

Intro to Ceramics

CLAY POTS HAVE A LONG STORY

- making things from burnt clay has been part of the human experience for many thousands of years
- earliest known clay vessel was made about 18,000 years ago
- ancient clay pots were used to store food, as art and for special ceremonies and rituals



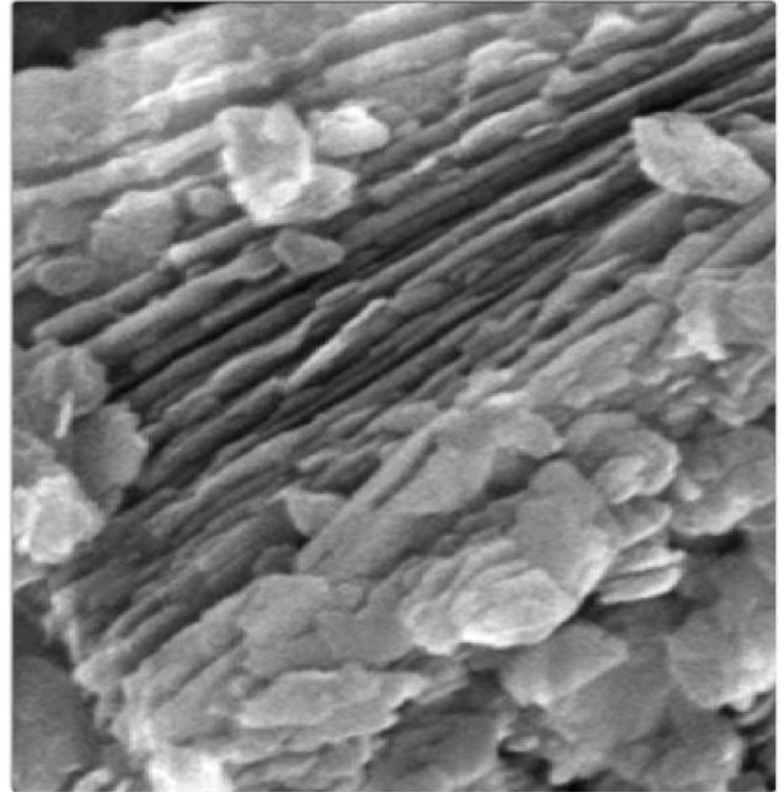
WHAT IS CLAY?

- **clay = aluminum silicates that incorporate earth metals**
- found in soil all over the world
- found where it had been formed or can be carried by rivers and deposited somewhere else
- water transported clay = finer clay particles



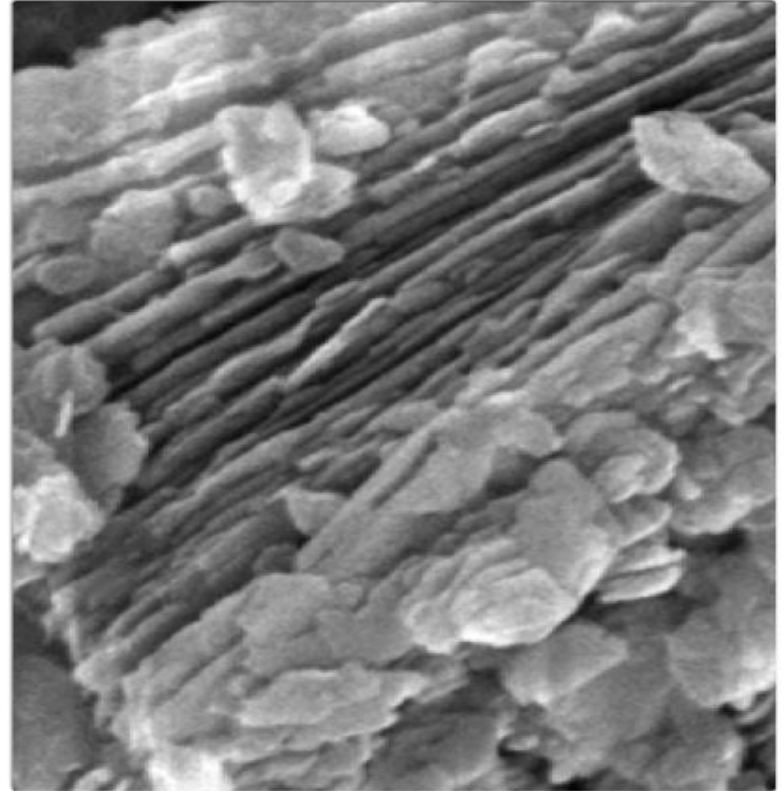
WHAT IS CLAY?

