it bleeds; it becomes the "character" of your piece.

You are trying to paint a thin line and the wax spreads into the fabric...

Your wax is too hot, turn it down.

Your color fades too much when you washed your piece...

You might have used too much water to thin your dye, or didn't let it cure long enough or didn't pre-wash your fabric before starting. Also remember that you need to work wet on wet to get a smooth and even color blend.

You are using metal cookie cutters to stamp designs and the wax isn't penetrating the fabric...

Let the stamp sit in the hot wax for a couple of minutes so that heats up, otherwise it cools on the metal before you can get it to your fabric. Keep in mind that the metal gets very hot, use a paper towel to push it down on your fabric to get an even impression.

Wax removal can be accomplished in one of five ways:

1. Take it to the dry cleaners and let them get it out. (Many won't do it for you, and some have said that the new more environmentally friendly chemicals are not working so well for this)
2. Boil the wax out. This is the oldest form of batik wax removal. Choose a pot that will comfortably hold your fabric and fill with water and a dash of Professional Textile Detergent or other liquid detergent to get the wax and any remaining excess dye away from the fabric. Bring to a simmer and add fabric. Use something to stir the fabric around in the boiling water and keep it submerged. After a few minutes, the wax will melt out of the fabric and float to the top. When the wax seems completely removed from the fabric, remove from heat, and allow the water to cool. Be sure that the fabric sits on the bottom of the pan, avoiding the floating wax residue. You can weight it down with rocks or something. Allow to cool, then peel the hardened wax off the surface and remove the fabric. In Indonesia, people skim the hot melted wax off the boiling vats with big perforated ladles. Whatever works!!
3. Iron the wax out. This is also a traditional wax removal process. The fabric is sandwiched between layers of absorbent paper and heat is applied by iron, to melt the wax out. This process often leaves a wax residue (looks like a grease spot) that is very difficult to remove, so it is not recommended. This method is often used for complex wall hangings that end up with so much wax on them that the whole thing gets a translucent appearance after ironing.
4. Use hot tap water. Hang the finished piece on a line. Attach a hose to a hot water spigot, turn your water heater up all the way and gently run a slow stream of hot water over the piece to melt the wax off. Do this to all surfaces. A collection tub should be placed under the fabric to catch the wax and water. Best done outside!
5. If you are working on silk, and are going to steam set a silk dye, roll your piece in extra absorbent paper. It will absorb a lot of the wax while the piece is steaming. Any leftover can be removed by one of the steps above.

If your piece has a stiff feel to it, you can use a professional softener like Milsoft to restore the soft feel or "hand" of the fabric. It is much more concentrated than conventional fabric softeners. After dyeing, washing, and rinsing, add 1/4 cup to a washing machine load, (or 1 teaspoon per gallon). Agitate 10 minutes in hottest water and rinse in warm water.

Caution, never use a fabric softener on the fabric before it is dyed, as it leaves a residue that can cause the fabric to dye unevenly.



Other things that you might want to know-

There are two basic categories of colorants for fabrics: dyes and paints.

Fabric dyes are for natural fibers (cellulose and proteins such as cottons, rayons, hems, tencels, silks, wools, feathers, etc.) and some that will actually dye nylon, as well. Dyes produce more brilliant colors than paints and require chemicals and/or steaming to set. They actually chemically bond with the fibers and, as a result, leave no stiffness whatsoever on the fabric. They are more complex to work with than fabric paints and call for more caution in handling (like a dust mask, rubber gloves, and proper ventilation).

Fabric paints are pigments suspended in an acrylic medium. They can be used on all natural fibers and most synthetics. They are heat-set with an iron to make them permanent. You can also use a no-heat fixative by Versatex which eliminates the need for iron heat-setting, but requires 4-6 days for curing. Fabric paints actually lay on top of the fibers and as a result, they do stiffen the fabric somewhat but it is less noticeable on heavier fabrics than on lighter ones.

When you place a paintbrush loaded with dye or flowable/diluted paint onto fabric, you will see the color move and spread on the fabric. It spreads more on lighter fabrics such as silk than on heavier fabrics like cotton duck. Sometimes this might not be the effect you're looking for! There are a variety of ways to control the flow of color:

