

## Ceramics Vocabulary #1

**Wedging** - kneading clay to remove air bubbles

**Slab** - evenly rolled out sheet of clay

**Coil** - evenly rolled out snake of clay about as thick as your pointer finger

**Score** - to rough up or scratch the clay's surface

**Slip** - clay and water mixed together to form pottery glue

**Welding** - sealing the clay seams together

**Leatherhard** - partially hardened clay, 50% air dried

**Greenware** - unfired, fragile clay project, 100% air dried

**Bisqueware** - clay project that has gone through its first firing, *unglazed*

**Glazeware** - a ceramic piece that has had glaze applied and has gone through the second firing process.

**Kiln** - the machine that your project is fired in, fires over 1200 degrees



## ⌘ PHASES OF CREATING A CLAY PROJECT ⌘

There are many phases of creating ceramic works of art from the time you start with a soft, moist piece of clay to the time when you have a finished, glazed piece. It is a long, involved process, but if all of the steps are followed correctly, you will have a successful, beautiful, finished piece of ceramic artwork!

### ➤ **STAGE ONE: PLASTIC CLAY----WHAT IS CLAY???**

Clay itself is an earthy material that is plastic when moist but hard when fired at high temperatures. Clay is composed mainly of fine decomposed granite or hydrous aluminum silicates and other minerals. Remember that air will dry clay out, so the longer clay is exposed to the open air, the quicker it is going to dry. So, it is important to keep clay projects covered with plastic and spray them with water with a spray bottle if needed. Handles and small, thin pieces of clay should be sprayed more often to ensure they don't dry out too quickly. When clay is **PLASTIC**, it is soft and moldable and is easily manipulated.

In Ceramics One, we will primarily use terracotta clay for our projects.

1. Define clay.
2. Why is it important to cover up clay while working on a project?

### ➤ **STAGE TWO: STILL WORKABLE.....LEATHER HARD**

**LEATHER HARD** is the first stage of drying in which plastic clay begins to stiffen and will easily hold a vertical or bent position on its own. At this stage you can join slabs of clay together, add sculptural elements to any piece, add any design details and carve a design into your piece at this stage. The leather-hard stage is the perfect stage for smoothing out any lumps, bumps or scratches in the surface of your work. Leather hard is a condition of clay when enough moisture has evaporated that the piece is still enough to support itself, but soft enough to allow additions to be made with clay of *the same consistency*. You may also choose to apply **UNDERGLAZES**, to your work at this point. Underglazes are basic slips to which color agents are added. Underglazes allow for small and intricate details, and they do not run.

1. Define leather hard.
2. What do you think will happen if you try to attach two pieces of clay of different consistencies?
3. Do underglazes run down a piece of ceramic art? Should you paint your entire piece with underglazes?



Once you are finished working on your project, it is important to let it begin to dry *slowly*. If you let your piece dry too quickly, it has more of a chance of having pieces break off and crack. Cover your project loosely with a plastic bag to allow air to circulate throughout your piece. Letting projects dry slowly is the key to a solid piece that does not break!

1. What happens if you let your projects dry too fast?

### ➤ STAGE THREE: BE CAREFUL.....IT'S BONE DRY!

The next phase your clay will go through is called **BONE DRY**. Bone dry is a term used to describe clay that has almost no moisture content in it. At this point it is past the point for joining with other pieces or carving and is ready for bisque firing. The clay is very hard and dry and can no longer be manipulated. This is an extremely fragile state of the clay-making process.

1. Define bone dry.

### ➤ STAGE FOUR: STILL FRAGILE.....GREENWARE

Once all of the moisture is gone from the clay, your piece is called **GREENWARE**. Now it is completely dry, and is *very fragile* because it has not been fired in the kiln yet. You may not handle clay while in the greenware stage. They are very breakable. Greenware encompasses all stages of unfired clay listed above. Greenware can be recycled by placing it in water. Placing greenware in water will cause it to melt and turn back into plastic clay.

