



# How to Make Ceramics

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Making ceramics is easy! Once you know the basics, you'll be able to start creating your own pieces in no time flat. It may seem like an intimidating process at first, but once you're over the learning curve, it's masterpiece city. Here's just about everything you need to know to get going.

Method  
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## The Very Basics

**1 Pick your method.** This is very important to do first as it determines what kind of clay you'll be working with. Don't rule out clays that need a kiln -- you can buy a small one for your home if you're serious about this hobby. Here is the rundown on the methods and varieties of clay used with each:

- Oven bake, air dry, or polymer clay. These do not require use of a kiln; they either air dry or are baked in a standard oven. Due to expense, they are best used for small items such as jewelry, ornaments, etc. The oven and air dry clays are similar in look and feel to normal clay. Polymer clay comes in many bright colors (kind of like playdoh!), and can be made into beautiful designs which become plastic-like when fired.
- Handbuilding with standard clay. The possibilities are endless for hand built ceramics. It does, however, require the use of a kiln. But otherwise the investment needed is very low. Clay itself is inexpensive, about \$6-10 per 25 lb bag. A rolling pin, newspapers or cloth, and other ordinary household items are all that are required. With a book on handbuilding, most anyone should be able to start making pieces on their own.
- Wheel throwing with standard clay. Again, a kiln is required. And once you are an experienced thrower you will undoubtedly want a large kiln, since you will produce pieces much more quickly than in handbuilding. You can learn to throw from books or even better, videotapes, and some people do, but it is difficult. Most people with no experience, buying a wheel and trying it out on their own, would get frustrated and give up. However, if you are patient, you can build your throwing skills, never firing anything (a large kiln is expensive -- but maybe you have access to one?) but instead recycling the clay to be thrown again. It is tempting to want to finish each piece at the beginning, because you are very proud of it, but soon you will hate the look of those early pieces! So not even firing them at all would be a fine strategy.<sup>[1]</sup>

**2 Pick your clay.** Now that you know what method you'll be employing, you can choose your clay. Most clays require a kiln, but many novelty brands will fire in a kitchen stove. If you just want to play with wet clay, don't even worry about firing it. A basic rule: wet clay and dry clay will not work together properly -- just make sure your clay is the same consistency.

- If you are going to fire your clay, choose between high and low fire.
  - Low fire is usually best for bright colors and detailed decoration. The glazes are very stable at that temperature, the colors stay bright and they don't move during firing. The drawback is that the pieces are not fully vitrified (the clay isn't fully fused) so you are counting on the glaze to make the piece waterproof. This makes them less suitable to dinnerware or items holding water. The glaze is more likely to chip because it hasn't interacted with the clay as in high fire. However, if the proper clay and glaze are used, it can be quite strong. The clay used for low fire is called Earthenware.
  - Mid to High fire uses clays that are called Stoneware or Porcelain. Bright colors can still be gotten in oxidation kilns (electric kilns), less so in reduction kilns (gas kilns). Pieces are very strong, when fired to temperature the clay is waterproof on its own, and can be used for dinnerware and ovenware. Porcelain can be made very thin and still maintain strength. Glazes at these temperatures interact with the clay bodies giving speckled, individualized pieces that many people find interesting. The glaze typically moves (a lot or a little) so detailed designs would get blurred.<sup>[1]</sup>

**3 Prepare yourself and the area.** Working with clay can get a bit messy, especially if children are involved. Cover any area that you don't want to get exposed -- lay a tarp or newspapers on the floor or do your work in the garage or other non-living space.

- Never wear clothes that you don't want to get dirty or stained. If you have long hair, pull it back. It'll be less messy and won't get in your eyes.

Method  
2

## Wheel Throwing

**1 Prep your clay.** Air bubbles can be disastrous to an otherwise perfect product, so get them out before you start working. Knead or wedge your clay in small amounts -- start with the size of both your fists.

- Knead the clay like you would a loaf of bread, mold it into a ball and then slam it against a piece of plaster (it's good for absorbing moisture). Do this repeatedly until the bubbles have ceased. If you're not sure, split the ball in half with a wire and monitor the insides.

**2 Start the wheel.** Throw the clay with some force onto the center. Since you're just starting out, stick to a large handful of clay for right now. Wet your hands with a bowl of nearby water and start shaping the clay.

- Start coning the mass of clay. Brace it between your two palms and start squeezing upward.
  - For each step of working with the clay, make sure that your elbows are pressed into your inner thighs or on your knees -- whatever is comfortable. This will help steady your hands as they work.

**3 Center the clay.** This is a method of spinning it until it's perfectly smooth with no bumps or wobbles. Once you have your cone shape, you're ready.

- Push your tower down with one hand and keep it stable with the other hand. If you're right-handed, push it down with your right. Most of the pressure comes from the top.
- Once the clay is in a wider lump at the bottom, start applying pressure on the sides, evening them out. A bit of clay may accumulate on your left hand; that's normal -- just place it off to the side.

