



# Great Starts In Polymer Clay!

*An introduction to the oven-fired art media of the new millennium*

*Welcome! I'm so happy that you joined us!*

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**Thank you** for participating in my class, "Great Starts in Polymer Clay!"

As a teacher, I am "method-oriented," rather than "project-oriented." What this means to you is that when you leave one of my classes, you will have the knowledge and confidence that you need to take a particular method or technique and make it uniquely your own.

I like to make sure that you get MORE than what you expect, so I throw as much information out there as I can fit into the time restraints, and hope that the parts most interesting to you will "stick." This handout will remind you of the most important points. During "Great Starts," you will be given a huge amount of information, so don't expect to absorb it all unless you are already familiar with the polymer clays.

Use this booklet to help you recall what we cover in class, and start experimenting -

The exploration is the fun part! This class is a building block to later classes, which will become progressively more challenging and specific. You will be able to take each of the techniques that are demonstrated in the classes and add your own twists to come up with original art.



## Comparing Brands Of Clay... Decisions, decisions. ....

### Thinking Spot:

- Polymer Clay is not new, but it is largely unexplored and greatly underrated as an art medium..
- We find new ways to exploit the particular qualities of each clay almost every day.
- YOU could be the next pioneer of a whole new method!

**Choosing clays** can seem daunting, at first... colors, prices, hardness, softness.. let's take some of the mystery out of the selection process....

**Cernit** - the strongest clay on the market. Beautiful colors, semi-translucent, very soft, sticky when warm.

**FIMO Classic** - strong, holds fine detail in canework, sometimes more difficult to 'condition' than others.

**FIMO Soft** - firm, easily conditioned. Great for detailed canework. Powerful colors. Semi - translucent.

**Premo! Sculpey** - firm to soft, very strong and flexible when cured. Saturated colors, my preferred brand.

**Sculpey III** - soft, beautifully colored, and low in cost.

The most fragile and brittle of the common brands.

**Super Sculpey** - pinkish-beige clay - somewhat fragile and prone to "plaquing," problems which can be alleviated by the addition of stronger, more opaque clays.

**Sculpey** (white only, 1, 2, 8 & 24# boxes) Inexpensive. Chalky, extremely weak and fragile, not recommended.

**Kato Polyclay** - newest polymer clay. Strong, very flexible. Difficult to sand, strong vinyl odor.

**Liquid Sculpey** - Everyone should have a bottle of the translucent variety on hand - can be tinted, used to attach two parts to each other, to smooth surfaces, and has many applications in the creation of faux materials.

## ∞ Terrific Tools... The Necessities ∞

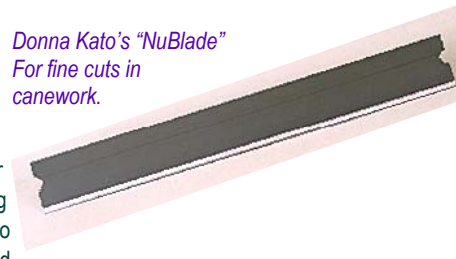
There are wonderful tools out there to help you with every clay task you can think of... from toothpicks to specialty cane slicers. But, don't break the bank.... all you really need to get started making some wonderful things are simple tools, your brain and your hands.

1. **A good quality oven thermometer is essential.** To know what temperature your oven REALLY is.
2. You'll need some method for rolling out sheets of clay. A pasta machine is optimal, but you can do just fine with a **rolling pin** or **brayer**.
3. **A work surface**... melamine countertop, glass, Plexiglas, marble... you just need a smooth surface for claying that protects your wood furniture from raw clay.
4. **Cutters**... X-acto knives are great for some things, NuBlades or utility scraper blades are best for others.
5. **Baking surface**... a ceramic tile,

oven-proof dish, cookie sheet... almost anything will do... line your baking surface with paper (baking parchment or plain copier paper) to eliminate shiny spots on baked items.

6. You will likely need **sandpaper** in a variety of grits...from 400 or 600 to 1200-2000 grit, available at auto supply stores.
7. **Waxed paper and ziplock bags** for wrapping and storage.
8. A **needle tool** or something to poke holes with. Toothpicks work fine.
9. The tools in your Great Starts kit will give you ideas about **making your own tools**... you will start looking at all of the ordinary things in your house and workplace with an eye to "claying" with them!

Donna Kato's "NuBlade"  
For fine cuts in  
canework.



The  
Kemper  
"KlayGun"  
is fun with the  
softer  
clays... but,  
some use it even  
with FIMO!



Rubber-tipped  
clay  
shapers, for  
sculpting and  
smoothing.

"MarxIt" Tool—useful for  
marking canes and measuring  
clay.