1. Define greenware.
2. What are the names of the stages of the clay process that greenware encompasses?

### ➤ STAGE FIVE: BISQUE FIRING AND BISQUEWARE

**BISQUE FIRING** is the first firing a clay object must go through. The ceramic works are put in the kiln. The kiln reaches a temperature of about 1945 F. The firing removes all water from the clay and makes it hard and dense. This brings the clay body to a non-porous stone like state. When the piece is done being fired, it is then called **BISQUEWARE**. These pieces are more durable than greenware. At this stage the clay can no longer be recycled.

1. Define bisqueware.
2. Can clay be recycled after the bisque firing? Why or why not?

## ➤ STAGE SIX: TIME TO GLAZE!

**GLAZE** is a liquid material that is applied to bisqueware. A basic glaze is made of Silica;  $\text{SiO}_2$ ; Alumina  $\text{Al}_2\text{O}_3$ , and a flux which regulates the melting temperature. During the maturing and melting process the glaze will unite with the surface of the bisqueware to produce a colored glass coated surface.

1. Define glaze.

## ➤ AT LAST.....THE GLAZE FIRING = GLAZEWARE!

Finally, after you have glazed your projects, it is time for the final step... **GLAZE FIRING**. This is a firing designed to reach the temperature needed for melting the glaze and coinciding with the maturity of the clay body. Maturity is a point in the firing process when the clay body reaches a state of being nonporous. It is also the point at which a glaze fuses with the clay body. After the piece has been glaze-fired in the kiln, it is finally finished! After the second firing, the clay is called **GLAZEWARE** – or more commonly Pottery. ☺

1. What happens during the glaze firing?

2. Define glazeware.

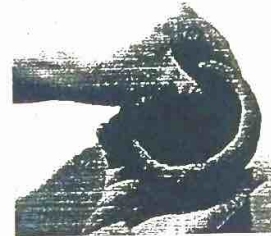


## Four Methods of Building In Clay

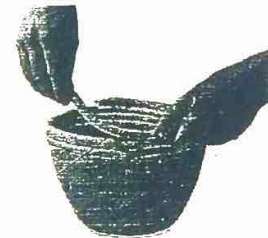
### Useful terms to understand:

- **Functional Pottery:** clay bowls, plates, etc. that can be used as containers.
- **Non-functional Pottery:** clay work, such as sculpture, that is designed to be viewed and admired as it exists.
- **Form:** any three dimensional object

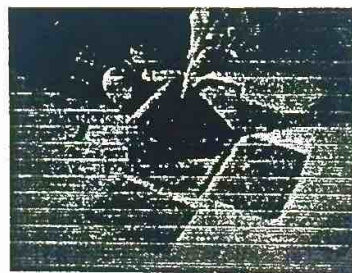
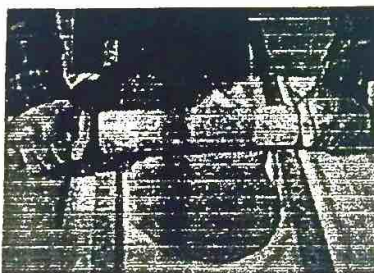
**Pinch Pot:** clay bowls are formed by pressing clay between the fingers and thumb while rotating the clay in the opposite hand. This is the earliest method of creating functional pottery. Textures and other relief decorations may be added to the walls. Walls may be stretched beyond a usual bowl form to create free form works of art. Extra tools are rarely used. Most pinch pots are relatively small in size.



**Coil Building:** ropes of clay that are layered one on top of another and joined to create large, often rounded forms. The works may be functional or non-functional. Coils may be left exposed as part of the design or scraped, paddled and smoothed to eliminate lumps before the form completely dries and hardens.



**Slab Building:** Sheets of clay are used to create forms that have flat sides, both functional and non-functional. Tiles can be created from small, flat slabs. Leather hard slabs of clay can be scored, slipped, and then joined together to make boxes, cylinders, and gracefully curved forms. Large slabs can be draped over molds to make large pieces in a short period of time. Only simple tools are used.



**Sculpture:** Clay may be added or subtracted from the surface of any clay form. This method is often used in combination with other building techniques to create relief of free-standing details, designs and decorations. Ceramic sculptures may be functional or non-functional and are usually hollow to reduce the form's weight and to prevent explosions during firing. Wire tools are most useful in sculpting.