FIBER REACTIVE TIE DYE INSTRUCTIONS

by Elnore A. Grow

(1) 100% cotton fabrics must be used. T-Shirts can be bought from GRATEFUL DYES (1-303-763-8774) in Denver or 1-800-697-1566. Call ahead to make sure they have them in stock. These are good quality shirts for the money. They are about $30-$35/dozen.

(2) The shirts must be soaked in soda ash (dye fixer-sodium carbonate) for 10-15 minutes & wrung out with rubber gloves as this solution is a pH of 10.6. Add l/2 cup of dye fixer per gallon of water in a large vat & add enough shirts for one class. Let each student wring out their own shirt. If you dye a lab coat prewash, let soak in soda ash for 24 hours, dry it, and then apply dye.

(3) The dyes are mixed with urea (1 lb=2 cups) per gallon of water. Mix this in gallon size jugs or plastic pails. You will need about a gallon per class of 30. This urea water will keep indefinitely. The urea seems to make the colors brighter.

(4) To make a liter of dye, add about 6-8 heaping teaspoons to a liter of urea water and mix until lumps are removed. Strength of dye is a personal preference and some colors need more dye powder than others. Yellow needs more. The colors will look very dark upon application, but will become less intense after washing. You may mix dyes in liquid form to make new colors. Turquoise and yellow make a wonderful jade green. Fuchsia and yellow make orange. Turquoise and purple make a beautiful blue. Color mixing is given on another page.

(5) The easiest method of applying dyes is to use jumbo jumbo beral pipets sold by GRATEFUL DYES or FLINN. You can use eyedroppers or wash bottles also. You should have enough pipets so that each student will have one. Organize the lab so that the number of beakers is equal to the number of students in your largest class. If you have too many beakers out, the reorganization is too difficult in a 5 minute passing period.

(6) Folding of the T-shirts should be done on a clean table. Make sure that you have tested the lab tables ahead of time. The soda ash is strong enough to cause some surfaces or lacquers to turn the shirts brown. If this happens, cover your tables ahead of time with plastic. Ask the class before to wipe off their tables before they leave and ask the new class to wipe the tables before they start. If some dye gets on their shirt from the table, tell the students to ignore it as they will be adding so much dye that it will not show. Demonstrate the patterns for students & then let them do their own. Rubber bands should be used to bind the patterns on the shirt so that the dye can be applied both front and back. After the folds are made, the students can apply the dye. Allow them to drain after they have dyed both sides and just before they leave, they may wrap their shirts in paper toweling or newspapers & place in a plastic bag to take to their locker. (DO NOT USE TOO MUCH PAPER TOWELING AS IT WILL DRAW SOME OF THE DYE OUT) I RECYLE MY GROCERY PLASTIC BAGS.

(7) Shirts should be kept at room temperature or warmer for 24 hours. The next day the shirts should be removed from the bag and washed in a washer full of HOT WATER with 2 teaspoons of mild detergent (Joy, Dawn, Ivory, Synthrapol) and add the shirts. Up to 15 shirts could be washed at a time, though there are many colors. Run through HOT DRYER. After this initial washing they can be washed with normal clothes detergent containing phos-phates like TIDE, FAB, etc. I require that the students wear their shirts the following day for photos and points. I make double copies of the photos so they can each have a picture.

(8) I charge the students $6 per shirt. The dye is appoximately $2.00 per shirt+ $3.00 to $3.50 for the shirt. If you buy XXXL shirts they may cost a little more.

(9) I do this lab before Christmas & usually open up the lab again for the making of gifts, student makeups, teacher's projects, etc. We have tie dyed lab coats, tennis shoes, socks, underwear, etc. Lab coats can be bought from Bert Goldberg at (713)-849-5829 in Texas.

(10) Once you have done this project, you will do it again because the students love it. You will be doing it for all of your classes. Buy as much dye as you can afford. Dyes can be bought from GRATEFUL DYES at 1-303-763-8774 or 1-800-697-1566. You can also buy **tie dye kits from FLINN at 1-800-452-1261**. A kit is enough dye for 30 shirts and costs about $75. A typical order might be:

(1) Fuchsia.....#8.....8 oz.....$18.00.....1 lb.....$28
(2) Turquoise.....#51.....8 oz.....$18.00.....l lb.....$28
(3) Lemon Yellow#38..... 8 oz.....$18.00.....l lb.....$28
(4) Royal Purple #64.....8 oz.....$18.00.....l lb.... $28
(5) Tie Dye Black #95.....8 oz.....$18.00.....l lb.....$28
(6) Dye Fixer.....10 lbs.....$20.00
(7) Urea.....10 lbs....$20.00
(8) Latex Gloves..(100 in box).....$8.50

If you have questions call me at 303-697-6088
eagrow@wispertel.net

(9) JUMBO pipets can be purchased from Grateful Dyes as well. Color numbers above refer to Grateful Dyes. Steve ships daily UPS.

If you order from Flinn, the pipets are included in the kit for 30. These pipets can be used for many years. Flinn also includes the rubber bands. Flinn also sells dyes alone.

HOW TO WASH YOUR SHIRTS

Shirts should be kept at room temperature or warmer for 24 hours in the plastic bag. The next day the rubber bands can be removed from the shirts & the shirts can be removed from the bag. Run the clothes washer full of HOT WATER (on low setting) with 2 teaspoons of milddetergent (Joy, Dawn, Ivory, or whatever you use to rinse dishes.) Add the shirts. & wash. Up to 15 shirts could be washed at a time, though there are many colors. Run through HOT DRYER. After this first washing they can be washed with normal clothes detergent (like Fab, Surf,Tide, etc.) Your tie dye should be washed with darks. **(I give one of these to each student to take home)**