**Online Sources:**  
polymerclayexpress.com  
clayalley.com  
clayfactoryinc.com  
weefolk.com  
katoclay.com

A brayer is a helpful tool, even  
if you have a pasta machine.



## Extra Helps... How did we do without these?

**Baby wipes** with a little rubbing alcohol added are good for cleaning your hands, work surface, pasta machine and tools.

**Talcum powder or cornstarch** is used as a "release agent," when using molds and certain techniques.

**Sculpey Diluent**, for joining pieces of baked and/or raw clay to each other.

A small soft **filbert brush** for applying diluent.

**Glaze**... I prefer **Flecto Varathane Diamond Elite** for it's UV protection, and because it penetrates and bonds with the clay. You can also use **Future Acrylic Floor Finish** for a nice gloss, but I don't think that it's as durable as Flecto.

A soft **"mop" type brush** for applying glaze. (Foam brushes cause bubbles.)

A **ball stylus** or **two** can do lots of neat tricks.

**Texture Plates** can be purchased ready-made or make them from clay, carved or impressed with fabric, corrugated paper, rock, wood, sandpaper, stiff bristle brushes, almost anything...

**Deli wrap** has a dozen uses.

You will no doubt discover a preference for one tool over all the others for the work you do. Your style will decide which ones are best for you.

Watch out for the "Tool Trap" Owning every tool and color in the beginning can interfere with exploration and ingenuity.

## Delicious Color! A Good Starting Assortment Of Clays...

Even though it would be fun to have a nice stockpile of every color made, I don't recommend that you **begin** with one of every color made. You won't learn as much about color mixing as you would through experimenting with a more limited palette. If you're just starting with the "3D color" of polymer claying, go for the basics, in a **BIG** way, and maybe add a couple of colors that really get you **jazzed**. Once you are experienced at managing color, having a huge variety of colors saves time.



**Start with the primaries**...

**Yellow**... buy one "warm" yellow and one "cool."

**Blue**... one each, warm and cool.

**Red**... same thing.

**Now for the secondary colors:** It's very difficult to mix true **violet**, **orange** or **green** from the primaries, so add one of each of these.

You'll need way more **white** than you think. Have at least two **unused** blocks of white on hand.

**Black** is also a staple, for greying colors, (though I prefer to use the

color's complement for toning down the hue) for outlines in canework, for jewelry making and other methods that use powders.

**Brown**... get one or two... there are some beautiful shades ready made, and you can mix your own, too.

If you'd like to try dolls or figures, buy some **Super Sculpey**, (only one color available ) or **FIMO #43** with an eye to adding other clays for strength, (Super Sculpey) and variety of color for differences in age and ethnicity.



*"Atlas"  
is the name to look for*

After our brains and hands, the pasta machine is our most important tool... we use it for clay conditioning, grinding colors, and for making smooth, even sheets for coverings, figure clothing and for jewelry techniques. It's just good sense to buy the best one that you can find.

The extrusion-type pasta machines (neither hand-crank nor electric) are any help to us. The plastic parts can't stand up to the heavy work of grinding polymer clay. What you're looking for is a roller-type machine, like the one to the left. Some have cutter attachments that come off, and some have built in cutters. I've never found much use for the cutters, but some

## A Few Words About Pasta Machines

people have great luck with them and can create beautiful patterns with the cut clay.

The best brand for pasta is one of the ATLAS MARCATO brands. Beware of brands other than Atlas: they were made for food, and when you use them for clay, you end up with shredded clay, chrome flaking off, and other problems. Look for the words 'Atlas' and 'Marcato,' as well as 'Pasta Queen,' 'Ampia,' or 'Lusso 150.' The brand that I've heard the

most bad reports about from clayers is the "Al Dente" brand... avoid that one.

[www.polymerclayexpress.com](http://www.polymerclayexpress.com) carries them for \$28 - up. I've purchased nine of them through eBay auctions on the net, for \$19-36, including shipping. "Bed, Bath & Beyond" would probably carry them, as would a kitchen outlet or kitchen store. Many people find them at flea markets, thrift stores and garage sales for just a few dollars.

## For Strength and Flexibility in Your Finished Work...

What the heck is "conditioning?" I've heard several different stories as to why "conditioning" clay by hand is necessary, but I suspect more strongly all the time that all of them were invented in order to persuade the consumer to complete what is basically part of the manufacturing process at home and to add to the mystique of the clay. Not all clay brands require this preparation.

**Fimo Classic** is a new formulation of the original Fimo, which required a lot of hand work, a food processor and diluent to get into shape for working. The new formula is

much easier on the hands, but it will still need more preparation than most other brands. It's often crumbly and "dry" feeling even when it's fresh.

