

Molding / Creating

Inspiration and lesson plans for creating clay projects can be found on our Folsom Hills Elementary Ceramic Arts Facebook page <https://www.facebook.com/groups/FHECAP/> or on our Pinterest board <https://pin.it/z34334k5bkbmndf>. Lesson plans are a useful way to get started. If this is your first experience working with clay, the lesson plans describe step-by-step instructions on how to make the project and lists the materials needed for each project.

On the day of your project, plan to arrive at the PTA Closet about 20 minutes before the start time arranged with the teacher.

- Gather all supplies and load onto the transport cart. There is a generic lesson plan posted on the color tile board which can be used as your supply checklist.
- Bring a sample ceramic or pictures of the project to show students. Give students a short lesson on working with clay and the techniques they will be using and the project and tools they will be using. You may present your information and pictures on the LadyBug viewer (ask the teacher to turn it on for you), which is a document-viewer.
- Bring your own flat, stackable cardboard boxes [usually 3-4 boxes about L 24" x W 18" x H 4"] to transport completed projects. Label your boxes with the teacher's name and the date the project was created. Costco is a good place to find the boxes.
- *Take care when allowing students to use the cutting tools. They look like ice picks. They're kept in a plastic box and should be counted BEFORE and AFTER use by students.* For student safety, missing cutting tools must be located and returned.
- Bring small bowls for water to use when scratching and attaching clay pieces. Fill bowls with a small amount of water e.g. ½ inch, which is quite adequate for scratch & attach.
- Use the multi-slab clay cutter to cut the moist clay block into 25, 3/8 inch slabs. Center the clay cutter frame on top of clay block with wire-side down. Push the frame from the top to the bottom and through the clay block evenly and slowly. Turn over the clay block upside down, together with the frame and pull the wire/frame up and out of the block.
- Separate the slabs immediately (or they will begin to stick together again) and place each slab on clay mat. Afterwards, wipe any clay off mats off with a dry scrub pad.

Teaching Students

When explaining the project, be sure to emphasize the clay technique being used, for example: pinch and pull, coils, scratch and attach, slab method, etc. Explain the various steps of creating ceramic pieces: molding, drying, firing, glazing and finally firing again. Instruct children on how they can help cleaning up once they've completed their project.

- If the children are not at their desks during the explanation and demonstration, the other parent helpers can be distributing the mats, clay, tools and small bowls of water.
- If the children are at their desks, it would be best to wait until the demonstration is over before distributing the clay and tools in order to avoid distracting them.
- Place the cardboard boxes in one area of the room, for completed projects. Instruct students to put their projects in the box when they've finished.

- Distribute any sharp tools only when they are needed. Stress the importance of using these tools carefully. Generally, by 2nd or 3rd grade the students can use them safely.
- Consider making a demonstration project to leave in the CAP supply room and make a project for absent students. Creating one for the teacher is very popular and a great gift.

Basic Clay Techniques:

- Joining: Use the scratch and attach method by scoring (make x's) on both pieces where they will touch. With wet fingertip, wet both pieces to be joined. Wiggle pieces together to bond.
- Coils: Roll clay under palms entire length of hand from wrist to fingertips, pressing firmly
- Pinch pot: Make clay ball, punch thumb into middle and slowly press clay outward and upward with thumb inside the hole and 3 fingers outside the pot.
- If clay dries out, smooth cracked clay with a touch of water on fingertip or spray of water
- Clay piece should be no thicker than a pencil
- If making thicker items e.g. solid balls, poke a hole in the middle to allow steam to escape
- Project size should be limited to 8" x 8", except for 5th grade vase project

Rolling A Slab of Clay

When rolling a clay slab, you will need 2 wooden flat boards and 1 rolling pin per child. Place a board on either side of the clay, have child make a ball, flatten it with their palms, then use the roller to achieve a slab of clay 3/8" thick. Clay that is rolled out thinner than 1/4" has an increased chance of breaking when it dries. If you use the multi-slab clay cutter, often there is no need to use the boards and rolling pin. The multi-slab cutter produces 25 - 3/8-inch slabs.

