

Hand Construction with Stoneware or Earthenware



Unit 1

Project Requirements

Your exhibit will consist of one functional or decorative art piece that is at least 4" in width or height and no larger than 12" in width or height using one of the three techniques listed. **Display items must be bisque fired only – NOT GLAZED.**

- Pinch Pots
- Draped Shape (also known as "Hump Molds" – can be done with coil or slab)
- Sagged Shape (also known as "Slump Molds" – can be done with coil or slab)

Basic Information

Care of Clay

Clay can be stored in air-tight plastic bags or containers (or both) to remain workable. Stored clay can dry out, but it can be rehydrated and remixed to become workable again. This process is called reclaiming the clay. Unfired clay scraps can be recycled and remixed as well. Store clay in a cool area, but do not let it freeze, which would require additional wedging or kneading of the clay to make it ready to work with.

Clay Drying Process or the Moisture Stages of Clay

Clay should be handled differently during varying stages from wet to bone dry. Clay should also be dried slowly to avoid cracking. Store your piece on a wood or plastic bat/tray and keep it covered with plastic bags or an air tight container while you work on your piece so that it does not dry out before you're finished working on it. You can spray the piece with a water bottle, cover it with plastic, and leave it for a day or two. It should retain enough moisture to continue working on it when you return to the studio. When the piece is finished, keep it lightly covered allowing some air to get to it, so that it dries out slowly. This will keep your piece from drying too quickly and possibly cracking.



Moisture Stages of Clay

Slip – a liquid clay used for “slipping” and scoring to join pieces or for decorating and acts like glue (note that mold can grow in slip clay over time)

Sticky wet – clay that is too wet to be used because it sticks to your hands or the table

Wet – this consistency is best for wedging, building, and forming your object with techniques such as pinching, coiling, rolling slabs, or throwing on a wheel

Suede – clay that has stiffened up, but is still workable for techniques such as stamping, impressing, carving, slipping and scoring

Soft leather-hard – clay that is still flexible, can still hold its shape, and is workable for techniques such as carving, slipping and scoring

Leather hard – clay that holds its shape, isn’t easily changed, and is workable for techniques such as slipping, scoring, and trimming

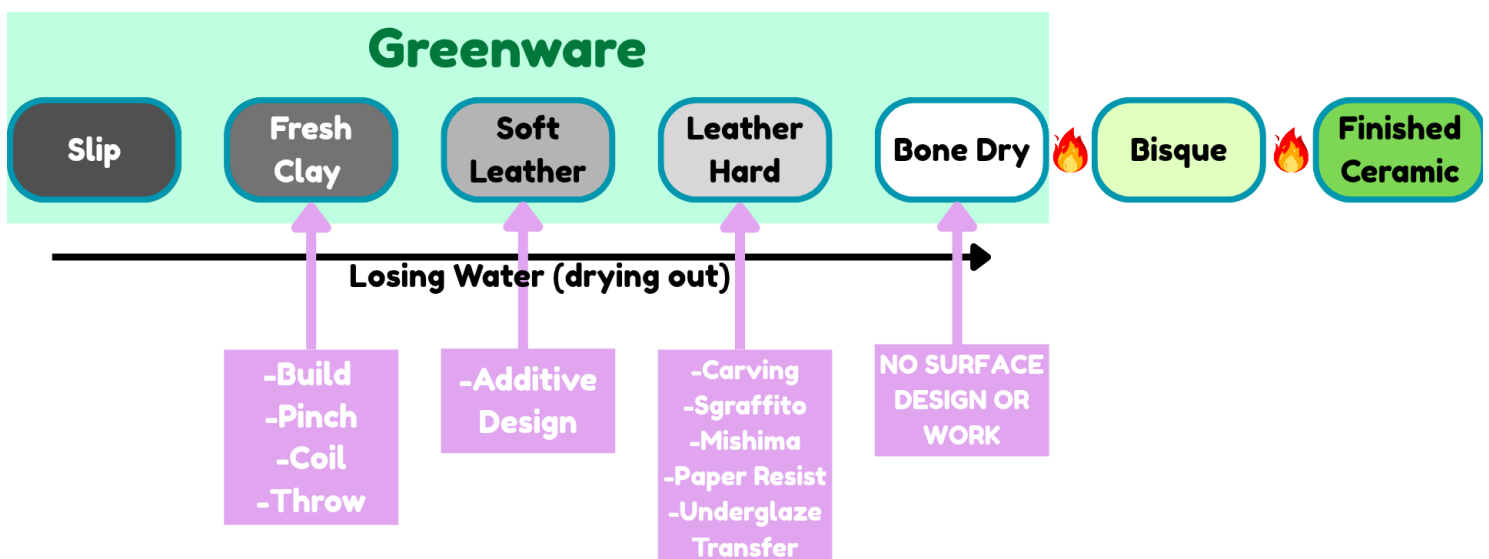
Hard or stiff leather-hard – clay that is in a more advanced stage of drying and can’t change its shape without breaking

