

## **ART ROOM RULES and SAFETY**

### **DO NOT:**

- Run around or horseplay in the art room; other students may be working. Respect them and they will respect you.
- Talk while the teacher is talking, while another student is talking, or during movies, etc.
- Talk during any announcements.
- Touch anyone else or their artwork unless you have permission.
- Leave the room without the teacher's permission. Please inform teacher if you need a drink and ask to go to the restroom
- Touch any equipment not being used for your project without permission.
- Throw anything, squirt anything, paint anything, or cut anything that is not supposed to be. If there is any confusion as to what should be thrown, squirted, painted or cut please ask the teacher!

### **CERAMICS STUDIO SAFETY:**

- Clean up spills as soon as they occur.
- Working on canvas boards and newspaper make for easy clean up.
- Clean glaze jar rims before closing to eliminate build up.
- Brushes should be washed immediately after use.
- Keep dust under control.
- Ceramic products should not be ingested or inhaled.
- Eating and drinking should NOT be combined with working on ceramics.
- Cuts and open wounds should be protected from foreign materials.
- Always wash hands and arms thoroughly when through and before leaving the work area.
- Never use any utensils for ceramics that will later be used in the kitchen.
- Never touch the outside of a kiln without gloves when it's on. The surface may be extremely hot.
- Use a protective apron or smock which can be left in the work area to keep dust from leaving the studio. Regular laundering is suggested.
- If pregnant, inform the teacher privately to discuss safety issues regarding ceramics.
- Mix clay in separated area from the studio so as to reduce the area of dust.
- Wear masks in high dust areas.
- DO NOT touch the kiln or its equipment unless instructed by the teacher.
- Use food safe glazes on projects that will come in contact with food.
- Be careful of stilt marks on the bottom of glazed ceramic pieces. They can be sharp and should be smoothed as soon as possible with a grinding stone. Use safety glasses!

**NO PROJECTS** will contain subject matter relating to gangs, inappropriate slurs to a group of people, or drug & drug paraphernalia. In the case that one of these occurs, the student will receive an F for the project (0/100).

Everything used must be cleaned, picked up, and put away in the correct place before the bell rings to leave.

## GLOSSARY FOR CERAMICS

**BISQUE-** Refers to pottery that has been fired once and remains unglazed.

**BONE DRY-** The condition of clay when all the water has evaporated. The clay is completely dry.

**CASTING-** A means of making multiples of the same form by pouring slip or pressing plastic clay into plaster or bisque molds.

**CERAMICS-** From the Greek word “keramos” meaning “burnt earth.” All those endeavors in which minerals are transformed by red heat into another form of material. Examples- pottery, glass, cements, plasters

**CLAY-** A combination of fine grain mineral fragments. The result of decomposition of rock possessing the properties of plasticity, porosity, and vitrifiability.

**CLEAR GLAZE-** A transparent and glossy glaze that can be put over matte underglaze for shine.

**DAMP CLOSET-** An enclosed closet or cabinet to maintain high humidity. It is used to store moist wares and keep them from drying.

**DIPPING-** A glazing technique in which the bisque piece is immersed in a glaze bath. It may also be used for dipping into engobe or wax.

**EARTHENWARE-** A category of pottery ware fired below cone 4(low fire). It is relatively soft and porous and requires glaze to make it waterproof. The fired clay may be any color and is opaque.

**FIRING-** The process of heating clay work in a kiln to at least a glowing or white heat. Firing permanently transforms the clay to a rock-like state and melts glazes.

**FLOOTING-** Scoring (scratching) leather-hard surfaces, applying slip, and joining leather-hard pieces.

**GLAZE-** A silicate (glassy-like) mixture with water that is applied to clay surfaces and melts into a glassy coating when fired.

**GLOSS GLAZE-** Glaze that results in a shiny surface.

**GREENWARE-** A ceramic piece that has been completed and dry but not yet fired. (Bone Dry)

**GROG-** Bisque clay that has been ground into a sandy sediment. It is available in different grain sizes and is used as a filler and textural agent. It also aids in preventing clay slabs from warping.