- the important mineral is kaolinite
- contains 1:1 ratio of silicon to aluminum oxides
- **kaolinite = mineral crystal structure with tiny flaky particles stacked in layers separated by thin layers of water particles**



WHAT IS CLAY?

- structure allows clay particles to slide past each other when pressure is applied
- also keeps them in place when force is removed
- as clay dries water molecules escape from between the particle layers
- kaolinite forms a stronger structure as it dries
- clay shrinks 5% while drying



STAGES OF CLAY

- wet ware = still wet and workable
- leather hard = partially dry, can still be workable with water, stiff, more fragile
- greenware = completely (bone) dry, fragile, ready for first firing
- bisque wear = has been fired to ~1800 degrees, hard, pinkish white color, breakable, ready for glaze
- glaze wear = has been fired a second time after glaze applied, fragile, vitrified (no water)



Sponge



Metal
Rib/Scraper



Wood
Modeling
Tool



Loop Tool



Wire Cutter



Wooden Rib



Ribbon Tool

Needle
Tool

Hand-building Technique- PINCH

- Using your fingers to pinch and shape the clay.



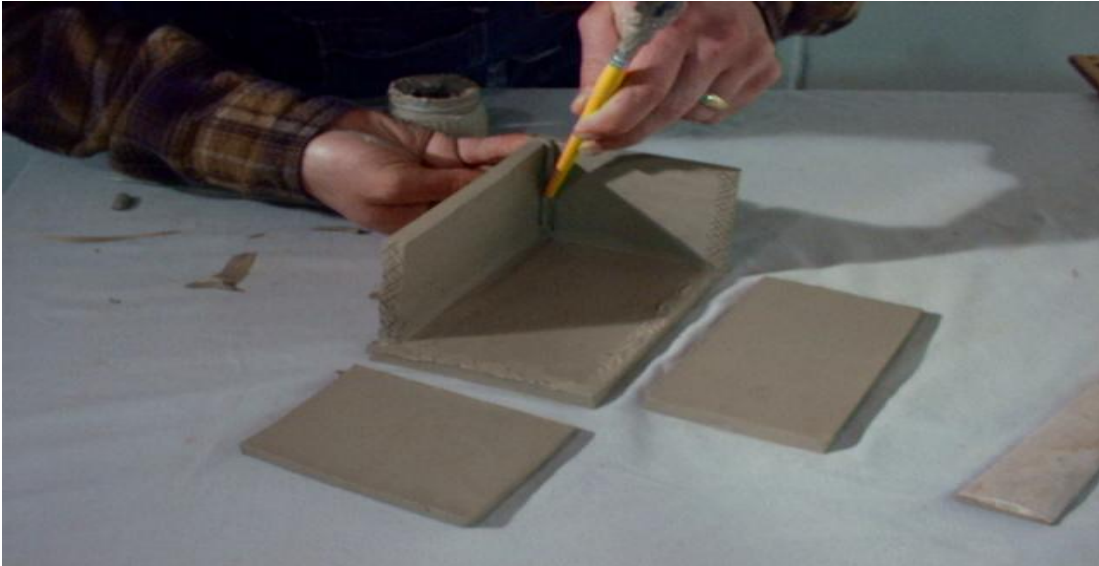
Hand Building Technique- COIL

- Rolled out, snake like, pieces of clay that are added to each other to create a larger clay form.



Hand building Technique- SLAB

- Using flat sheets of clay to build with clay. Either thrown or rolled out.



Slip and Score



- Score- Using a tool to scratch and hatch over clay
- Slip- A liquid form of clay.
- Slip and Score- Using slip as a “clay cement” between two scored pieces of clay.

Glaze



- A glass like coating. Used to cover a clay form. They are made from various chemicals.

Kiln



- A kiln is a thermally insulated chamber, or oven, in which a controlled temperature regime is produced

Green Ware



- Clay that has not yet been fired

Bisque Ware

- A ceramic piece that has gone through a firing and has no moisture left.



Pottery



- Ceramic ware that serves a functional purpose