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Pot Enthusiast

Clay has been harnessed from the earth to form tools and art for centuries. Some of the earliest artifacts found of human civilizations are pieces of pottery. From the dinner plate accidentally dropped while doing dishes to the homely porcelain figurines atop a grandmother's shelf, every ceramic item was designed and created by an artist. However, there is a lot that clay has to go through before it can be utilized as a tool or displayed as artwork. After it undergoes a pre-firing stage of formation, it must be fired within a kiln, decorated in the post-firing stage, and then once again entered into the kiln for a final firing before a customer ever lays eyes on a piece of pottery.

A sculptor begins a pottery piece with soft, malleable clay in the pre-firing stage. There are seemingly unlimited types of clay to work with, characterized by the ratio of clay minerals to metal oxides to organic matter within it. These characteristics determine the color, consistency, temperature at which the clay must be fired, and the look of the final result of the pottery piece. Often the artist will choose to work with earthenware clay, one of the earliest-used and most common types of clay found. This type is usually red, orange, yellow, tan, or gray; is soft or even sticky to work with; and fires at the lowest temperatures. Terracotta, or baked earth, is a commonly seen type of earthenware clay in items from flowerpots to ancient busts. The potter, once armed with his clay of choice, then has endless options of what to turn it into. It can be rolled into a flat slab and cut into tiles, molded into a figure by hand, spun on the pottery wheel to form dishes, or made into anything the artist's imagination could possibly conceive. Artists

should be careful to cover their work in something airtight if they will be away from it for any long duration, as exposure to air dries the clay and makes it unable to be manipulated. Some pieces, however, are intentionally left to dry slightly so that the clay can be intricately carved by small, precise tools. Once in the form an artist is satisfied with, the piece must be left to completely dry out, sometimes for days, often weeks. This is absolutely imperative to the piece's survival through the next stages of its life. During this process, the piece will lighten in color and become brittle and powdery.

After artists are sure the clay has properly dried, they take the piece into the second stage, being fired for the first time within the kiln. A kiln is basically an intensely hot oven with racks inside to bake pottery. It can be made from many things, not just bought, although modern kilns offer the most control and most-consistent outcomes. There are several things that artists must keep in mind if they intend for the piece to make it out of the kiln intact, as there is not much room for error when superheating clay basically into stone. They first must make sure the kiln reaches the optimal temperature for the clay used; earthenware's baking temperature ranges from 1745 degrees Fahrenheit to 2012 degrees Fahrenheit. Artists next must ensure the piece endures the heat as long as needed, usually several hours. In theory, this would produce a solid piece that is prepared for the following stage. However, it is always a gamble when a potter entrusts a piece to the kiln. If there are any air bubbles trapped within the clay, that air will expand at the furious temperatures and potentially crack or even break apart a piece. If the potter does not let the piece dry absolutely and completely, the moisture within has no escape through the clay body once it is turned to gas at intense heat and will cause the piece to explode. If the artist loads the kiln with multiple pieces, a broken or exploding piece is likely to ruin the pieces around it as well. There may also be instances where an artist does everything right and just because mixing all four elements in such a volatile manner is very finicky, the piece comes out destroyed.

If a piece survives being fired the first time, the potter can now use glazes, slip, and oxides to decorate it, the third phase of the creation. There are just as many potential glazes as there are potential clays. Each contains three base ingredients: silica, which creates glass; alumina, which stiffens the glaze to cling to the clay; and flux, which allows the glaze to melt at low temperatures. Other than that, an artist can manipulate a glaze's chemistry to result in endless colors. Although glazes appear like thick paint before fired, that color is almost never true to the result. Some glazes also have special characteristics, such as if a glaze is applied as one color, then the fired result is one color in outward peaks of the piece and another entirely in low crevices. Other glazes contain tiny pieces of glass of a different color, so the fired result has little dots and speckles. It should also be taken into consideration if the piece will come in contact with food or drink as some glazes are safe and others are toxic to consume anything off of. Another method to decorate a piece is to use slip, which is a mixture of clay and water to make it a smooth liquid. An artist may then pipe, pour, or dab this icing-like substance on the piece to form patterns and textures. Yet another option an artist has is to use oxides; these are combinations of different elements and oxygen that yield different colors as a powder. Oxides are often the colorants used in glazes as well. A cobalt oxide will show deep blue, an iron oxide will appear a reddish brown, and a copper oxide will yield a green, to name a few. Oxides' colors are usually more earthy than vibrant. They are often applied in washes, diluted with water to just tint pieces. The artist can mix various components of each on one piece to achieve any desired effect.

For the fourth and last stage of forming a work in ceramics, the artist has to refire it, solidifying the decorations. While the chances of the clay itself exploding or breaking after surviving the first fire are slim to none, there are now new risks for the piece. Some glazes fire at much higher temperatures than others, and the artist must be careful to never mix a low-fire

glaze and a high-fire glaze on one piece. If the glaze gets too hot, it will run off the piece; if it is fired too low, it will be dry and rough. While there are different finishes to each glaze, some shiny and glossy and some matte, they turn out right only with their specific temperature and baking time, not unlike desserts. Although glazes resemble paint, they are much more complex. In the kiln, their ingredients fuse in high heat to form a layer of glass around a piece. To avoid this molten glass fusing to the kiln itself or other pieces, the potter must place pieces thoughtfully spaced apart and on small stilts. If the glaze has been applied too thickly, it may appear as a drip or leave small craters from bubbles forming on the final piece. If it is applied too thinly, the finished piece will have faded spots with the clay body showing through. If everything is done correctly, however, the artist will acquire a beautiful piece of handiwork that can stand the tests of time.

Whether a sculptor, an admirer of three-dimensional art, or simply someone who appreciates durable dinnerware, most people have experienced the results of the metamorphosis of earthen mud into something entirely new. Even if one does not possess the interest or means to create pottery, the process is one to be admired. It takes not only natural artistic skill and talent but also knowledge and precise minding of an involved process to be a potter. To make glazes and clay, an artist must know chemistry. To make interesting pieces that evoke feeling and emotion, artists must be very creative. For work to survive such an intense crafting process, the artists must be not only careful but also lucky. Therefore, when people come into contact with a simple ceramic bowl or an astounding sculpted masterpiece, they should ponder how much effort, time, passion, and luck went into that piece.