**Fimo Soft** - less work... cut your bars of Fimo Soft into slices just slightly thicker than your pasta machine's largest setting and run them through on that setting. May crumble at first, but finally will stick together. Both of the Fimo brands react well to pressure. Stand on your block of clay before opening it. Roll over it with a heavy rolling pin using lots of pressure, etc.

**Cernit** needs to be warmed just a

bit and worked in your hands for a minute to make it smooth and pliable. It is the strongest clay on the market, preferred by some jewelry and doll makers, but it's stickiness can make it difficult to work with.

**Premo! Sculpey** - a firm to soft clay, easy to "condition" with a few passes through the pasta machine or a bit of kneading. Don't over-work it, just knead it enough to make it smooth-textured.

At times, Premo! can be too soft, requiring that you leach out some of the plasticizer. Roll the clay into thin sheets, then sandwich the clay between sheets of paper and put a

## Conditioning Clay

heavy book on top of the stack to weight it down. A few hours later, some of the liquid component will have wicked into the paper, leaving a firmer clay. You can change the paper and repeat this several times to get the degree of softness that you're looking for. The translucent and the white are particularly prone to this "over-softness." It can be very difficult to run through the pasta machine when it's this soft.

**Sculpey III** - This clay is very soft and needs no conditioning to speak of, just some rolling in warm hands makes it workable. Remains weak and brittle, unfortunately.

## Using Kitchen Equipment... Some Safety Notes

High  
temperature  
+  
Polymer clay  
=  
Potentially  
Toxic Fumes !

### DANGER!

Too high a temperature (over about 350°F) causes partial combustion which releases **toxic** chemicals and compounds into the air. This is not to be taken lightly, as health damage can result.

This is the most important reason for having a **good** thermometer for your oven. How will you know when the temperature is too high for the clay if you don't know what

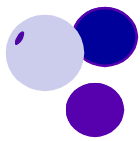
the temperature is? My oven is 50F hotter than the selector says it is, and yours may be, too.

Methods for working around other safety concerns range from my own admittedly lackadaisical approach to near hysteria. People have safely ingested the clay, but, I certainly don't recommend it. The plasticizer is toxic in it's raw state. The clay is inert and non-toxic after it's cured. We don't have long-term safety data, yet, so I do use some

common sense rules.

Equipment such a pasta machine or food processor that is used for clay should **never again** be used for food preparation. Those who are highly concerned about toxicity extend that caution to every utensil that comes in contact with the clay or even with their "plasticized" hands. In my opinion, that is too extreme, but, it is up to each person to decide how strict to be about safety practices.





## Beads! Beads! Beads! Express yourself with mini-marvels from your own hands!

People have probably been making beads almost as long as there have been people. They've been used as currency on every continent and some cultures elevated bead-making to a high art. The Balinese with their intricate designs in silver, the Etruscans and infinitesimal grains of gold arranged in precise patterns, the Egyptian faience and glasswork which evolved into the Venetian millefiori ... techniques in bone, clay, metal, glass, stone, wood, bone, ivory... and leave it to polymer clayheads to steal every method under the sun and adapt it to our own use!

Start making some beads of your own with the simpler techniques.

A word of caution: most beginners use the colors right out of the packages... if you do that, the results may seem to be harsh or garish. If you aim at softer, more "organic" colors, at first, you'll be less likely to get discouraged. There is certainly a place for garish colors, but, there's time enough to learn how to work with those after you have gained some confidence and had some fun. Working with color takes practice!

If there's a color you really like, but, it's too strong, add a minute amount of it's complementary color to it, to lower the hue. A color's complement is found 180 degrees from it (or directly across from it) on the color wheel. For instance, the complement of red is green, so if my red is **too** red, I can add a tiny bit of green to tone it down a tad. (Or I can add more, and get a warm reddish brown.)

When the hue is right to your eyes, but you'd like a lighter shade, add small amounts of white until you're happy with it.

**A little side note:** Nearly all the colors benefit from the addition of about 5 - 10 % white... the baked color will be closer to the raw color, and it seems to mask plaquing.

Now, on to the beads: Do you want a solid color? A marbled look? Will you be applying little flowers or other shapes to the bead?

Take a little chunk of conditioned clay and shape it. Roll it smooth in your hands.

Looking down onto the bead, poke up through the bottom with a needle— blunter is better—and as soon as you start to see the needle coming up through the top of the bead, stop. Using a twisting motion helps the needle go through more smoothly. Pull the needle out, and push it back up... watch to make sure the needle exits from the first hole you punched.

Pull the needle out and you've made a bead! You can lay it on a piece of paper, or into a layer of polyester batting or cornstarch in your baking pan for baking.

