

Ask Candy: Tie Dyeing with Kids

This is a guest post tutorial by Candy Glendening for [AlamodeStuff Blog](#)

What you'll need

- 100% cotton t-shirts, or whatever clothing you want to dye (5 or 10% polyester/ nylon/lycra is OK, but no more)
- Soda Ash (Sodium Carbonate, it's often called "pH Up" and is available in the pool supply aisle of big box stores, your local pool supply store or at online dye suppliers).
- 3 primary colors of Procion MX Fiber Reactive Dyes. Available from:
 - <http://www.dharmatrading.com/> for West coast folk
 - <http://www.prochemicalanddye.com/> for East coast folk
 - These dyes may also be available locally at craft supply stores, but these do have a shelf life and need to be stored properly (heat and moisture destroy their reactivity) so "buyer beware".
 - I recommend these colors:

Dye Color	Code	Dharma's name	PROchem's name
Yellow	yellow MX-8G	#1 lemon yellow	#108 sun yellow
Fuscia	red MX-5B	#12 light red	#305 mixing red
Turquoise	turquoise MX-G	#25 turquoise	#410 Turquoise

- small-ish plastic containers, 1/shirt. I use rinsed out gallon milk jugs that have had most of the top cut off (except the handle) Plastic shopping bags will do as well.
- 1 larger bucket
- 3 plastic cups and spoons
- 3-6 containers for dye (I use recycled water bottles with "sports squirter tops")
- 1 measuring cup you'll no longer use for food
- Disposable gloves (or those Playtex dishwashing gloves)

Overview

The type of dyeing we will be doing is called low water immersion dyeing. You have a concentrated dye stock that gets poured directly onto the shirt that you're dyeing, this way you can pour different colors on different parts of the shirt. (This is NOT the tie dye you may remember from the 70's

1. Shirt preparation
2. Dye preparation
3. Dyeing
4. Washout & Enjoyment!

A word about safety: all the chemicals we use are as safe as or safer than the stuff you use cleaning the bathroom. That being said, Procion MX in powder MUST be treated with RESPECT. It is a very fine powder, and should not be allowed to come in contact with your skin or mucous membranes (especially your lungs). Prolonged exposure to the powder could cause your body to develop a severe allergic response to the dye, such that you could never use it again. As "prolonged exposure" is different for everyone, you have to minimize contact with the powder: Thus always wear a particulate filter mask and rubber or latex gloves when around the powder form of Procion MX and clean up any spills immediately! Common sense also tells us to wear old clothes you don't mind getting dye on, just in case, and with kids, doing this outside where you can hose stuff down afterwards is pretty much a given.

1) Dye Preparation (grownups should do this part)

Procion MX dyes are wonderful dyes. They are fiber reactive, which means that they actually form bonds with the molecules of the cotton fabric, once bonded, they are there for good, so they are wash fast (once you have rinsed away the unbonded dye molecules). You can achieve very vibrant colors (if that is what you want) with a minimum of fuss. The two things these dyes need to be active are a basic solution (pH ~10.5) and warmth: the dyeing should take place at room temperature (70° F or above) and with blood warm solutions (70° F to 90° F—no higher). Once the dye is activated by placing it in a warm, basic solution, it will react very quickly, and be ~95% reacted within 2 hours.



1. In a plastic cup, measure 5 g of dye powder (this is about 2 teaspoons of dye, but weight is much more accurate)
2. In another plastic cup measure 1 cup of lukewarm water.
3. Add a small amount of water to the dye, mixing it into a paste.
4. Continue adding small amounts of water 'til the powder is completely dissolved.
5. Pour this dye into your dye storage container. Repeat with the other primaries.
 - You can just dye with these 3 colors, allowing the kids to mix their own secondary colors as they're squirting the dye on the shirts. For really young kids, you may want to mix the secondary colors for them. This chart gives you ratios to use for the basic secondary colors as well as red. In dyeing, a bright magenta/fuchsia color is a primary, a traditional red is achieved by mixing it with a bit of yellow.

Ratios for Common Secondary Colors

	Sun Yellow	Turquoise	Mixing Red
Red	20%		80%
Orange	90%		10%
Green	50%	50%	
Purple		70%	30%

Yes, I know, you don't always mix equal amounts of dye to get a secondary color that we view as being equally between 2 primary colors!

- You may also want to really limit color choices, and perhaps buy premixed colors in order to achieve a particular color scheme. I once helped my son's daycare center (on the Ohio State Newark campus) dye shirts for like 120 kids and all the staff in the OSU colors of Scarlet and Grey. I WISH I had a picture of that. Instead, here's a picture of my family and my brother's family when they visited many years ago...can you guess which holiday we were celebrating?



2) Shirt Preparation

1. You need to have clothing that is 100% cotton (or linen, rayon or hemp). 5 or 10% polyester/nylon/lycra would be OK, but no more. Procion MX dyes natural fabrics only, they can dye cotton (and other cellulose based fibers linen, rayon or hemp) in basic conditions and wool or silk in hot, acidic conditions. They can NOT dye polyester or other artificial fibers, so if you use a blended fabric, the undyed polyester fibers will give the fabric a light, "heathery" appearance.
2. If you're doing this with lots of kids, make labels out of a USPS priority mail bag (it's made from Tyvek so it won't take the dye and will stand up to being washed), write the kids name on it with Sharpie permanent marker and staple it to the label (use 2 staples). Soak the clothes in a solution made from:

- 1 gallon warm water
- ½ cup Soda Ash

30 minutes should do it, longer is fine though. I have not found it necessary to prewash the clothing. You just want to make sure that the soda ash has soaked into all the fibers – hold the shirt up to the light, and it all should be sort of translucent...opaque, white areas are the places where the soda ash hasn't soaked in yet, if you see any of those, back into the soak for a bit. Massaging the shirt in the soda ash will speed up this process.