- Try not to press down on the roller too hard, this will cause the clay to stick to the roller.
- Reposition the slats and roll the clay in different directions, from time to time, not just up and down. Continue rolling until the roller is firmly contacting the wooden slats and no longer leaving marks in the clay.
- After rolling out the clay, remove the slab of clay from the mat by flipping it upside down over an open hand. Then peel the mat away from the back of the clay. Attempting to pull the clay from the mat while it is still on the table usually results in stretched and torn clay.
- Air bubbles, if present, will appear as small bumps or blisters on the surface of the rolled-out clay. Pierce the bubbles with a toothpick and press out the air. Roll over the spot to even it.

Using Templates

Templates are easy and fun! You can create any shape you want out of thin cardboard such as cereal boxes or shoeboxes. Draw one, then use it as a template and create one for every 2-3 students (they're easily shared).

- When making a project when using a template, it is important to have the children test the fit of the template on the clay before they have completely rolled out the clay. If needed, reposition the wooden slats so that the clay can be rolled out in the direction it is needed.
 - If the clay has already been completely rolled out, and the template does not fit, DO NOT wad up the clay and start over. Just lay the template over the clay and use a cutting tool to cut away some of the excess clay from where it is not needed. Take the scraps and lay them on top of the slab with about an inch overlap from the edge where more clay is needed. Join these pieces together by scratching and attaching the two pieces, moisten then press into place.

- Reposition the slats and roll out clay in the direction of where the clay was needed. The action and pressure of the roller will cause the scraps to meld right into the slab. Repeat if necessary, until the slab has reached the proper dimensions.

Cutting Shapes

The easiest way to cut shapes from the slab of clay is with cutting tools (they look like ice picks), found in a plastic box. If the project calls for the use of a template:

- Place the template on the slab. Lightly roll it onto the clay with the rolling pin/dowel.
- Gently drag the cutting tool through the clay, keeping the tool against the edge of the template. To avoid damaging the vinyl mats, tilt the tool at a 45-degree angle, not straight up and down, so that it cuts through the clay easier. Do not press too hard.
- *In Kindergarten and First Grade, only the adults should use the sharp cutting tools. In Second Grade and above, the children can usually be trusted to use these tools safely, but only with guidance and close supervision. Count the tools before and after use.*

Joining and Attaching Pieces

Many projects involve attaching two or more pieces of clay together. If not done properly, the pieces will fall apart while drying or while being fired. We call this joining technique the 'Scratch and Attach' method. It's also known as the Score and Slip method.

- To join clay together, start by gently scoring or scratching the two pieces where they will be touching. This can be done with the cutting tool by making x's into the clay surfaces of both areas to be attached, A toothpick, fork, knife or metal serrated scraper can be used as well.
- Slightly moisten both surfaces to be attached, using a wet fingertip.
- Gently but firmly press the two pieces together with a back and forth wiggling, twisting motion. This will ensure a good bond between the two pieces.
- For joints that will have a lot of stress on them, a thin coil of clay can be laid along the joint and smoothed into place. Lines or joints in clay can be smoothed out by gently rubbing the clay repeatedly in the same direction with a moist sponge or fingertip.

Being Creative!

Using texture on clay gives your ware interest and can be accomplished with a wide variety of items. Texture often brings out different shades of color when glazed. You will find a variety of tools/items available in the PTA closes to provide impressions and texture to your creations.

- Impression rollers, stamps, plastic forks, knives, various clay tools, toothpicks, lace, fabric, pasta and various cookie cutter shapes.
- Leaves, pine needles and seeds are all quite fun. There is no need to remove small bits of pine needles, leaves or seeds from the clay as they will simply burn away when the projects are fired.
- Straws are good for punching holes in the clay in order to hang the project on a wall or to string an ornament or necklace. Holes should be at least 1/2 inch from the edge of the clay.
- Garlic presses can be used to make hair.

Helping Children

Judging how much to help a child with their project can often be a little difficult. First and foremost, these clay projects are art and as such there is no right or wrong way to do the projects. As long as students are learning clay techniques, enjoying being creative and staying

on task (one child should not be making a pot when the class project is a picture frame), you are achieving our goals. Your job is to support, guide and provide encouragement and inspiration. Sometimes a lot of help is required to keep the project.... or student from falling apart.