You might want to apply some flowers, first, though. Roll five or six tiny balls of your petal color, and one of a different color for the center. Apply a tiny amount of Sculpey Diluent to the bead where the flower will go, and put a petal on top of the diluent. Smoosh it down with the rounded end of a toothpick, to make it into a cupped shape. Don't let them stay shaped like perfect circles. Continue around the outside of your flower, and then add the center. Poke it full of holes with a toothpick, to resemble the actual center of a flower.

Leaves start with balls, too—shape them more like a football and flatten it onto the bead.

You could also roll a tiny ball of vine color into a thread, and use it to make a twining vine around the bead before you apply flowers and leaves.

As a color suggestion: make the bead a marbled mix of very pale yellow and white, or just the very pale yellow. Make the centers of the flowers a deeper yellow of the same hue as the bead. Make the flowers in shades of yellow's complement, which is purple. Use two or three shades of

a "toned-down" green for the vines and leaves. You will get some very nice results with this combination.

Here's another: Make the beads of palest orange, the centers of deeper orange, and the petals of clear blues.

You can get a neat "jungle-y" look by applying leaves and vines in different greens and golds to a brown bead. Poke a red or orange flower in there and see what happens!

Zebra striping is much easier than pie. Make a ball of clay, then apply little snakes and threads of different colors to it... roll it smooth on your work surface.

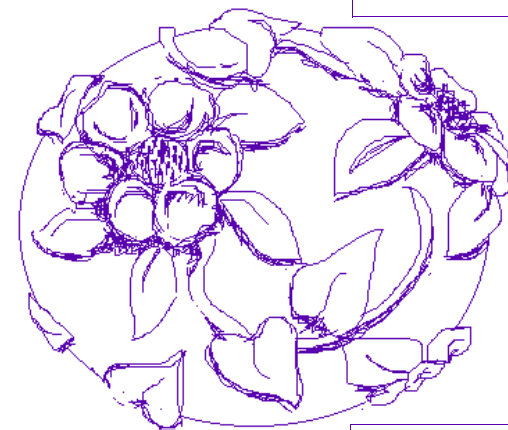
Applying tiny balls of clay to the bead can give you another cool look. You can put even tinier ones on top of those, too! You can leave them sticking up and dimensional, or you can roll

the balls smooth onto the surface of the bead... two different looks.. Try mixing in some thread shapes as well as the circles. Roll beads in clear or colored sand for interesting tints and textures.

Experiment and experience!