**KILN-** An oven or furnace in which clay wares and glazes are fired.

**KILN WASH-** A mixture painted on the top surfaces of kiln shelves to protect them against glaze drips and runs. Projects with runs are easily pulled up from the surface.

**LEATHER-HARD-** The condition of unfired clay about midway in moisture content between plastic and bone dry. The clay has lost its plasticity but looks moist.

**MATTE GLAZE-** A glaze with a dull, low reflective surface. It is velvety, silky, or buttery and is also at least somewhat opaque.

**MATURATION-** The ideal condition of fired clay, when it has been fired as high as possible, stopping short of

sagging or slumping of the form from excessive melting. The clay is as hard as it can be and still hold its form.

**OVERGLAZE-** A glaze applied on top of another glaze. Often times, it is a clear/glossy glaze applied over a matte glaze to make it glossy.

**PLASTICITY-** A workable property of clay that enables it to take and hold any impression.

**PORCELAIN-** A pottery ware that when fired is pure white. It was developed by the Chinese over 1000 years ago.

**PYROMETRIC CONE-** The temperature gauge used when firing a kiln. Once the kiln reaches a certain temperature, the cone melts and triggers the kiln to turn off.

**RAKU-** A special method to glaze and fire pottery in a short time and at low temperature. It involves smothering hot-fired glaze pieces in organic matter (leaves, manure, straw). Glazes have a metallic appearance and in areas of no glaze, the bisque is a matte black from the smoldering organic matter. It is a centuries old Japanese procedure for making wares for the tea-drinking ceremony.

**SGRAFFITO-** A decorative technique. An glaze coating on the surface of a pot is incised or scratched through to uncover the color of the clay beneath. The color of the line drawing contrasts with that of the glaze.

**SLIP-** Clay made fluid with water; used for slip casting in molds and for decoration. It is also used like mortar for floating two pieces of leather-hard clay together.

**STAIN-** It is color applied or burnished onto a bisque surface and is not fired.

**STONEWARE-** A category of clay wares which reaches maturity at higher temperatures (above cone 4).

**TEMPLATE-** A pattern used as a guide for shaping clay. Made out of cardboard, poster board, or wood.

**TEXTURED GLAZE-** It has multicolored flecks and /or rough surface texture.  
For example: cracks, flakes, pebbles

**UNDER GLAZE-** A manufactured pottery pigment for application on greenware or bisque prior to gloss glaze application. It is often times a matte finish.

**VITRIFICATION-** A mature stage of stoneware clay after high firing. The clay is water - proof without glaze.

**WAX RESIST-** Wax is applied in a design to either plain bisqueware or bisqueware with 1 to 2 coats of glaze. Additional glaze in another color is applied over the piece. The waxed area will resist the newly applied glaze and after firing, the design will show in contrasting colors. Wax can also be applied to bottoms of pottery when applying glaze with the dipping technique

**WEDGING-** A method used to prepare clay. It is a technique closely related to kneading bread. Wedging is done to achieve a number of things. 1. All clay particles and platelets are mixed and organized into uniformity (homogeneous). 2. Air bubbles are removed. 3. Moist clay can be dried to workable state. The two techniques are called RAM'S HEAD and SPIRAL.

# STAGES OF CLAY & CLAY PREPARATION

## STAGES OF CLAY

1. Slip--watered down clay in a muddy form
2. Plastic--workable stage; molding stage; can recycle; can join to other pieces
3. Leather-hard--stiff and will hold its shape; join to other pieces; carve into; recycle
4. Greenware--bone dry; can be carved into; very fragile; can recycle
5. Bisqueware--fired once in kiln; can not be recycled; can now be glazed
6. Glazeware--Earthenware and Stoneware--second fire; can not be recycled; low-fire earthenware needs glaze to be vitrified (water proof) and high-fire stoneware does not.