- Rolling out slabs of clay and joining pieces together are two of the most difficult things to accomplish and may need to be done entirely by the parent helpers in some cases.
- Let children know that clay can be repaired. Clay that has cracked or torn may be repaired by just moistening and smoothing. It may need to have more clay added using scratch and attach. For torn edges, moistening them with water and gently press them back together.
- Never allow any part of a project to be thicker than about 3/4 of an inch. Thicker clay takes longer to dry and if not completely dry, the water left in the clay turns to steam when it's fired, and the piece will explode in the kiln. This not only destroys the child's piece, but it often damages other pieces surrounding it in the kiln or the kiln itself.
- Identify each project by carving the child's first name and last initial on the bottom or lower edge of the project. It is best to do this first before the child starts working the clay. If space permits, put the month and year on the project as well. This is easily done with a sharp cutting tool or a toothpick. Press lightly so that the tool does not cut all of the way through the clay.

Absent Students

The Project Leader should check with the teacher to find out how many children are absent.

- If make-ups will not be done, then make sure that the parent helpers or a child who finished early make an extra project so that absent children will have a project to glaze. Remember to carve their name on the bottom.
- If you are doing a make-up session, it is best to schedule it as soon as possible so that their ware can be fired along with the rest of the class. If the teacher does not want the child pulled from the class, the make-up work can be done during lunch or recess. The Project Leader should determine ahead of time if he or she is planning to have make-ups.

Cleaning Up

It works well to give the children instructions on how they can help to clean up after they've completed their project.

- After the molding has been completed, have the children return unused clay to the block clay bag. Crusted clay should be put into the trash, now down the sink.
- Ask students to help bring mats, tools and other materials back to the clay cart.
- Instruct students to wash their hands after all clean-up has been completed.
- Volunteers should:
 - Clean all clay residues from desks with a wet sponge or paper towels.
 - Solid clay particles are to be discarded into a trash can, not down the sink.
 - Count the clay cutter tools (ice picks) and assure you have collected all of them.
 - Assure you have returned the slab clay cutter to the cart.
 - Use *dry plastic scrub pads* to clean clay off rollers, boards and mats. Discard or shake clay off mats into the trash not the sink.
 - Wash cutting tools, cookie cutters and any other clay soiled items
 - Brick left over clay in original bag and secure with a twist tie.

Transporting Projects to Kiln Shed

It is strongly recommended that you *carry your boxes to and from the kiln shed*. The transport carts shake and vibrate and could shake loose delicate clay parts or topple some of the projects.

In the kiln shed, place your stacked boxes on the shelves. Please label your boxes with your teacher's name and the date the project was created.

Preventing Explosions in the Kiln

Clay creations explode in the kiln from too much moisture in the greenware. At 212°F degrees water turns into steam. The pressure from the steam, with nowhere for it to escape, causes the piece to explode. Follow these recommendations to prevent explosions in the kiln:

- Air dry pieces for as long as possible. In general, if your project is normal size, which is 3/8th inch to 1/2 inch thick, allowing it to dry for two weeks in a dry climate should be fine.
- Below are other ways to know if your piece is dry.
 - Put the greenware up to your cheek. Is it colder than room temperature? It still has too much moisture in it. Let it dry for longer.
 - Place the greenware on a sheet of paper. Does the paper wrinkle? If so, there is still moisture trying to escape the piece. Let it dry for several more days.
- *Create a hole for steam to escape in hollow forms.* When you build hollow forms, you need a hole for steam to escape. Otherwise a hollow piece without a hole can become a grenade in the kiln. Make sure the hole is large enough, so that when the clay naturally shrinks from moisture loss, the hole still remains big enough for steam to escape.
- Thickness matters. For most projects, a thickness of 3/8 to 1/2 inch of clay is a good rule of thumb. It lowers the risk of having pockets of air and moisture deep within the piece.

Next Steps

- Let your creations dry for at least two weeks or longer, then fire your greenware in the kiln.
- The kiln is capable of firing projects of several classes at the same time. Because greenware can touch and be gently stacked, a lot of pieces can fit in the kiln. Please try to schedule your greenware fire date with another class.
- Firing with the kiln only partially full is not good for the kiln, not good for your clay creations as they may fire unevenly and it's a waste of electricity, so we appreciate your help in conserving resources.