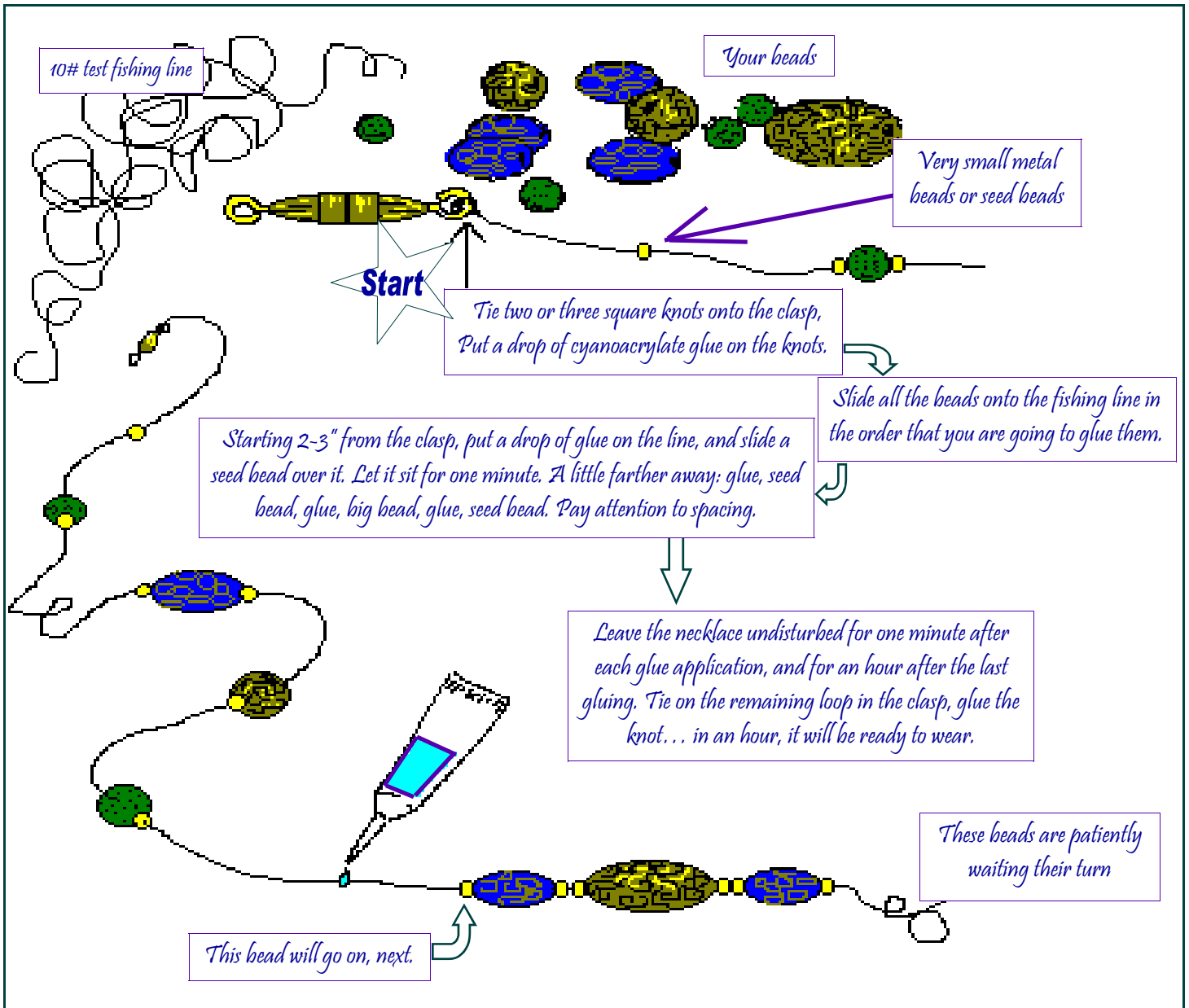


Leaves start with "footballs" Pinch and flatten one end more than the other. Try heart shapes, too.



Petals are flattened onto the bead with the rounded end of a toothpick. Try to keep the shapes "organic," as well as the colors.

## How to make the "Illusion Bead" Necklace



If you don't have enough of a certain color to finish that project in the middle of the night, you can extend it by adding up to 25% Super Sculpey or a translucent clay.

### More beady ideas:

- A core of scrap clay covered with coiled threads of solid or marbled colors...
- Make your beads in different shapes, for visual interest... tubes, barrels, saucers, bicones, cubes...
- Roll your beads in the colored sand that is used to make sand paintings.
- Apply tiny bits of metal leaf to the beads before baking... leaf needs to be sealed after curing.
- Sponge diluent onto your beads with a sea sponge, roll in PearlEx powder. Glaze after curing.
- Texturize your beads by rolling them on fabric, sandpaper, corrugated paper, corduroy or tweed, cross-stitch fabric, wood, concrete & other interesting surfaces.
- Put dents in your beads with blunt objects or with the tube end of a pen refill.
- Lightly smooth on some PearlEx after any sort of texturizing to get a super cool relief effect.
- Big beads with big holes look great on macramé leather or rattail and attached to a key ring.

## Curing Is Another Key Factor in Strength



*"Looks like your fridge magnets came out just perfectly! Now, aren't these more fun than cookies??"*

Underbaking is the usual cause for a clay item to be fragile or brittle. Check the thermometer frequently to make sure that the temperature in the oven remains stable throughout the baking time.

The directions for most clays call for baking an item at 265°F for 30 minutes for every 1/4" of thickness.

All the translucent and whites are susceptible to browning or discoloration when they are cured above 265° F for too long.

If your piece is made predominantly of these colors, you will

have to watch the timer **and** the item carefully. "Tenting" these items with aluminum foil or an upended pot can protect against the discoloration. Or you can cure in a roasting pan... this has the added benefit of containing some residue and fumes.

The Premo brand cures at 275°. Translucent Liquid Sculpey cures at 300F. I routinely cure all my projects at 275F for an hour, unless they contain a lot of translucent or white, and so far, I haven't had any damage or discoloration result from the higher temperature. I have made items from a mixture of brands and

cured them at the 300° that TLS requires without even a hint of fumes and no damage to any of the underlying clays.

Some people use toaster ovens or convection-type ovens outdoors, to eliminate any chance of releasing toxic fumes into their home. Using a convection oven will require that your oven thermometer read about 25F BELOW the temperature that the clay calls for. Temperature spikes can be a problem with small ovens. Because the heating element is closer to the clay, you will have to be extra vigilant about burning and fumes.

## Storing Clay Between Uses

Polymer clay can stay in its wrapper indefinitely, if you take care to keep it from heat and light. Heat will begin the curing process, and even one afternoon in a hot car can make your clay difficult to condition and work. UV rays in sunlight and fluorescent light can also cause physical changes in raw clay, so don't leave it exposed to sun or fluorescent light for long periods, even if it's kept cool. Fluorescent light, especially, causes deterioration of structure and color—a worse hazard to your art supplies than you'd think.

