

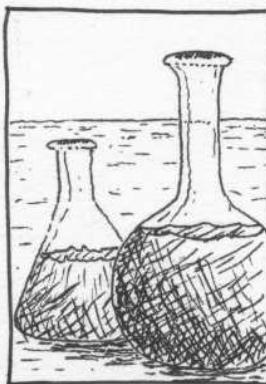
WHAT IS CLAY?



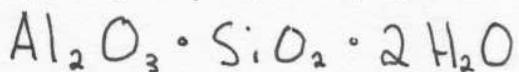
Clay is a product from the earth that when heated becomes hard..



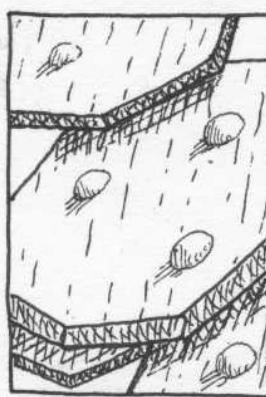
Geologically, clay comes from decomposed rock. It is typically carried by water and settles together in a particular area where it is mined.



Chemically, clay is a combination of Alumina, Silica, and water:



along with other minerals.

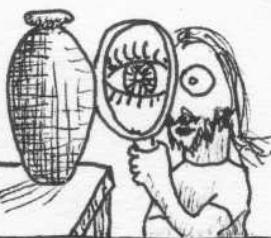


Physically, clay's crystal structure is that of tiny sheets with water between them. The sheets are held together by suction but can slide past each other like a deck of wet playing cards.

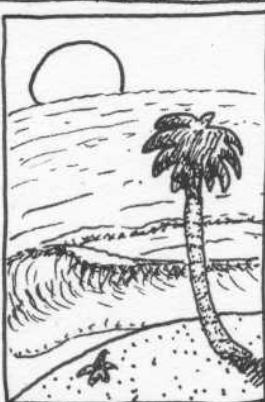


Heat causes the clay to harden. At 600°C the water is driven off and leaves a bonded alumina silicate structure. Further heat, 800°C, causes melting of the free silica and other materials into a vitrified, or glass like, substance.

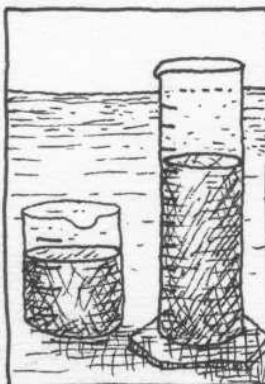
WHAT IS GLAZE?



A glaze is a glassy surface covering. It makes the pot waterproof and adds decoration.



Geologically, the major components of a glaze come from the same place as clay. However, some of the lesser materials may be mined from a variety of sources.



Chemically, you'll find 3 major compounds in a glaze: Silica, Alumina, and a Flux. These occur in various proportions along with other substances that give color.

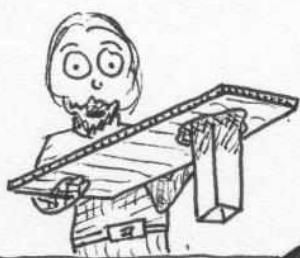


Heat causes the glaze ingredients to melt and form a glass. The Silica melts to a glass. The Flux allows the silica to melt at a lower temperature. The Alumina keeps the molten glass from flowing off the pot.



The look of the glaze, its color and opacity, depend on the proportion of the 3 main ingredients, the additional colorants, and the firing of the kiln.

GLAZES



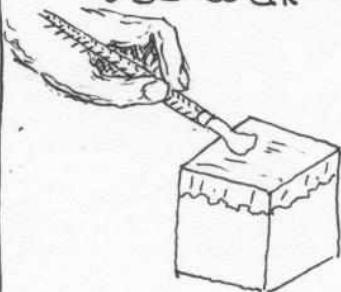
Glazes may be applied many ways - as long as the glaze will not melt onto the kiln shelf.



Toxic chemicals

Do Not eat or drink here

Use wax



To keep glaze $\frac{1}{4}$ " from the bottom of piece

Glaze settles



So stir with a stick

Pour the inside

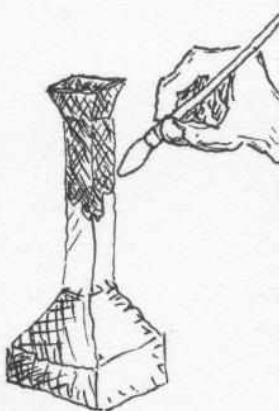


and quickly pour out

Now try...



Dipping.



Brushing



Spraying



Sponging

CLEAN THE



FOOT

AESTHETICS

Match the glaze to the surfaces of the clay piece.

Try different combinations - and record them in your notebook!

