



Marbling *Magic*

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Marbling, an ancient craft dating back to the 8th century, is a very creative art form because no two designs are ever exactly alike. Basically, marbled items are created by using a thickener in a shallow pan of water and floating colors across the water's surface. Using simple tools, you add paint and swirl it into patterns, lay the item to be marbled on the top of the water, pick it up and rinse it off. The pattern that was on the water is transferred to the item.

Marbling is basically a simple process but can be as complex as you choose. Although there are general guidelines, there are no hard and fast rules. You learn by trial and error; what works for one person may not work at all for another.

Various types of surfaces can be marbled, such as fabric, paper or even wood. Although the marbling process is similar for both paper and fabric, there are important differences. The instructions in this publication will discuss only fabric marbling.

Although marbling can be a very quick and easy process once you begin, the steps leading up to the actual process take planning. Be sure to allow enough time to assemble all of the supplies that you will need and to prepare your fabric. Some of the items you require may need to be ordered by mail.

In order to marble fabric, a thickener of some kind must be added to water to create a consistency like that of unset gelatin so that the colors will "float" on the surface. This thickened water is then referred to as a "size" or "bath." The techniques presented here that describe the process of marbling will be the same regardless of the product used to thicken the water. However, chemicals and other products used in conjunction with thickeners may vary, depending on which thickener is used.

The most commonly used thickener is carrageenan, an extract of Irish moss, which comes in a powdered form. Although it may be difficult to find locally, it is easily obtained by mail from marbling suppliers. Buying carrageenan by the half-pound or pound is considerably less expensive than buying commercial products sold under brand names. They are used in the same way, but the ratio of thickener to water may vary. Always follow product directions.

A variety of washable fabrics can be used for marbling. Natural fibers work best, although blends may also be used. One hundred percent polyester does not work well.

Smooth fabrics produce more vibrant colors. White and off-white fabrics will show colors more clearly, although lightly colored fabrics can be used. If in doubt, test a small sample first to make sure you like the results.

Fabric is easiest to marble while it is in a flat state before it is made into a garment, although pre-sewn garments and three dimensional items can also be marbled. For your first few projects, use flat fabric rather than a garment and keep the project small. Small projects are easier to do, require less time, can be done more easily by one person and are less expensive because you can use smaller containers with less thickener.

Many companies sell both yardage and pre-sewn garments in white that are designed to be dyed or painted. Fabrics that are unfinished so as to receive the colors better are often referred to as "P.F.P." fabrics which means they are "prepared for printing." Unfinished pre-sewn garments are usually referred to as "blanks."

Safety Considerations

Federal and state laws require that all craft products bear a warning label when there is a possible health risk to the user. Although the products used when marbling fabrics with paint are among the safest in the arts and crafts industry, always read product labels and directions carefully.

In general, follow these precautions where appropriate when working with any surface design project:

- Wear rubber gloves so that chemicals are not absorbed through your skin.
- Provide adequate ventilation if fumes are present. This means cross ventilation or an exhaust fan.
- Wear an approved dust mask when handling powders so you don't inhale dye or chemical dust.
- Don't breathe fumes. Dust masks don't help with fumes.
- Keep dyes, paints and chemicals away from unsupervised children. The colors look like food to them.
- Don't use cooking or eating utensils for craft projects.
- If you store anything in the refrigerator, tape the container closed, and label it clearly. A skull and crossbones would be a good mark.
- Pregnant women should be particularly careful. Discuss the use of dyes and chemicals with your doctor before you begin a project.

■If you experience an adverse reaction from using any product, stop using it at once.

■Use common sense and pay attention to what you are doing. Don't work when you are tired or when you are eating or drinking.

■If there is any chance of getting the dyes or chemicals in your eyes, wear protective goggles.

Fabric Preparation

Before marbling your fabric, wash and dry it in the manner that you will care for it later. This will preshrink the fabric and also remove any sizing that may be in the fabric that would prevent the paint from adhering.

After the fabric has been washed and dried accordingly, it should be treated with a "mordant." This is a chemical that combines with a dye to form an insoluble compound, thus fixing a color permanently. You will also obtain brighter colors if you use a mordant. Different types of alum (potassium aluminum sulfate) can be used as a mordant, and these are easy to obtain by mail order from a marbling supply house. Alum may be used at the rate of one-half cup to a gallon of hot water.

Always wear rubber gloves when working with alum. Stir the solution, and let it sit until it is room temperature. Soak the fabric for about an hour, then squeeze out the excess liquid and hang to dry. The fabric should be flat and free of wrinkles before marbling, so press if needed. Wrinkles will leave white lines in the marbling.