After you've opened a package and mixed colors, you can put them into most ziplock-type bags or wrap them in waxed paper or freezer paper. Unwaxed paper should not be used, because it absorbs plasticizer from the clay.

Some brands of plastic, such as Saran wrap, react with the plasticizer in the clay, breaking down the wrap and contaminating the clay. Saran wrap is used by some artists as a glaze... they apply it to the item they're baking, smooth it down well and bake it. It's on my list of "things to

try - - - -someday."

One famous clay artist amazed the students that came to her seminar by opening up her big Rubbermaid plastic tubs to get at some clay... what they saw was a jumbled mass of colors, canes and scraps... some of them had been in the box for years, and the only thing she was careful about was keeping the tops on the containers.

She does exceptionally beautiful work, by the way.

I separate my clays by color fam-

ily into plastic 7-drawer chests... reds, oranges, yellows, greens, blues, purples, black & white, neutrals, transluents, canes and mokume gane stacks. I try to keep the drawers neat, but I'm not terribly careful about allowing bits of one color to creep into another. You can just scrape off the stray bits of other colors and go right to work. Any storage that keeps your clay cool, out of direct sun or fluorescent light and dust is great.

## Leaching clay? Plaquing? Huh?

**Leaching:** Placing sheets of clay between sheets of paper to soak out excess plasticizer.

**Plaquing:** Small half-moon marks visible only after curing in translucent clays. Desirable in "faux" stone, not pretty on a fairy's nose.

**Curing:** Baking the clay for the right amount of time at the right temperature.

**Marbling:** Incompletely mixing two or more colors, resulting in a "marble" look. Very simple, can create some stunning effects.

**Canework, caning, millefiori:** An ancient glassmaking technique that has been adapted for use with the polymer clays. The colors run through the entire length of the cane, so that each slice looks nearly identical to all the other slices.

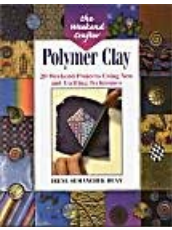
**TLS—Translucent Liquid Sculpey—**a liquid polymer clay that has a tremendous number of uses. Truly indispensable.

[www.glassattic.com](http://www.glassattic.com) - anything you ever wanted to know about polymer clay

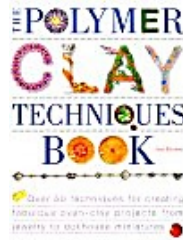


**Jewelry Oriented Titles****Polymer Clay Irene S. Dean**

Beautiful! Lots of projects and excellent coverage of the things beginners want to know... tools, colors, properties of the clay, etc. The best beginner's book out there, (in my opinion) but great for people who have some experience with the clay, as well.

**Polymer Clay Techniques Book****Sue Heaser**

As the title implies, this one is full of techniques for creating different looks with polymer clay. Well written and organized—will keep your creativity hopping for weeks.

**A Bibliography**

Any bibliography I could give you right now would either be hopelessly out of date or would not address your interests.

Please visit your local bookseller to see an amazing array of polymer and related titles—over 90 books are now in print.

**My Favorite Tips**

1. Wash the surface of your project with alcohol prior to glazing. It dissolves any uncured plasticizer that has surfaced—which would cause the glaze to not stick.
2. Many glazes do not adhere to the cured clay properly, and some will feel dry for weeks or months, but then suddenly become sticky—this is a reaction between the two groups of chemicals, and something isn't getting along and playing nicely with the other compounds. It's heart-breaking to have hours of work ruined by a suddenly sticky finish. Use only the glazes that have stood the test of time... Flecto Varathane Diamond Elite (In quarts and gallon sizes, Gloss, Matte or Satin in the Floor Dept. at Lowe's or in smaller sizes from polymerclayexpress.com) Patricia Nimrock's Acrylic Finishes (Michael's) or Future Floor Finish.
3. Keep a notebook handy to write down things you want to try and supplies you need for the next trip to the craft store... you'll need it!
4. If you get a particularly nice color, bake a "chip" of it and glue it into your notebook, along with the "recipe" for getting that look.
5. Do the same with color combinations that are especially appealing to you... don't rely on memory.
6. If your clay is too sticky to work with, it may be too warm. Put it into the freezer for a while. Keep your hands cool. It may also be too saturated with plasticizer. Try leaching a bit of it to see if that helps.
7. **Keep your hands clean**, especially when changing colors. If you're getting lint specks on your project, you might be able to get the worst of it off with your baby wipes that have alcohol added. If not, wait 'til it's cured, and the lint will be sanded off.
8. Keep plenty of cyanoacrylate glue on hand, both the liquid and gel types. This kind of glue deteriorates rapidly once opened, so consider the tubes disposable. Keep the tubes in a sealed jar between uses for a few weeks or toss the opened tubes after a few days.
9. Don't start off with the idea of making \*something\*... start off with the idea that you are going to make some fun! If you come up with something wonderful, that's terrific! But, if you're not happy with the final product, at least you've learned and PLAYED, for a while!

