

Casting the Symbols of Liberty

(art+history / art+social studies)

This lesson invites students to create a miniature mold and casting of that great symbol of freedom — the Liberty Bell in the same manner in which it was originally made. The materials and techniques used to create this entertaining project will enable the student to freely explore the practical history of our country. The faux finishing techniques mimics the beauty of traditional materials such as the original bronze that the Liberty Bell is constructed. The completed casts will be treasured by the student and parent alike for years to come.

Preparation

Collect pictures of the liberty bell to use as examples in class. Use your examples to begin a class discussion on the meaning and history of the Liberty Bell. View *Making of the Liberty Bell (30-minute documentary)* and *Mastering Mold Making and Casting Part 1* and *Part 2*, Dick Blick Catalog Numbers (71739-1004) and (71739-1005).

Process

The history of mold making and casting goes back to the Neolithic period (6000 – 1800 BC). The establishment of village settlements and the introduction of animal husbandry and agriculture created a need for equipment, tools, jewelry and religious artifacts. This lesson provides opportunities to experiment with and think about where our lives would be without the products created by molding and casting. Many of the material objects we enjoy today are the products of this historic art form – without it we would still be in the dark ages.

Molding and casting are responsible for our consumer electronics, automobiles, our skyscrapers (bricks, cement blocks and tiles are all cast). Even your tooth brush and tooth paste tube are molded and cast. To emphasize this, look around the room you are in and find those items that have been molded and cast. You'll be surprised at all the objects you will find.

Directions

Each student will get a piece of clay about 2-inches long, a plastic knife and five 8-Oz. cups. One is used for the molding powder, another is for the water while a third is used as the modeling container for the finished clay bell. The other two are to hold the CastRite plaster powder and water which will be mixed with the CastRite powder for the casting material. Also, each student will receive two craft sticks for mixing the MoldGel and the CastRite.

Once the materials are passed out draw the shape of the liberty bell on the black board using the photo in this lesson plan as a guide. Then have the students create a liberty bell shape with the clay. The clay model must be small enough to fit within the molding cup. The students can embellish and decorate the outside of their bell using the end of a paper clip to engrave their designs. They can even engrave the famous crack.

Once the models are completed they are then carefully placed and centered in the bottom of the empty molding cup. A little pressure is needed to stick the clay to the bottom so it will not float up when they pour in the mixed MoldGel. Caution—don't press too hard.

Help the students to measure out the molding powder into one cup. You'll need about 2-Oz. of powder. Measure out 6 Oz. of warm water into the second cup. Allow the student to pour the powder from the powder cup into the water cup and mix for about 30-seconds until fairly smooth. Make certain the bell is not against the side or distortion will result in the final casting.

Pour the mixed MoldGel into the cup all the way to the very top. Then tap the sides of the cup for one to two minutes to help drive trapped air to the surface. Failure to do so may cause imperfections in the mold.

The molding mix should gel in about three to four minutes. Leave the clay model in the cup for one minute or two minutes longer than after the surface has set to make certain the MoldGel as set internally.

To demold, turn the cup upside down and gently tap it until the mold is free of the cup. To extract the bell from the cup it is necessary to slice the mold material on each side of the bell as in Figure 4 using the plastic knife. Slice each side about two thirds down. Use a saw tooth cut as this allows the mold to return to a better alignment when it goes back together. Carefully spread open the mold and remove the clay bell.

Once the bell is free make certain there are no loose objects in the mold and return it to the molding cup. Flip the cup over and cut a hole in the bottom large enough so you can pour in the casting material.

To determine the amount of casting material required, fill the mold to the top with water. Then return the water to a fresh cup. That will be the amount of water needed. Carefully start adding CastRite to the water so that you reach a thickness of very heavy cream. If you accidentally add too much powder you must add a bit more water. If you make the plaster mix too thin it will set too weak. Remember—heavy cream.

Pour the CastRite mix into the mold. Again, it is necessary to tap the mould two-to three minutes to help remove the air bubbles. You will see the tiny bubbles rise to the surface as you do.

After two hours you may demold. Paint the entire casting with black matte paint and allow to dry. Then using 'Antique Gold' Rub 'n Buff, apply it to the tip of your brush and then brush on a paper towel to wipe off excess. Now being careful, just lightly brush across the bell so that the gold appears only on the high points. The bell will transform into a bronze casting 'look' in front of the students' eyes. ■



Grade Levels 5-12

Objectives

- Students will discover the history of mold making and casting and its place throughout history up to modern times.
- Students will explore the creation of a simple mold of a clay model that they will create of the Liberty Bell as well a simple faux finish technique to create the look of a hot metal foundry bronze casting as a surface decoration.

Materials

[MoldGel Alginate](#), (705 408362)
(3) 1-Lb. Boxes
[CastRite casting stone](#) (33581-1010)
(1) 10-lb box
[Molding clay](#) (33211-1006)
(3) 1-Lb. Packages
[Rub-N-Buff](#), Antique Gold (27102-4571)
2 Tubes, 1/2-Oz.
[Acrylic paint](#), Matte Black (00709-2006)
(1) 16-Oz.
[Craft Sticks](#), (60433-1002)
1 package
Paper cups, 8-oz. Purchase locally
6 per each student
Paper towels Purchase locally
Plastic knives Purchase locally

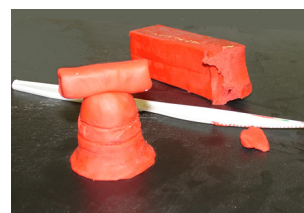
National Standards

Visual Arts Standard 1

Select media, techniques and processes; analyze what makes them effective or not effective in communicating ideas; and reflect upon the effectiveness of their choices.

Content Standard 4

Understanding the visual arts in relation to history and culture



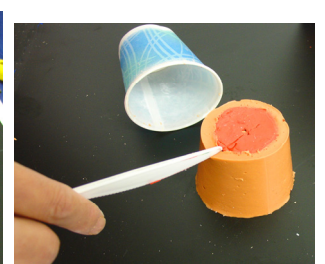
Step 1



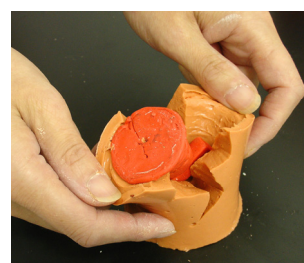
Step 2



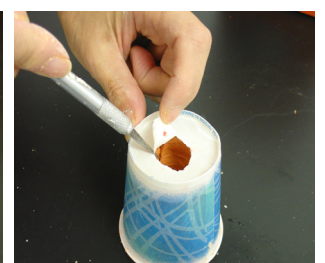
Step 3



Step 4



Step 5



Step 6



Step 7



Step 8



Step 9

Assessment

Display all artwork. Have students explain their experiences. Then summarize the lessons learned.