Do not leave mordant in the fabric for longer than a week before marbling because it will weaken the fabric. If you decide not to marble an item after you have applied mordant, just wash it out.

Marbling Equipment

You probably already have some of the items you will need, such as a bucket and small containers to mix and hold your paint. You will also need a waterproof pan or tray that is two to three inches deep and one or two inches wider and longer than the item you intend to marble. The tray can be made out of almost anything but should be light in color so that you can see the paint floating on the surface of the size. A plastic dishpan, aluminum baking tray or kitty litter tray will work fine. You could also make a frame using 1 x 4-inch framing wood for the sides and white or clear plastic for the liner. You could also use a cardboard box as a frame and line it with plastic.

You will also need some kind of color applicators to get the paint onto the surface of the water. You could use a whisk, eye droppers, straws or plastic squeeze bottles.

Pattern making tools are used to manipulate the floating paint into a design. You will need a stylus to make freeform designs. Any object with a single long point, such as the end of a rat-tail comb, knitting needle or chopstick,

could be used. Combs and rakes needed to make traditional patterns can be purchased from marbling suppliers or made with a minimum of effort.

Preparation

Marbling is a *MESSY* procedure, so plan accordingly. Wear old clothes or a large work apron. Cover work surface and surrounding floor with newspaper or plastic. Running water is convenient but not necessary. You will need a bucket for rinse water in which to rinse your marbled item. Have a clothesline or drying rack ready to hang your fabric with something underneath to catch drips. The size will clean up easily with water, but it will be slimy. The paints will color everything they touch.

Make sure the room is relatively dust free. Do not eat, drink or smoke while marbling as one drop or crumb in the size can ruin it.

You will need good light, a table or counter that is a comfortable height for you to work on and enough room to hold your pan, all your colors and tools. The size and the paints need to be at the same temperature. It is handy if you can leave everything set up in the same area beforehand.

Preparing the Size with Carrageenan

For best results, prepare the carrageenan the night before you plan on using it, or approximately 12 hours before use. Begin by using a basic proportion of two tablespoons of carrageenan for each gallon of water.

The Blender Method

Although carrageenan dissolves easily, it is much easier to prepare in a blender in two separate batches. This is safe to do; a food grade of the same product is used to stabilize ice cream and yogurt! To mix, add one tablespoon of carrageenan and fill a blender three-fourths full with warm water and blend. The mixture will be quite frothy. Pour it into a clean bucket. Put another tablespoon of carrageenan into the blender, add water, and repeat the procedure. Pour this mixture into the same bucket. Add water in the bucket to make one gallon, and then stir the mixture. Repeat the process until you have made the amount desired.

Aging and Adjusting the Size

The thickened mixture will feel slippery. Pour the size into the container you are going to marble in, and let it rest 12 hours, preferably at room temperature. This resting period breaks up tiny bubbles that can cause white specks on your work.

Patterns may also have rough edges if the size is not aged. You will need to make enough size to fill your container approximately one to two inches deep. It would be a good idea to make an additional amount that you could place in another small container to use as a test size for the colors you plan to use. (See section on "Preparing

the Paint”).

Experimenting with your colors will help you determine if you have the right consistency of size. Adjusting the size is easy. To thicken, use a larger proportion of carrageenan; to thin, just add water.

If you are going to mix the size in one location and transport it to another, clean plastic gallon milk containers could be used. Remember to have the size at room temperature before you use it.

Selecting Colors

Acrylic fabric paints in liquid form are the easiest colors to use. They can be cleaned up easily with water and are readily available in most arts and craft stores. Although dyes, water colors and oil-based paints can also be used for marbling, they require slightly different techniques, and products/chemicals will vary with their use. Only the use of acrylic paints will be discussed in this publication.

There are a number of different brands of acrylic fabric paints, and they are available in a wide selection of colors. Buy small jars or bottles in one or two colors to begin with. Some paints will float better than others, so experiment until you find the brand that works best for you. (Remember that what works best for someone else may not work best for you!)

It is a good idea not to mix different brands of paint in the same size. If you want to have white as part of your design, you will either need to include a white paint, or use white fabric and leave areas of your size clean so that the white of the background fabric will show through.

Preparing the Paint

Paint works best when it is the consistency of light cream or whole milk. Some brands of paint will work fine as they come from their container; others may require thinning. To test, pour some size into a small pan (approximately 8" x 8") so that it is about two inches deep. (If your container is too small, the test will not work). This size pan will provide about the same surface tension as a larger one, and you will be able to test your paint without getting the size for your project dirty.

Select an eye dropper, straw or other item of choice to transfer paint to the size, and place one drop of paint on the size. Test transferring the paint with the same object as you plan on using for your project; otherwise your paints may not be properly adjusted.