**Your "Great Starts" Supply Kit... Make Something Now!**

I've tried to include enough of a variety of items so that you can make some fun as soon as you get home. There are directions for using most of the materials elsewhere in this handout.

**Clays** - There are several bits of different Premo colors that you can take home and play with. The assortment changes, depending on the focus of the class.

There is a **very sharp tissue blade**... please be careful! An ordi-

nary paring knife or cheese slicer is fine for cutting off chunks of clay, but a thin blade is essential for slicing canes. These blades are made for cutting human tissue... make sure it's not yours!

A **needle tool** is great for putting holes in beads, marking leaves and petals on flowers, texturizing clay. Buy several in different gauges.

The **acrylic roller** is excellent for rolling out small sheets of clay, or

for using as a small brayer to roll seams together.

**Ceramic tiles** have become almost indispensable to me. I use them for curing plates, but they're also good for rolling out sheets of clay to be stamped and cut - you can lift away the excess around the cut pieces and cure the pieces still on the tile.

**Deli wrap** can separate layers of clay without wicking out much of the plasticizers, and can also be

used for rolling clay, or for a baking surface.

**Baby wipes** with alcohol added clean up the oily residue from the clay that sticks to your hands, work surface and tools.

The **texture plate** and **mold** will give you an idea about how to make your own from a variety of surfaces around your house. The examples are made from buttons, but try seashells, fabric, wallpaper, leaves, etc....

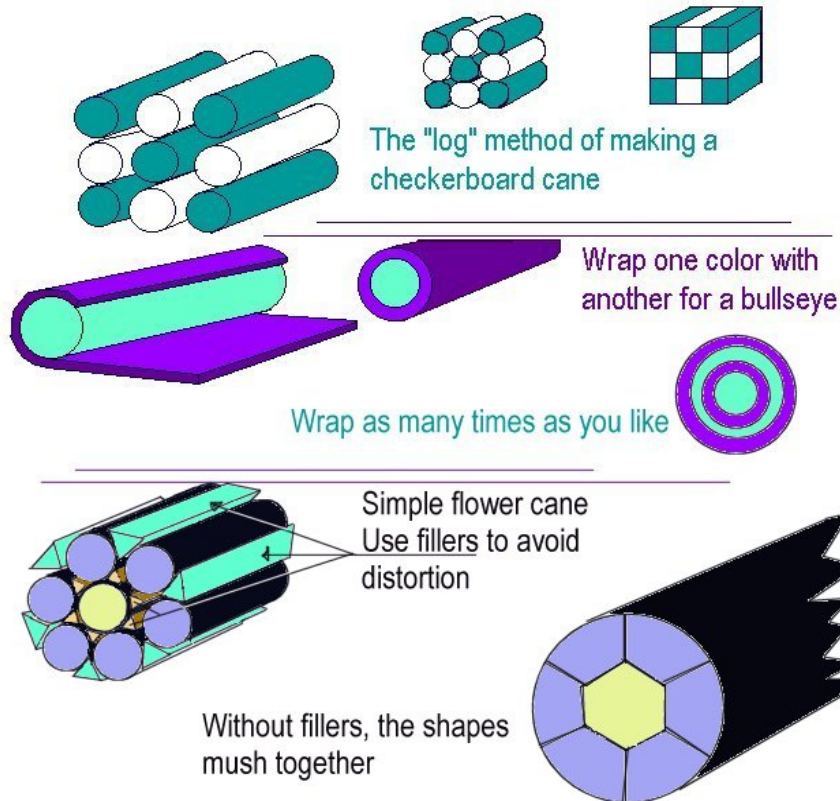
## The Easiest Millefiori Canes

Millefiori canework begins with logs, snakes, sheets or loafs of colors. Start learning by making some simple canes to get the feel of what the clay can do.

Most people begin too small, when learning to make millefiori canes. This conserves clay, but one of the clayer's corollaries to Murphy's law is that the time that you make a wonderful cane that you'll never get tired of will be the time that you've only used an ounce of clay to make it.

What you're doing is painting a picture in 3D—the colors that you choose will run all the way through a cane, so that every slice contains a miniature version of the picture you made.