## CLAY PREPARATION

### Clay Aging and Plasticity

Aging of clay is a very important step in improving workability and plasticity of clay bodies because it takes time for water to penetrate between the clay particles and produce a good and permanent bond. Bacterial growth also has a definite effect on improving plasticity of the clay. It is suggested that some old clay should be left in the container where new clay is added to accelerate bacterial growth in the clay. Bacterial gels (mold) will be noticed sometimes in a marbled pattern on clay. Such clay has a very good feel to it when wedging, which should be done to achieve maximum plasticity and uniformity.

### Wedging

Wedging is used for eliminating lumps and air bubbles, drying the clay, and it organizes the clay particles to lay in the same direction for strength. Wedging homogenizes or makes the clay consistent. To see if a ball of wedged clay is free of lumps or air bubbles and is homogenized, cut through it with a wire tool and look at the two halves.

### Preparing to Wedge

Wedging should be done on as low a surface as is comfortable. You may need to add GROG to the clay while wedging. Grog helps strengthen the clay when sculpting. Your body should be higher than the table for good body leverage, so that you can use your body as well as your wrists and arms. Your body should be involved in the rolling action or you will get tired. The wedging surface should be firm and well anchored to make wedging easier.

### Two Methods of Wedging

1. RAM'S HEAD
  - Pushing the clay down and out releases trapped air, eliminates lumps, and makes the clay homogeneous. The clay resembles a ram's head after each motion.
2. SPIRAL
  - Using a slight twist of the hands opens up all parts of the clay ball, allowing any air bubbles to escape. Spiral wedging also lines up the clay particles.

# Basic Clay Working Tools



**Metal Rib**

Potter's ribs are used for shaping and smoothing clay surfaces.



**Wooden Rib**



**Wood Modeling Tool**

The wood modeling tool is used for carving and smoothing.



**Needle Tool**

The needle tool is used for trimming, carving, and decorating.



**Fettling Knife**

The fettling knife is used to cut and trim clay.



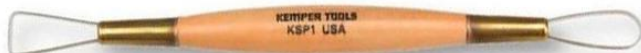
**Sponge**

The sponge is used for soaking up unwanted water, smoothing, and providing texture.



**Wire Tool**

The wire tool is used for cutting clay.



**Loop Tools**

Loop tools are used for trimming, carving, decorating, and shaving uneven surfaces.

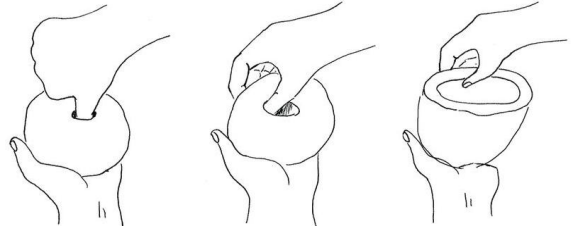


**Clean-Up Hook Tool**

The edge of the tool can be used to clean, carve, or remove clay.

## METHODS OF CONSTRUCTION

1. **Pinch** - Pinch pots are one of the earliest methods of construction. They start from a ball of clay and with the thumb and fingers form a vessel through pinching with even pressure.



2. **Slab** - Slab pieces are rolled out to about 1/4 inch thick, cut to desired shape and either bent or allowed to stiffen to a leather-hard stage. Two pieces can be scored where they will meet, apply slip, press together working out air bubbles, and then smear to ensure strength. Sometimes a coil is inserted into the joint for additional strength.



3. **Coil** - After a slab is rolled out and cut to desired shape for the base of the vessel, coils or snakes are rolled out and attached one layer at a time. It is recommended to score, slip, and smear the weight-bearing coils or coils between classes. Most importantly, the smearing should be done with each coil.



4. **Thrown (Wheel)** - Clay thrown on the potter's wheel is done by a series of pulls. The clay is placed between the index fingers of both hands and with even pressure pulled upward. The elbows are held close to the body and the thumbs are touching for stability. To give the vessel shape, the hands are brought out or in with the pull.



5. **Mold** - The molding technique is done with the use of another object and slabs of clay are laid over, inside of, or around the object. These are called slump or hump molds

