

CERAMIC CLAY VOCABULARY LIST

1. Ceramics - Objects made of clay fired sufficiently high in temperature for a chemical change to take place in the clay body, usually over 1550 degrees F.

FOUR CERAMIC CONSTRUCTION TECHNIQUES:

2. Coiled Pottery - One of the oldest ways of forming pottery. Long strands of clay which are laid on top of each other and joined through blending coil to coil. Coil pieces can be almost any shape or size.

3. Pinch Pots - Starting with a ball of clay the potter opens a hole into the ball and forms a bowl shape through a combination of stroking and pinching the clay. Many coil-built pieces are constructed on top of a pinched bottom.

4. Slab Built - Clay slabs are cut to shape and joined together using scoring and wet clay called slip. Slabs can be draped over or into forms, rolled around cylinders or built up into geometric forms. Large forms are difficult because of stresses on the seams and because the slab naturally sags. Some potters get around this by working fibers into the clay body. The fibers burn out during the firing, leaving a network of tiny holes.

5. Wheel thrown - The term throw comes from Old English meaning spin. A piece of clay is placed on a potter's wheel head which spins. The clay is shaped by compression while it is in motion. Often the potter will use several thrown shapes together to form one piece (a teapot can be constructed from three or four thrown forms).

TYPES OF CLAY:

6. Earthenware - A low-fire clay. Porous and not waterproof. To be functional, it must be glazed.

7. Terra cotta - A brownish-orange earthenware clay body commonly used for ceramic sculpture.

8. Stoneware - A high-fire clay. Stoneware is waterproof even without glaze; the resulting ware is sturdier than earthenware.

9. Porcelain - True porcelain was being made in China and Korea around 960 AD. Porcelain is a combination of kaolin (a pure, white, primary clay), silica and feldspar. A unique aspect of porcelain is that it can be worked as clay, but when fired properly reaches a state similar to glass. Primary qualities of porcelain are translucency and whiteness. In the 17th Century, English potters invented Bone China to compete with the porcelain being imported into Europe.

COLORING AND DECORATING CLAY:

- 10. Underglazes** - Liquid clay slip that contains coloring oxides and chemicals used to apply color and designs to a ceramic piece.
- 11. Oxides** - Metal oxides can be mixed with water and applied to the surface of clay. By varying the amount of material applied and rubbed off, the potter can achieve effects similar to stained wood. The most common stain is iron oxide (rust).
- 12. Engobe** - A white or colored thin layer of clay used to decorate a bisque pot. It may or may not be glazed over.
- 13. Slip** - A fine, liquid form of clay applied to the surface of a vessel prior to firing. Slip fills in pores and gives uniform color.
- 14. Incised** - These decorations are surface designs cut into the clay. **Mishima** (inlaid clay)
-variation - contrasting colored slip is inlaid into incised lines. This can be done using wax resist - incising then applying slip. OR slip may be applied to incised lines and sanded off the raised body.
- 15. Sgraffito** - This comes from the Italian word meaning "scratched through" and is done by incising or cutting a design through a colored slip coating to reveal the clay body.

GLAZES:

- 16. Glaze** - A coating of material applied to ceramics before firing that forms a glass-like surface. Glazes can be colored, opaque, translucent or matte. (See Glaze Defects below)
- 17. Matte glaze** - Dull-surfaced glazes, lusterless and non shiny.
- 18. Crackle glaze** - Minute decorative cracks in the glaze that are often accentuated by rubbed-in coloring material.
- 19. Dry footing** - Glaze is removed from the bottom of a piece before firing, making stiling unnecessary.
- 20. Crazeing** - The fine network of small cracks that occurs on glazes. The Japanese encourage crazeing and will stain cracks with concentrated tea.

FIRING CLAY:

- 21. Firing** - Clay is hardened by heating it to a high temperature, fusing the clay particles. Primitive pottery is usually fired on the ground or in pits with whatever flammable material is available. Kilns allow a more efficient use of materials and more control over the atmosphere during a firing. The two basic atmospheres, oxidation and reduction, affect the color of the final piece.
- 22. Kiln** - The furnace in which ceramics are fired. Kilns can be electric, natural gas, wood, coal, fuel oil or propane. Materials used to heat the kiln can affect the work; wood ash can build up on the surfaces of a piece and form a glaze at high temperatures. Some potters introduce chemicals into the kiln to influence the effects of the firing. Famed ceramist Beatrice Wood achieved a lustre effect by throwing moth balls into the kiln.

23. Leather Hard - A damp condition of the clay when it is too firm to bend yet soft enough to be carved. **Plastic stage** - clay is easily manipulated and bent. **Bone dry stage** - No visible moisture - no dampness to touch - Clay is ready to be fired

24. Greenware - Unfired clay ready or nearly ready for firing.

25. Bisque - Clay that has been fired once, usually at a low temperature.

26. Vitrify - A glassy, non-porous state caused by heat or fusion.

27. Kiln Wash - A mixture of china clay and flint in water solution used to coat kiln shelves to protect them from dripping glaze.

28. Kiln Shelves - The shelves inside a kiln that ceramic greenware is stacked on in the kiln. The shelves must be coated with kiln wash to prevent glazed pottery from sticking to the shelf.

29. Shelf Supports - Thick posts used to hold shelves in a kiln.

30. Pyrometer - Instrument used to record the exact temperature of the kiln.

31. Pyrometric Cones - These are slender pyramids of ceramics material made in a graded series to melt and indicate when a firing is nearly completed or completed. In an automatic cutoff kiln, they trip a switch when they melt to cut the kiln off.

32. Stilt - A triangular support for clay pieces that helps prevent glaze from melting on to shelves during a firing.

33. Elements - Coils of high temperature resistance wire that convert electricity to heat.

34. Maturing Point - Time and temperature needed to completely fire a glaze or clay object to the "vitrified" state.

35. Oxidation - (Compare to Reduction) A firing atmosphere with ample oxygen. An electric kiln always gives an oxidizing fire. In a wood or gas firing, the mixture of fuel and air is perfectly adjusted to give a clean burn. Acoma whiteware is fired in oxidation.

36. Reduction - (Compare to Oxidation) A firing atmosphere with inadequate oxygen and large amounts of carbon (smoke or unburned fuel). What would have been copper oxide in an oxidation atmosphere will be pure copper in reduction. Reduction allowed the Chinese to develop the sangue de beouf red glazes and gives Raku its metallic finishes. In Indian pottery, Maria's black pieces are the result of heavy reduction; the same piece in oxidation would be a terra cotta color.

37. Raku - Pottery is fired normally but removed when it is red hot and the glaze is molten. It is then usually placed in a bed of combustible materials and covered, creating intense reduction resulting in irregular surfaces and colors.