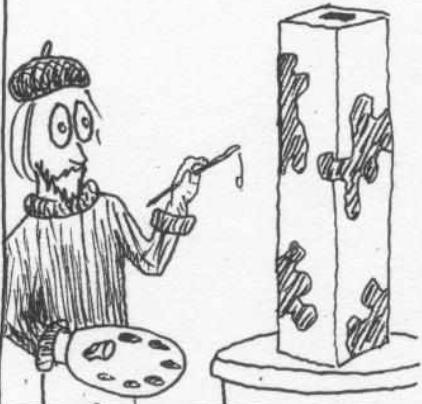
Keep looking at pieces coming out of the kiln for ideas.



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phth!



WHAT IS A FIRING?

Firing is the process of adding heat to the ceramic material



There are a variety of ways to heat clay. They include a simple campfire, wood kilns, gas kilns, electric kilns and experimental solar kilns.



The atmosphere of the kiln helps dictate the color of the clay and glaze. An abundance of oxygen, oxidation, creates clear, bright colors. A lack of oxygen, reduction, gives warm browns and reds.



Generally, there are two firings. The first, bisque, drives the water from the clay so it may easily be glazed. The second, glaze firing, heats the clay to its particular vitrification temperature.



Cones, "Δ", are a common method of measuring the temperature inside the kiln. They are made of ceramic materials which melt at known temperatures.

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CONE	°C	°F	COLOR	WHAT IS GOING ON?
Δ016	792°	1458°	Dull Red	Organic matter burns off.
Δ06	999°	1830°	Orange	Bisque, Lowfire, Terracotta
Δ3	1168°	2107°	Yellow	Commercial Toilets and Sinks
Δ10	1305°	2381°	Bright Yellow	Highfire, Dinnerware

PINCH VESSEL

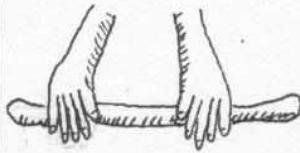


With the pinch vessel we will explore the immediate possibilities of clay.

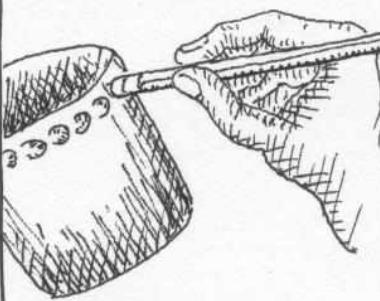
CLAY CAN BE...



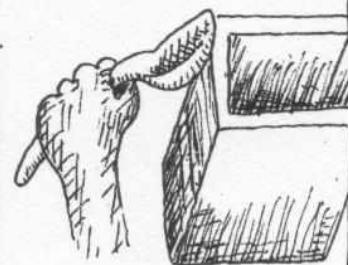
SQUISHED



ROLLED



STAMPED



SMOOTHED

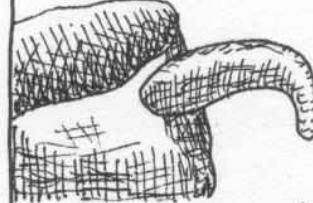
To join two pieces:



Score both surfaces



Add lots of water



Press together

Project: We will be making small reliquaries. Reliquaries are containers for sacred or special objects. Sketch out five ideas in your note book. Our reliquaries will be fired in the Raku kiln. Please make two reliquaries each no larger than 4" x 4" x 4".

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AESTHETICS



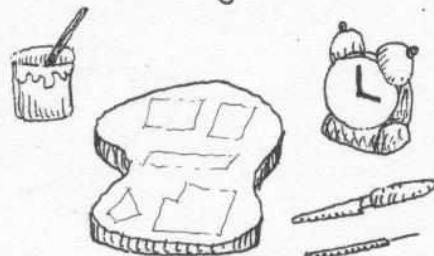
Pinch techniques are an expressive way to handle clay. They can be used crudely or with refinement. One can see the marks of the maker. The artist's emotions may be easily conveyed.

Reliquaries often attempt to show the importance and meaning of their contents.

HARD SLAB

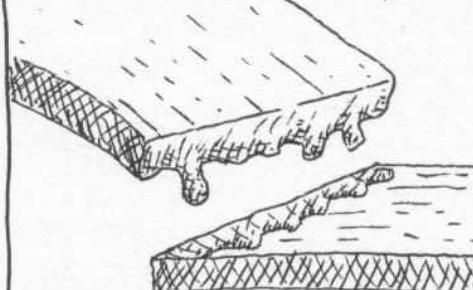
Hard slabs give one the opportunity to make forms with sharp corners and flat sides.