**4 Form your shape.** The specific instructions end here -- each piece (bowl, pot, etc.) will be formed differently. But regardless of your piece, make your movements deliberate and slow, letting the wheel make ~5 repetitions before you finish each movement. Make sure all 360 degrees of the clay receive the same treatment, keeping the work round. Wipe away any water that accumulates with a sponge.

- When you are done, clean up your piece with the wooden knife, and smooth the surface with a rib.
  - Note: If you mess up and the clay is all twisted, unfortunately you probably shouldn't just try to reshape it into a blob and start over. The clay does not reset and will not cooperate well at all on the next try.

Method  
3

## Hand Building

**1 Make sure that your clay has no bubbles in it.** If put in the kiln, this will probably make it explode. As outlined in the Wheel Throwing section, slam your clay on plaster (absorbs wetness) and knead it like bread.

- If you'd like to check the insides to be sure, take a wire and cut it in half. If bubbles are still present, persist.

**2 Pinch, coil or slab.** When you're hand building, there are generally three methods you can employ. Each creates a very different look. Slab works best for large pieces.

- *Pinch pots:* Begin a pinch pot by forming a lump of clay into a smooth sphere that fits the size of the hand. This method is similar to the way the Native Americans shaped clay into useful pots. While holding the sphere of clay, press the thumb into the center of the ball, half-way to the bottom. While revolving the ball in one hand, press the walls out evenly with the thumb into the inside and the fingers on the outside. Smooth the surface

with a damp sponge.

- **Coil Method:** Coils of clay can be used to build bowls, vases and other forms in various shapes and sizes. Keeping the fingers flat, form the clay into sausage shapes, then roll into ropes  $\frac{1}{4}$  to  $\frac{1}{2}$  inch (0.6 to 1.3 cm) thick. Make a shallow dish with the pinch pot method and turn up-side down to serve as a foot of base. Place a coil along the edge of the foot. Dampen the fingers and join the next coil to it, with a little pressure. Keep adding coils. Coils may be pressed with the fingers or a tool on both the inside and outside to create interesting texture.
- **Slab Method:** Place two strips of wood on canvas a little further apart than the width of the finished slabs. Working on a textured fabric will leave imprints on the clay slab. Place clay on the cloth between the strips of wood and roll out. Use a pointed tool to trim the slab of clay to desired size. You may make paper patterns to follow if a form that has a number of sides is desired. Rub a wet finger over the edges to be joined and score with a tool. Roll out a thin coil of sticky clay and place it along one edge. Press the two edges together. Slabs of clay may be placed over rocks, bowls, plastic forms etc. to create interesting shapes. As the clay dries, it shrinks away from the form but retains the shape of the form.<sup>[2]</sup>
  - If it is a medium or larger piece, make it hollow. Solid clay takes an eternity to dry and will explode in a firing most of the time.

#### Method 4

### Glazing

**1 Fire your clay at least once.** After this, it can be glazed! Get access to a kiln if you don't have your own and let the pros take care of it. If you do have your own, make doubly sure you know how to appropriately work it and what your piece requires.

- Different clays react differently to heat. Read the directions on the clay's packaging and do some research online. Take into consideration your piece's size, too.

**2 Choose your glaze.** As with every other step, there are a multitude of options. Each kind will give you a slightly different look.

- **Liquid:** You can purchase commercial glazes and underglazes in liquid form which are usually formulated for brushing. All you need to apply the glaze is a brush. Some glazes are difficult to brush on smoothly; as a result, you will see brush marks. Others will melt enough to erase the brush marks.
- **Dry:** You can purchase commercial glazes in dry form, which are usually formulated for dipping, pouring, or spraying. In addition to a brush, you will need a bucket, some water, something to stir with, and a mask to avoid breathing the dust. The advantage of dipping is that you get a more even coating of glaze, and you can do interesting things you can't do with a brush, such as double dip to get different colors on the same piece. Spraying is usually done by more advanced people since it requires good ventilation, a gun, a compressor, a booth, etc.
- **Make your own:** This is the most advanced form of glazing. Using recipes, you buy raw materials and mix them. In addition to the other things, you will need recipes which may be obtained from books and web sites. You also need the chemicals which make up your glaze, a scale, a sieve, and a temperament which allows experimentation. Sometimes your glazes won't turn out quite right. You will have to learn how to modify those glazes to solve whatever problem you're having. Other times they will be stunning.<sup>[1]</sup>

**3 Choose your method.** You guessed it -- there a handful of ways you can glaze your item, too. Here's a fairly exhaustive list of the ways you can bring out the colors in your art:

- **Dipping:** If you have a whole bunch of pottery to glaze, dipping will be the quickest method to employ. You simply dip it in the glaze (it should have the consistency of heavy cream) for about three seconds and set it aside. The coat will surely be even.
- **Pouring:** If you're looking to glaze the inside, just pour the glaze into the pot, leave it for three seconds, and pour the glaze back into the bucket. If you're worried about excess, you can rid of it in plenty of ways.
  - Pouring is a viable method for coating the outside, too. It's often used a second, thinner layer. The two layers then interact, resulting in a colorful glaze with texture, shading, and visual depth.
- **Brushing:** If you bought your glaze ready-to-use, it probably will go on well with a brush. If the glaze is thick,

you're good to go -- it's designed for the purpose of camouflaging brush marks. If you *like* the look brush marks give your piece, vary the thickness of the coat when applying. Use a synthetic sable brush to get the job done.