Note: Dyeing clothing that's already been worn and is a bit stained and dingy will work, but you won't have the brightest colors, and some of the stains may dye darker. Dyeing clothes with a silk screened/painted design will work...just keep in mind the color that you will be dyeing in the region of the design. If you have a red logo and the shirt behind the logo is red or orange, the logo may be very hard to see...but if you dyed that area green or blue, the red will pop!

3. Once the clothes are fully saturated, wring them out well and “tie” them. Note: I don’t actually tie the shirts...I manipulate the shirt and then lay them in a container, the dampness of the shirt keeps them there. If you would like lines of white separating the colors, then rubber banding would make that happen. I prefer to let the colors mix, getting lovely color mixing where the dyes touch. An inexpensive container is a rinsed out gallon milk jugs that has had most of the top cut off (except the handle). Dishpans (if you have them) work well, and plastic shopping bags will do as well.



4. Manipulation options include:
 - **Scrumpling:** This gives you overall texture. Lay shirt flat and push the shirt together from all sides to create the scrumpling. Place the shirt in a container that creates a tight fit. Please note scrumpling is NOT pushing the fabric up in a ball – this creates large areas that remain un-dyed, something I don’t find very attractive.
 - **Spirals:** So easy to do and so successful. Lay the shirt flat, pinch a bit of the fabric where you want the center of the spiral to be, and twist (pushing down, not lifting up). Keep twisting until the shirt is in a circle-ish pancake shape. You can have lots of fun making double or quadruple spirals if you fold the shirt once or twice before twisting.
 - **Vee Shape:** Fold the shirt in half vertically, then starting with the shoulder line, accordion fold the shirt (like you’re making a fan out of a program in a hot auditorium). You’ll make quite a long “snake” like thing where the bulk of the shirt is on one side, and then it gets skinner towards the end. You can usually see which end has the label, the dye you apply on that end will be the color of the Vee on the chest front.
 - **Stripes:** In general, you fold the shirt the OPPOSITE direction than the way you want the color to go. So, if you wanted to make a shirt with horizontal stripes, accordion fold the shirt vertically, start at one sleeve, and pleat to the other.

3) Dyeing

1. Now you pour your dye on. When you hold the dye bottles upside down and **don’t squeeze**, it should drip out at a manageable rate. You drip the dye onto the shirt until the section you want is

saturated and dye just starts to leak out of the bottom (one of the great things about the milk jug dyeing container is you can lift it up and look underneath and see when dye starts to leak out the bottom). Usually 3-5 colors will give you enough color variation without it being crazy. Visually divide the space you have to dye into even sections...if you've got a spiral, the shirt is shaped as a circle, and you'll have colors chasing each other around the spiral if you put the dye on in sections shaped like pieces of pie like this:



Most of the other folding shapes are rectangular shaped, laying the dyes down in stripes like this work great:



If the child doesn't get the spiral shape divided into pie wedges, it is totally OK, these will look great too:





If the folded shape is rectangular and your container is not, just lay it down around the outside edge.



2. When your tee doesn't have any more visible white, you may want to mix the adjacent dyes to get some blending. If you do, using your gloved hands, push down and squeeze the shirts a couple of times. Make sure to **rinse off your gloved hands** in between dyebaths!

4) Washout & Enjoyment!

Leave the fabric to either sit in the sun or in a warm part of your house. After 2 hours, if the dyes were kept at room temperature, ~95% of the dye will have reacted with the fiber. You can wash the fabric then, or wait. I usually wait overnight to eke out that last little bit of dyeing (if your room is cool, the reaction will take longer). You also can leave these til you have time, it is at your convenience.

I would definitely wait until the kids are around for this part...that first moment, when you've rinsed a lot of the dye out and you can hold the shirt open for the first time to see what happened is magical; after all these years, I still love this part, so definitely share this with your kids. If they're old enough they could do the rinsing – as long as they were someplace where errant splashes and drips were easily cleanable.

1. Dump one shirt in your sink (be careful of splashes, the dye can still stain your counter top, your grout and your clothes!!!) You could also do this with a hose outside. Rinse in cool water til the fabric loses its slippery feel and loses very little color when squeezed. When the slipperiness is gone, so is most of the soda ash, so the odds of any dye reacting with other fiber now are remote.

2. Repeat with your other shirts. At this point you can let them sit in a big bath of water for a bit to help with diffusing out those final dye molecules.
3. After a few hours of sitting in water, wash them (altogether at this point) in the hottest temp your washing machine can do. I use a small amount of Synthrapol, which is a detergent that is sold to help keep any washed away dye particles from depositing on the other fabrics, but if you did that first soak, you probably won't need it and plain old detergent (without bleach!) will be fine.
4. After the washing machine runs all the way through, I usually run it again, stopping it in the middle of the washing agitation, lifting the lid and scooping out some water in a clear glass. If you see no color, your washing days are over – if you do, back to the washing machine for you!