Wrap each color in a thin sheet of black, to have crisp outlines around each element in the finished cane. Other strongly contrasting colors would work, too. Fill in the "empty" spaces in pictorial canes with snakes shaped to fit into the empty spots, to minimize distortion.



One of the simplest canes is the checkerboard. The "log" method is just rolling logs of various colors and stacking them. They are pressed tightly together and then rolled or brayered gradually into a long, square "loaf" shape, turning the loaf constantly while reducing, to keep the colors from creeping into each other. The lines of color should stay straight.

The bullseye cane is simply wrapping a log of one color with a blanket of another color. You can wrap as many times as you like. To make the "Lace" cane, wrap the core color with three or four other colors, reduce the log to half its original diameter, then cut it in four pieces. Stand all those pieces together and squeeze them to get them well adhered to each other. Reduce the resulting cane to one quarter its original diameter and again, cut into four to six pieces. Re-combine, reduce and it's ready to use or you can cut it and recombine it one more time.

An easy flower cane will begin to teach you about avoiding distortion in your pictorial canes. Roll a log of one color for the center of the cane and five to seven logs of a different color for the petals. Wrap the petals in black so that you'll have a sharp outline in your finished cane. Make triangular shaped logs of the same color as the center of the flower to fit into the gaps that will be created where two petals meet with the center of the flower.

Make more triangular shaped logs of a "background" color to fill the troughs created between the outside curves of the

petals... you're trying to make a round shape, so fill in whatever is not round.

Allow canes to rest after building. First, to equalize the temperature—warm clay reduces faster which means it will be extruded out the ends, causing your cane to become distorted. Also to allow the plasticizer to migrate to drier adjacent elements. An hour or two in the fridge will work in a pinch, but, several days would be better, and several weeks would be optimal.

Begin reducing by squeezing gently in the middle of the cane. This takes a while, so don't rush it. Move your fingers to another spot after each squeeze, and try to make the transition from one size to a smaller one as smooth as possible. You will reduce the cane in stages, by only a small amount at one time, traveling up and down the length of the cane.

When the cane is smoothly reduced down to about an inch in diameter, you can begin to roll it... use your fingers, lightly, in a smoothing motion. Don't leave your fingers in one spot, or you'll get "dents" in your cane. Turn the cane from end to end, to change the direction of "torque." When the cane is the size that you want, let it rest before slicing it with a very sharp NuBlade or other blade.

Hint: Slice and bake the top quarter inch before you even attempt reduction—it will be a "road map," for future experiments and for troubleshooting in case something goes "wrong" somewhere. You may be able to discover from this "road map" where you can make adjustments to avoid having the same problem, again. And another one: Cut off a few inches of your cane at several stages of reduction... it's very difficult to make a skinny cane fat again.

There are vast amounts of information about making and reducing canes on the web - start with [www.glassattic.com](http://www.glassattic.com)



## How to make a "Skinner Shade"

Thanks to the discovery of Judith Skinner, we no longer have to mix incremental little balls of color. She figured out this quicker method for creating different shades of the same color. What used to be very tedious and time-consuming is much less so, now, with her method of blending colors.

In canework, many elements begin with a "Skinner Blend" or "Shade," and often many shades of a color are required for a sculpture or painting.

The blended colors look great all by themselves, covering boxes or pens, or you can use a blended sheet as a base for more decoration.

Start with two colors of conditioned clay.

Roll them into sheets, and from each of them, cut a roughly triangular shape almost as wide as the pasta machine rollers. (see diagrams)

Lie one sheet on the work surface, with the right angle on the lower left, and flip the other so that the right angle is in the upper right.

Adjust the sheets so that the diagonal edges are barely overlapping and the width of the rectangle you've formed is the same as your pasta machine rollers.

Smooth the diagonal edges together to make the two colors into one sheet. You don't have to be neat

at this point, because the next few steps are going to mix the clay up, anyway.

\*\*\*Fold the top edge down to the bottom edge, and lightly crease the fold.

Put the folded edge into the pasta machine, and roll it through.\*\*\*

Repeat the instructions between the \*\*\*. Continue to fold top edge to bottom edge, and always put the folded edge first into the pasta machine. Don't throw a "side to side" fold in there, or what you'll get is a mess. Trust me. ;)

It will take 12-20 trips through the pasta machine to get a beautifully blended sheet of color.

After the colors are blended to your liking, you can turn the sheet so that the fold is on the left before running it through the machine, and you will have a long "belt" of shaded clay. This belt can be folded, accordion-style, or it can be rolled, light to dark or dark to light. Many millefiori techniques begin with this step, and many clay artists use odd minutes when they can to just make Skinner blends, so that they're ready when they're needed.

Have fun!