Dry – clay that has started to change color and the surface can be decorated without the risk of changing its shape

Bone dry – brittle clay that has completely changed color, has no moisture, is no longer cool to the touch, and is ready for underglaze decoration or to be bisque fired

The illustration from Sarah Mundy below tells what you can do with clay at each stage of clay life.

CLAY LIFE STAGES: THE KEY



Stoneware Considerations

If you are working with stoneware, keep these things in mind:

- Stoneware is more or less vitreous depending on the temperature to which it is fired.
- Hobbyists can rarely fire stoneware to a point where it is completely vitreous; as a result food and drink containers must be glazed inside.
- Most stoneware clays are buff or gray in color when fired. These colors lend well to bold designs and intense colors rather than pastel tones.
- Stoneware is more chip resistant than earthenware when fired to a proper maturing cone.

Preparing the Clay for Work

Most premixed clay is packaged in 25 to 50 pound moist blocks. Before hand building or throwing on the wheel the clay must be wedged (kneaded) to condition and to drive out the trapped air bubbles. To knead (wedge) the clay, use your wire cutter to cut off an amount of clay you feel comfortable with (1-2 lbs for beginners is ideal) and form a ball. Flatten the ball of clay to a degree. Grasp the edge with both hands and fold it into the center of the ball with a downward push. Give the ball a quarter turn and repeat. Repeat the grasp, fold, push and quarter turn routine until the clay is ready to use. Do not be surprised if you must spend 15 minutes or longer on this process. You can never over knead the clay. **Air bubbles can create problems, causing the piece to explode in the firing kiln.**

Some potters will season the clay after the initial preparation. In the seasoning process, you will want to store workable sizes of clay balls inside an airtight container for a day or two. The result is a clay body that is highly workable.

Keep accurate notes as you proceed.

Skill Options

In this unit, you will learn three types of techniques for hand-building in ceramics; pinch pots, draped shape and sagged shape.

Pinch Pot Techniques

A simple pinch pot is recommended for beginning Juniors. No molds are required for pinch pots as your fingers create the shape.



Unit 1 – Create with Pinch Pots Project 1

Tools and materials needed:

- Clay
- Cloth
- A small container of water
- Modeling tool
- A small sponge

Steps

1. First sketch out your design.
 2. You should have a piece of prepared clay that will fit easily into the palm of your hand (about the size of a small tennis ball).
 3. Shape the clay into a round ball.
 4. Hold the ball of clay in the palm of one hand and gently push the thumb of the other hand into the center of the ball.
 5. Rotate the ball as the thumb and fingers form the pot with a gentle squeezing method. This process should go slow and gradually; **do not** form the pot too quickly or you will create cracks in the walls of the pot.
 6. Let the first two fingers press from the inside and your thumb press against the outside attempting to achieve uniform thickness of the walls of your pot.
 7. Always support the clay in one hand while working with the other hand.
 8. If the wall starts to crack as you work on it, moisten and mend the crack by smoothing it out with your fingers and a little water or a sponge. Be careful not to let your piece get too wet.
 9. When your pot is about 1/4 inch thick (bottom and sides), press the bottom of the piece gently against a level surface. This will create a flat bottom and prevent the piece from "rocking" when upright.
 10. The rim may be leveled by using a knife.
 11. A damp sponge can be used to smooth sides and rim.
 12. Carefully carve a design and/or apply texture to the sides of the piece if desired.
 13. It is good to consider scratching your initials and a date or year on the bottom of your piece.
 14. Let your piece dry thoroughly and fire the piece to the correct cone size.
 15. Sculpture with pinch pots is recommended for seniors and/or repeating members.
- Animals are great fun. Dinosaurs, pigs, elephants, rabbits, owls, turtles, to mention a few, can easily be shaped by joining two or more pieces, using the pinch pot method.
16. Use the crosshatch scoring and slip method on areas that will be joined.
 17. Make a slurry (slip) with a small amount of clay and water.
 18. Dampen both sides that will be joined with the slip and attach the pieces.

