

WHAT IS CLAY? (not your ordinary “mud”)

clay - is a material that arises from the decomposition of rock in the earth's crust, over millions of years.

How is Clay formed?

1. Melted rock is cooled and solidified into igneous rock (“mother rock”), which makes up the earth's crust.
2. Mechanical weathering over millions of years breaks down the rock from boulders into stones, then down into pebbles and then down into fine, small particles.
3. Erosion aids in moving particles away from the site of origin resulting in 2 types of clay deposits.

Terms/vocab

clay - an earthy material that is plastic when moist but hard when fired, that is composed mainly of fine particles of hydrous aluminum silicates and other minerals, and that is used for brick, tile, and pottery

weathering – the exposure of raw clay to the natural elements which break down the particle size and render the clay more plastic.

plasticity – the quality of clay that allows it to be easily manipulated and still maintain its shape.

score – cutting lines on modeled pieces of clay before moistening with slip, in order to strengthen a join.

slip – a watery clay mixture used to join pieces together during modeling.

kneading – working clay on a surface with the palms of the hands in order to remove air from it and obtain a uniform consistency.

wedging – mixing and de-airing clay by cutting it diagonally and slamming the pieces together.

Types of Clay

Primary clays – clays that are formed in the same place as the “mother rock” from which they came, and that have hardly been exposed to the effects of the atmosphere.

Characteristics – fewer impurities, coarser grained texture (less weathered), needs to be fired at a very high temperature (matures at 2419 degrees F), low plasticity (harder to work with), whiter fired color (porcelain). Kaolin is an example of this type of clay.

Porcelain clay – *characteristics* – bright white clay – very pure, high fire – matures around 2419 degrees F, a very hard clay, smooth – very fine, not as plastic, feels very dry (harder to throw), still white when bisque fired.

Secondary clays (sedimentary) – clays that have been transported far from the “mother rock” by water, wind, and ice.

Characteristics – contaminated with organic matter, finely ground (more weathered), fired at a low temperature (between 1830-2238 degrees F), a non-translucent clay.

Stoneware clay – *characteristics* – gray to tan or brown when moist, non-translucent, matures at 2232-2281 degrees F, pinkish color when bisque, very durable (dinnerware safe)

Earthenware clay – *characteristics* – reddish brown clay that matures at a low temperature (approx. 1830 degrees F, which is red hot heat), also known as terra cotta from the Italian meaning “baked earth”, flower pot clay, remains porous.

Stages of Clay

Wet/Soft – the condition of raw clay ware when it is still plastic and easily modeled, distorted.

Leather hard – the condition of raw clay ware when most of the moisture has evaporated leaving it still soft enough to be carved or joined to other pieces.

Bone-dry – the condition of unfired clay that has no absorbed moisture other than natural humidity. This stage is also called **Greenware**.

Bisqueware – clay which has been fired once, unglazed.

Glazeware – clay which has been fired more than once with glaze on it.

Building Techniques

Pinch – The pinch method was the first method to use only the potter's hands to shape the clay. By inserting the thumb of one hand into a ball of clay and lightly pinching with thumb and fingers while slowly rotating the ball in the palm of the other hand, a small pot can be rapidly made.

Coil – The coil method is the technique of building rope-like rolls of clay by hand and joining them together with the fingers or a tool.

Slab – The slab method can be achieved by hand, with a rolling pin, throwing against a bat or cut from a block of clay with measured guides.

Ten Golden Rules of Ceramics

1. Clay must be thoroughly covered with a plastic bag to keep it from drying out. This applies to works in progress and moist clay.
2. Keep your area clean, clay scraps off the floors and clean with water and a sponge.
3. Clay can be no thicker than your thumb.
4. In order for clay to stick together it MUST be scored and slipped.
5. Wedge clay to remove air bubbles, achieve uniform consistency and to line up the particles of clay.
6. Trapped air can cause clay to explode. So hollow out sculptural forms and poke needle holes from the bottom of a piece.
7. Don't glaze the bottom of a piece.
8. Always handle your project with two hands at all times. In other words, BE CAREFUL!!!! It is your hard work.
9. NEVER HANDLE ANOTHER PERSONS WORK EVEN IF IT LOOKS REALLY REALLY COOL.
10. HAVE FUN AND FOLLOW ALL DIRECTIONS and sign your work!