Ideally, the paint will spread out in a circle about three to four inches in diameter and float on the surface of the size. This circle is referred to as a “stone.” If the drop just sits there and does not spread outward, or if it sinks, then the paint is too thick and needs to be thinned.

If you need to thin your paint, start with two parts water to one part paint. Regular water can be used to thin the paint unless you have very hard water; then you would need to use distilled water. If the paint spreads out over a very large area, then it is too thin, and you should add

more paint. However, even if the paint spreads way out, you could use it that way; it just results in a paler color.

Keep in mind that all colors from the same manufacturer may not need thinning at the same rate. They all will react differently, so each one must be tested before use. If you have thinned your paint so much that it is pale and it still does not float, add a little Photo-Flo or Marble Ease™. Some brands of paint work better when thinned with a little of these products, which are available in either photo supply stores or in some arts and crafts stores. These are surfactants which will help the paint resist the surface tension of the size and therefore float. (Ox gall is also a surfactant used when marbling paper, but it should not be used with fabric paints).

If you are really having difficulty and do not wish to use a surfactant, try switching to another brand of paint and see if it works better for you. This is one reason you might want to sample just one or two colors from one company before buying many more. It is a good idea, however, to select all of your colors from the same manufacturer because sometimes (but not always) mixing different brands will ruin your size.

You will need to have a small container and a separate color applicator for each paint color you use. Baby food jars make great containers.

Always retest your colors before each marbling session. If, as a group, the colors do not spread, the size may be too cold or too thick. If the colors spread into stones the size of plates, the size may be too warm, too thin, too young or too old. Experience will be your best judge.

Adding Colors

Before you add colors, first skim the size to reduce the surface tension and to break up any tiny bubbles. Tear a 3-inch strip of newspaper the width of your pan and, beginning at one end, drag the paper over the entire surface.

Begin to add your colors. You will notice that as you add drops of color, the stones will bump into other stones, changing their shape and position. You can also drop color on top of stones for additional effects. Continue to add paint until the surface is covered with paint. At this point, as you continue to add paint, the first stones you made will become smaller and smaller. You can use this to your advantage, creating small areas of intense color.

Preparing your Design

Using a stylus, rake or comb, make a freeform or traditional pattern. Remember that the more a design is worked, the smaller and more refined it becomes. If it is overdone, the colors can mix, and the design can become “muddy” in appearance.

Printing the Fabric

To print a flat piece of fabric, have someone help you by

holding the edges of one side while you hold the edges of the other side. Gently let the middle of the fabric drop down onto the size. Then let each side drop down smoothly and evenly out to each edge. Leave the fabric on the surface of the size for about a minute, then peel it off the size, being careful not to touch it except at the corners.

If you are working by yourself, you could also tack an item onto a piece of cardboard and lower it gently onto the size all at once. If you plan on marbling something like a T-shirt, trace the T-shirt onto cardboard, and cut the cardboard to size. Insert the cardboard between the front and back of the shirt. Place plastic or wax paper between the shirt and the cardboard so the other side of the item does not get wet. (If it gets wet, it won't pick up paint). Use straight or push pins if necessary to keep the garment taut on the cardboard. Lower one side, then lift off and place face up while you prepare your colors for the other side. Then repeat the procedure with the other side.

Rinse the completed fabric in cool running water or in a large bucket of clean water. Hang the fabric to drip dry. After it is dry, let it continue to hang for two days to a week to cure. It is then ready to heat-set by ironing or putting in a hot dryer for 20 minutes, depending on fiber content. Always check the paint label for directions.

Clean-up and Storage

Skimming will pick up any paint left on the surface of the size from previous marbling so that your size can be reused or stored. Paint left on the bottom of your pan will not interfere with surface printing. If you plan on marbling again soon, cover the size to prevent dust from settling on it.

Clean up with water if you plan on marbling again; avoid soap as it contaminates the process. If the size is too dirty, throw it out. Size can be saved for future use, although the length of time will vary depending on the type of products used and the temperature it is stored at.

Clean carrageenan will spoil in a couple of days in hot weather, faster if contaminated with acrylic paints. However, you could store carrageenan covered in the refrigerator for several weeks. You can easily tell when carrageenan is spoiled because it will lose its viscosity and thin out; it will also smell like the sea. Carrageenan powder should be stored in an air-tight container and kept in a cool, dry place.

Use and Enjoy

After you have dried, rested and ironed your marbled fabric creation, use it with pride and treat it with care. It would be a good idea to hand wash and air dry or wash on the gentle cycle using a mild detergent. It may go through

the washer and dryer just fine, but it's better to be safe than sorry.

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