1. **Guttas, water-soluble resists, or wax:** these are used when distinct graphics or designs are desired. They can be painted, stamped, or applied with an applicator bottle and thin tip. The resist, once dry, creates a barrier which contains and blocks the color. The resist is then removed after the piece has been painted with color and properly set. The area where the resist was will be the original color of the fabric (white, if you started with a white piece). Resist techniques are often used when painting on silk.
2. **Stop-flow, No flow primers, and anti-fusants:** if you want the dye or paint to stay exactly where you put it and not spread or move, you can coat your fabric with a primer, let it dry, and then paint your design. Essentially, you're making your surface behave more like paper than fabric. You then set your dyes or paints appropriately, and then wash the primer out. There are stop-flow products to be used with dyes, and others to be used with paints. Be sure you use the appropriate one.
3. **Thickened dyes:** You can thicken dyes to make them behave like paints. Thickened dyes are the ideal consistency for direct application techniques such as stamping, printing, and silk screening. Dharma carries two thickener products for fabric dyes: Sodium Alginate, a natural product derived from seaweed, and Superclear, a synthetic thickener. You can also thicken fabric paint, if necessary, with Setacolor thickener. Dharma's Pigment Dye can be thickened with the Pigment Dye Thickener. It's important to use the thickener appropriate to the dye or paint you are using.

Techniques & Materials-

We recommend starting simple! The basic supplies that you will need are the dye or paint, some fabric or clothing/accessory to paint on, and some brushes, sponges, or stamps to apply your color with. Working with fabric paints, rather than dyes, is a good place for beginners to start. A nice fabric to practice on would be the Cotton Print Cloth or some bleached muslin; a great first project might be decorating a T-Shirt, painting a scarf, or stamping on a tote bag.

Wonderful pieces can be created with simply a paintbrush and a jar of paint but you may want to explore some other ways of patterning and coloring your fabric.

Batiking is a technique where melted wax is applied with a brush or applicator on fabric to act as a resist to the dyes or paints that are applied after the wax. The dyes or paints seep into the cracked wax resulting in beautiful crackled effects.

Silk Painting is a technique where dyes or paints are applied to stretched silk, often after guttas or resists have been applied. Beautiful water-color-like effects can be achieved and enhanced with sprinkled salt, watermarks and alcohol.

Marbling is a technique where paints are dropped onto a prepared bath that allows the colors to float on the surface. The colors are moved around into swirls and patterns and then the fabric is laid onto the surface of the bath to pick up the patterns.

Stamping is a printing technique and involves applying paint to a carved or cut shape and impressing the image onto a surface.

Silk Screening is a printing technique using a fine mesh screen held in a wooden frame. Ink or resist is pressed through a stencil on the screen mesh using a squeegee to print onto the fabric.

Sunpainting is a technique done with Setacolor or Dye-Na-Flow paints where a wash of diluted paints is applied to fabric, an object (leaf, lace, etc.) is placed on top of the wet paint, and the piece is placed in direct sunlight or under a lamp. When dry, the object is removed and the area underneath will be white!

Tie Dyeing is a resist technique where fabric is tied with cord or bands before dye or paint is applied. The banded areas resist the color, resulting in interesting patterns.

Salting is the use of salts or sugars to create brilliant bursts of color in the dye or paint. It is sprinkled onto wet dye and acts as a drying agent, to pull the color to each granule. The finer the salt the finer the detail, the coarser the salt the larger the effect. Coarse Sea Salt, Kosher Salt, or Rock Salt works very well for this. Sugar offers a less dramatic effect than salt, but can be used.

Rubbing Alcohol will wick into the fabric when used with water; creating a soft puddle shaped texture with a darker edge. It can be applied by dripping, spraying, or painting.

Batik Links-

<http://www.dharmatrading.com/>

For complete instructions on a variety of techniques and everything else you will need for producing them. Including silk scarves and cotton tote bags.

<http://www.misterart.com/>

Mister Art offers a large variety of reasonably priced batik supplies. Including silk scarves and cotton tote bags.

<http://www.dickblick.com/>

Dick Blick, art materials offers a large variety of reasonably priced batik supplies.

<http://www.prochemicalanddye.com>

Pro Chemical & Dye has everything that you could ever want or need to batik with. It is also a very good source for Soy Wax in a variety of sizes.

<http://cheaptotes.com/>

Cheap Totes is a great source for tote bags of all shapes and sizes.

<http://www.jillkennedy.com/>

Jill Kennedy is a textile artist from the UK. There are several of her videos on YouTube and she offers DVD's and online courses for sale.

www.TheCoC.com

The Center of Creativity has a list of Amazon books and links to many other useful things, as well as an updated workshop schedule with online payment and other "How To" information. (While there, don't forget to click on the sponsor ads)

www.handworkhandcraft.com/resist_dyeing

Hand Work, Hand Craft. There are several really good articles on technique here.



I'd like to thank the internet and especially www.DharmaTrading.com for all of the information that I found to put this document together.
(Dharma is your one stop shop for all or your textile art supplies and more! The truly Rock!)