- If you want an even, opaque coat, use a big brush and apply the recommended number of coats +1. Put the piece on a wheel and spin it slowly while applying the paint to give it a very even finish.
- **Sponging:** To sponge, dip your pot into a layer of the glaze you'd like to use for the background. Next, use a natural sea sponge dipped in another color of glaze to achieve your desired pattern. Commercial sponges from a craft supplier, cut into various shapes of your liking, can also be used to obtain interesting effects. If you have time, experiment by mixing and matching various shapes and colors to see what sort of combined effects are most appealing to you.
- **Etching:** You'll need at least two different glazes here, preferably ones which you've previously test-fired together to make sure they give pleasing results when overlapped. Start off by dipping your pot in the lighter of the two glazes, then let dry. Dip again, this time in the darker glaze. Once it has dried, take a mini-ribbon tool and gently carve a pattern in the top layer of the glaze, exposing the lighter glaze underneath. Depending on how careful you are as you carve out the design, very intricate patterns may be achieved. Once fired, the carved patterns will appear in the color of the first glaze applied, surrounded by a "background" of the combined layered glaze color.
- **Stamping:** Obtain some florist's foam (the stuff used to hold professional flower arrangements in place) from your local craft supplier. Then draw a pattern or design onto the surface of the foam. Carve out the design with your mini-ribbon tool, then dip the block into slip or glaze and use it as a stamp to decorate wide, flat forms which have already been dipped into a contrasting glaze and allowed to dry.
- **Wax Resist:** Dunk your whole pot into a light glaze; paint on a pattern with a wash like cobalt oxide (blue) or iron oxide (brown); then carefully paint wax resist over the wash pattern you just painted. When the wax is dry, dunk your pot into a second color. If you go over the line so you're waxing on top of the white, you'll have three glazes (white, cobalt, plus final). Extra detail can be achieved by carving through the second glaze.
- **Tape Resist:** For crisp, fine lines with sharp edges and angles, use thin masking tape instead of wax to achieve your resist pattern. This is done by glazing the entire pot, letting dry, and applying the masking tape in the pattern you desire. Dip the pot again, let dry, and remove the masking tape to expose the glaze underneath.<sup>[3]</sup>
  - Pay attention to firing temperatures on glaze bottles. If it is a high fire glaze, and you used a lower temperature clay, your piece will *melt* in the superheated kiln.

## Community Q&A

### Are any of these methods dangerous?



You have to be a little careful, and keep this away from children, especially when using the glazing method, but otherwise it is quite safe.

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## Tips

- Make sure your clay is completely dry before firing it. It could crack or explode if you do not.
- If working on a piece over a few days, keep the piece covered in plastic overnight, preventing it from drying too fast.
- When carving designs into clay, wait until the clay is "leather hard" -- dry enough that it feels like leather. Also, don't "scratch" by using deep, thin marks. Make your carving wide enough for the depth you are carving.
- Always make sure the clay is completely dry before you fire it. Damp clay turns to steam, which makes your pot explode as it tries to escape the clay.
- Clay is forgiving, but it gets tired and frustrating to work with after too much exposure to water or too much manipulating.
- An easy way to make small animals is making smaller spheres and attaching them, then smoothing out the joints.
- Ideally, you want to find someone who has at least a little experience to teach you. This is a very hands on process, and having someone to show you and interact with you is very valuable. This "how-to" is meant as a reminder or a rough guide, the actual hand positions vary with every artist.
- Sometimes local colleges will give you enough clay to let you play a little. They might even let you use their studio.

## Warnings

- Don't breathe clay dust. Wear the appropriate gear if it is an issue.
- Clay retains heat and cold; don't get burnt.
- Tools are sharp! Be careful.
- Some glazes contain lead. They are gorgeous, but *do not* eat or drink out of them.

## Things You'll Need

- Clay
- Bowl of warm water
- Wire tool for cutting
- Metal or wooden rib
- Exacto Knife
- Needle tool
- Wooden Knife
- Scale
- Wheel (if desired)
- Plaster (if desired)
- Glaze

## Sources and Citations

1. <sup>↑</sup> <sup>1.01.11.2</sup><http://www.bigceramicstore.com/information/tip13.htm>
2. <http://www.lakesidepottery.com/HTML%20Text/Methods%20of%20Handbuilding.htm>
3. <http://www.claytimes.com/reference-guide/glazing.html>

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