Create enough slab



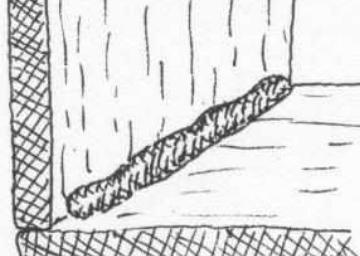
and let dry until leather hard

Score and Slip



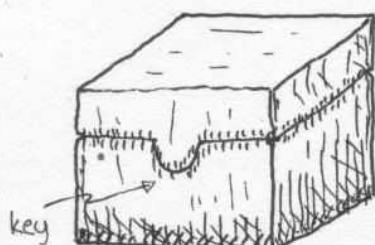
to join parts

Place an extra



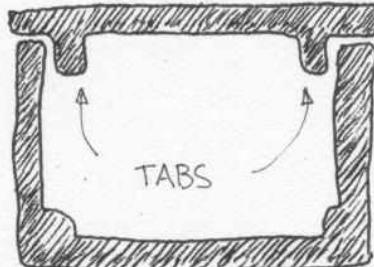
bead of clay on the joint

LIDI



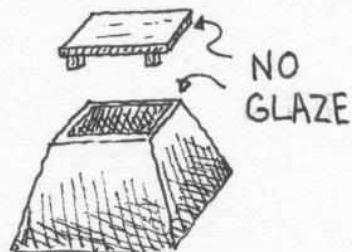
Closed form & cut

LID II



Cut away view

GLAZE ALERT!



Don't glaze shut.

Project: Construct two lidded containers using hard slabs. One must have three corners that are not right angles, 90°. Sketch four designs in notebook.

AESTHETICS



Hard slabs enable one to make geometric shapes.

They also present large flat surfaces for decoration.

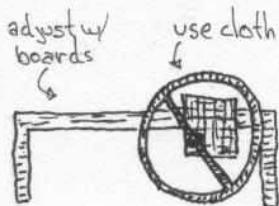
Because they can be self supporting, complex forms can be created.

SOFT SLAB

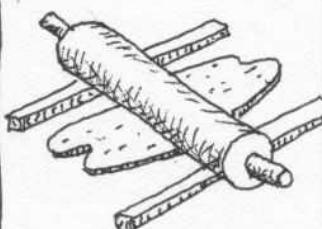


Soft slabs will allow us to carefully design and construct utilitarian objects.

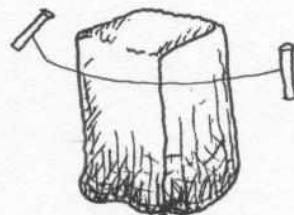
TO CREATE A SLAB....



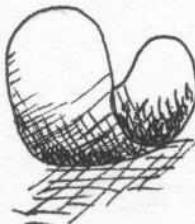
With a roller



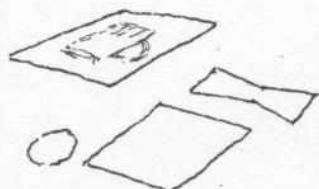
Rolling pin & slats



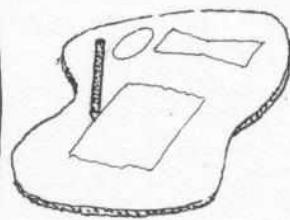
Cut from block



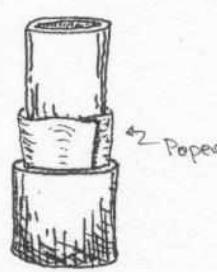
Or stretch by flip



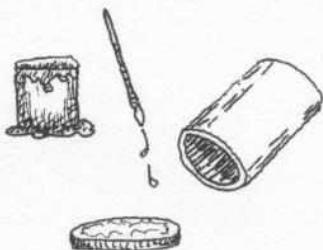
Design cut out pattern



Cut clay with knife



Construct with form



Use slip to join

Project: Design and construct a set of four mugs.

Please consider these as items for household use. They must be pleasing in design, well crafted, and comfortable to use. They are also considered a set. Sketch out five different styles in your note book and choose one to work from.

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AESTHETICS



Soft slab techniques enable the artist to create smooth curves, bends, folds, and edges. With slip, finely executed joints and attachments may be accomplished. Careful planning for minimum of handling will produce a clean form.

MULTIMEDIA



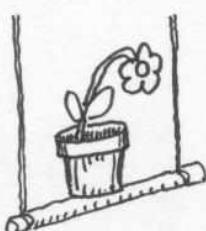
While clay is a versatile material, other non-ceramic items may work better and may make for exciting juxtapositions.

Non-ceramic elements	Carefully plan	Take into account	Leave plenty of time
 are included after firing	 how it is to attach	 shrinkage	 to put together

Project: Create a ceramic object that incorporates at least one major non-ceramic element in it. No glue is to be used to attach them together.

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AESTHETICS



Non-ceramic elements ought to relate in an interesting manner to the clay. Consider color, texture, shape, and size.



The method of attachment is important, for one's attention is immediately drawn to it. Objects can be bought, found, or specifically made for the piece.