Unit 1 – Create with Pinch Pots Project 1

Steps Continued

19. Apply a thin coil on the seam of the two pieces you joined together smoothing it out over the seam with a pallet or knife tool to make the two joined pieces appear seamless.
20. Be sure to put an air hole, using a pin or needle tool, in pieces that may have air trapped inside.
21. Small pieces such as legs, tails and heads can be made out of solid coils.
22. You can attach them the same way with the score and slip method. Be creative!
23. Evaluate your piece using the judging sheet as a guideline.

Lining Molds for Drape and Slump Shapes

When creating drape or slump shaped ceramics pieces, you will need to find or create a form, such as a bowl, newspaper mold, styrofoam, cardboard or wood form, to drape your clay slab over for drape molds or to slump your clay slab into for slump shapes. To line your molds, you can use material such as plastic wrap, linen, thin fabric, or dampened layers of newspaper. Place them over or into the mold before you add the clay slab to keep the clay from sticking to the form.

Draped Shape

Recommended for beginning Juniors.



Unit 1 – Create with Draped Shape Project 2

Tools and materials needed:

- Two strips of wood approximately 3/8" thick and 12"-24" long
- A wooden rolling pin
- An approximately 18" square piece of canvas or burlap material
- An object which to drape the clay (slab) over (bowl, pan, etc.)
- One ball of properly prepared clay to accommodate the size of your project
- Small brush
- Small sponge
- Medium size piece of plastic
- Small container of water
- Small container for slurry
- A flat level surface to work on

Steps

1. Sketch out a design of what you plan to make with measurements and details included.
2. Place the ball of clay in the center of the canvas material. Start to flatten out the ball first by pressing the ball down with the palms of your hands, rotating and flipping it over then doing the same to the other side so your ball of clay begins to stretch out evenly.
3. Once the ball is about an inch thick, proceed by placing the strips of wood on each side of the clay, wide enough that the ends of the rolling pin sit on the wood strips.
4. Begin rolling the pin down the wooden strips over the clay with even pressure, flipping it and turning it as needed until you make a slab approximately 3/8" thick.
5. Drape your slab over your convex form that you prepared by covering it with plastic wrap, newspaper, or cloth and trim the excess clay off.
6. Then shape and smooth the edges and walls. You may continue to shape until you create the desired effect.
7. To make feet for your project, roll three or four balls of clay (depending on size of project) of equal size and shape. Flatten one side of each ball.
8. Score and slip the flat side of the balls and the bottom of your piece where the feet will be attached, and then gently press them together. Be sure the placement of the feet will be balanced on your project.
9. Place a wood or plastic bat/tray on the feet to assess if the piece will sit evenly on a flat surface.
10. Take a damp brush or sponge and smooth the attachment site.
11. Now you can add any other decorative details or carvings to your piece.
12. Cover lightly with a piece of plastic to slowly dry to a soft leather state. If the project is left too long, over the draped object, it will crack. The cracking is due to shrinkage of the clay.

Unit 1 – Create with Draped Shape Project 2

Steps Continued

13. Once your piece has reached a soft leather state, carefully remove from the form that your piece is draped over.
14. Consider signing and marking a date or year on the bottom of your piece.
15. When your piece has dried to the leather hard state, clean rough edges with a damp sponge or cloth making sure not to get the clay too wet.
16. Then dry completely and fire to proper cone size.
17. Evaluate your piece using the judging sheet as a guideline.

Unit 1 – Create with Sagged Shape Project 3

Tools and materials needed:

- Two strips of wood approximately 3/8" thick and 12"-24" long
- A wooden rolling pin
- An approximately 18" square piece of canvas or burlap material
- An object which to slump the clay (slab) in to (bowl, pan, etc.)
- One ball of properly prepared clay to accommodate the size of your project
- Assorted tools for smoothing and/or carving into clay (see list of tools in introduction to terms)
- Small brush
- Small sponge
- A plastic shopping bag or trash bag to cover your work
- Small container of water or spray bottle
- Small container for slurry
- A flat level surface to work on

Recommended for beginning Juniors.

Steps

1. This project is very similar to the draped shape project, except you are going to sag the clay slab into your concave article (bowl, free hanging sling, etc.) that is prepared with a plastic, newspaper or cloth lining.
2. After preparing the slab to the size you wish, sag it into the article you have chosen for this project. If feet are desired, follow the directions in the draped shaped skill, applying your feet only after your clay has reached a soft leather hard dryness and you can safely remove it from the form without it losing its shape.
3. Cover the project with plastic to dry slowly. When the piece is dry and clean, fire it to bisqueware.
4. Evaluate your piece using the judging sheet as a guideline.

Seniors and repeating members must show an extra degree of difficulty.

Unit 1 – Exhibit Piece

Basic Information

Now that you have explored the skill options for this unit, you will need to construct a piece using one of or a combination of the learned techniques in this unit and create an exhibit piece to enter for 4-H exhibit judging day and your county fair. Did you like making a pinch pot, sagged shape or draped shape the best? You may want to explore different ideas by experimenting with your clay. It is time to be creative and have fun using your imagination! Whichever technique(s) you want to use for your project piece, have fun and enjoy the process. Remember to apply what you have learned from the Principles and Elements of Design in Ceramics when designing your piece. Your 4-H leader can help you decide if you are not sure which technique(s) to use for your exhibit piece.

Bisque Firing

Once construction of your project(s) is complete, you must be sure the clay is dried completely so it is solid with no cracking. Remove any debris or imperfections before you load the kiln for bisque firing. Bisque firing is required for your display item(s). If you do not bisque fire your exhibit, it will be much more likely to be damaged or break during judging. For Units 1 and 2, you will only bisque fire your exhibit for judging. You will not need to add glazes or underglazes until later units.



Unit 1 – Exhibit Piece

Guidelines for Judging Your Project

Judges look very closely at the following characteristics of your exhibit piece.

Creativity and Originality

- Shows thoughtful design, not just technical assembly.
- Unique interpretation of traditional slab/coil methods.
- Cohesive artistic voice or theme.

Cleaning

- Smooth areas are intentionally smooth; textured areas are cleanly executed.
- No unintended tool marks, fingerprints, or smudging.

Construction Quality – This evaluates how well the piece is built.

Structural Integrity

- Walls are even in thickness and appropriate for the form.
- Seams (slab joints, coil joins) are fully blended and secure.
- No cracks, stress fractures, or weak points—especially at joins, handles, rims, and lips.
- The base is level and stable.

Technique Mastery

- Slabs are compressed and joined cleanly; edges are smoothed.
- Coils are consistent and properly blended inside and outside.
- Corners, angles, or curves (if part of the slab form) are crisp or intentionally shaped.
- Attachments are secure

Texture and Design – This evaluates the artistic and functional aspects. Proportion and Balance

- Form feels visually cohesive and properly weighted.
- The piece stands evenly and is not unintentionally lopsided.
- Coils or slab surfaces contribute to the design rather than distract.

Bisque Fired Only

- Appropriate for either functional or decorative use
- Is the piece strong and sturdy? Check for cracks or areas that might break easily.

Workmanship – This looks at the overall care put into the work.

- Attention to Detail
- Edges, rims, and joins are refined.
- Demonstrates skill appropriate for the artist's stated level.

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