

LESSON PLAN

Technology and Production: Ancient Chinese Bronzes



Subjects: Visual Arts, Social Studies

Grade Level: Elementary School, Middle School/Junior High

Duration: Two 50-minute class sessions

Dynasty: Shang (1600–1050 BCE) and Zhou (1050–221 BCE)

Object Type: Metalwork, Vessel

Themes: Technology and Production; Traditions and Belief Systems; Daily Life and Folkways; Animals and Nature

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Related Objects

Lidded ritual ewer (*huo*) in the form of an elephant with masks and dragons

China, Middle Yangzi Valley

Shang dynasty, ca. 1200–1100 BCE

Bronze

6 3/4 x 4 3/16 x 8 7/16 in

Purchase—Charles Lang Freer Endowment. Freer Gallery of Art, F1936.6a-b

Square lidded ritual wine container (*fangyi*) with *taotie*, serpents, and birds

Early Western Zhou dynasty, ca. 1000–975 BCE

Bronze

13 7/8 x 9 3/4 x 9 3/16 in

Purchase—Charles Lang Freer Endowment. Freer Gallery of Art, F1930.54a-b

Objective

Students will learn that objects found in tombs can provide information about Chinese civilization, including beliefs about the afterlife, aspects of daily life, social hierarchies, and artistic processes. Students will be able to explain how Chinese bronze vessels were produced, and they will create a sketch of their own bronze design inspired by an ancient Chinese example.

Essential Questions

- What can objects placed in a tomb tell us about a person's daily life and social status?
- What beliefs about the afterlife were prominent in ancient China?
- What roles did different types of craftsmen play in the bronze casting and production process?

Background Information

Tomb Culture in China

Ancestor worship dates back to at least the second millennium BCE in China. Paying homage to one's deceased relatives was later supported by the principles of Confucianism, which stressed the importance of family ties and respect for elders. Roughly from the Zhou dynasty (ca. 1050–221 BCE) to the Qin dynasty (221–206 BCE), a person was thought to have two souls. One soul, the *po*, rose to heaven immediately after death while the other soul, the *hun*, remained with the body. The *hun* needed offerings of nourishment. Eventually, the *hun* soul migrated to the fabled Yellow Springs of the afterlife, but until that happened, the family didn't want to have trouble with the wandering hungry ghost of the ancestor. To further ensure this, families from the late Bronze Age would bury deceased persons with everything they might need while the *hun* lingered, including clothing, food, entertainment, and other items.

One of the most common categories of objects found in ancient Chinese tombs are bronze vessels. During the Shang (1600–1050 BCE) and Zhou (1050–221 BCE) dynasties, bronze vessels were often used for offering ritual wine and food to ancestors or deities. Ceremonial vessels were frequently buried with the members of the royal family and nobility so they could continue to use these objects in the afterlife.

The process of making bronze vessels was complex and laborious. The bronze workshops were staffed with numerous types of artisans. The various tasks required to make the vessels included the mining and smelting of ores, model and mold making, casting, and finishing, all of which indicate the marked division of labor in Chinese society.

Making bronze requires two things: copper and tin ores, sometimes mixed with lead; and intense heat for refining and casting. Chinese founders made their metal objects using clay for both models and removable section molds. (This differs from the Mediterranean and European practice of casting objects using wax-covered models.) After a desired vessel was fashioned from clay, it was covered with an additional layer of clay that, when dried, was carefully cut away in matching vertical sections (usually three or four) to create the casting molds. The original clay model was then shaved down for the interior core, and the mold sections were reassembled around it to make the outer walls. The space between the core and outer molds was then filled with molten bronze. In many cases, the joins between mold sections appear as raised ribs on the exterior of finished bronzes. After the bronze cooled, the clay molds were broken and removed, and the vessel was polished to take away flaws and any metal that had seeped into gaps between the mold sections. The surface of bronze vessels is typically decorated with various ornaments, including the *taotie* motif. This motif is believed to be a stylized animal mask whose meaning is not yet known. It consists of eyes, jaw, fang, snout, crest, horns, legs, and tail. It can be represented as a frontal mask (like on the square wine container *fangyi* from the Freer Gallery collection) or as two symmetrical profile images of fantastical animals.

Vocabulary

ancestor: someone from whom you are descended. In Western thought, it is usually more distant than a grandparent; however, in Chinese culture, deceased parents and grandparents are considered ancestors.

bronze: a mixture of copper, tin, and often lead that produces a strong metal.

casting: an object made by pouring molten metal or other material into a mold.

Confucianism: a system of ethical and philosophical teachings associated with the Chinese philosopher Confucius (551–479 BCE). He developed a system of thought that stressed the importance of good government, social order, and harmonious and moral living.

copper: a soft, malleable metal of a pinkish-orange color with high thermal and electrical conductivity.

mine: a pit in the earth from which minerals are extracted.

mold: an outer housing used to shape an object.

ore: a naturally occurring solid material from which a metal or valuable mineral can be profitably extracted.

smelting: a process of extracting metal or impurities from its ore by a process involving heating and melting.

taotie: a stylized monster face-mask design pattern commonly found on ancient Chinese bronzes with symmetrically arranged eyes, ears, horns, snout, and jaw.

tin: a silvery-white metal; the chemical element of atomic number 50.

Yellow Springs: one of the Chinese terms for the Underworld, the realm of the dead.

Materials list

- Sheets of green and brown construction paper
- Large sheets of construction paper in a contrasting color to serve as the background
- Black tempera paint with water added for a syrup-like consistency
- Small or medium sized brushes
- Metallic crayons (or Cray-Pas)
- Glue
- Scissors

Procedure

Part 1

Examine images of “Lidded ritual ewer” ([F1936.6a-b](#)) and “Square lidded ritual wine container” ([F1930.54a-b](#)).

Guide students through the **Discussion Questions** listed below.

Discussion Questions

Describe

- Look at the elephant-shaped vessel and wine container. What is similar and what is different about them?
- What kind of shape are the containers? Are they both symmetrical?
- How would you describe the colors and shapes of these bronze vessels? How would you describe their designs and textures?

Analyze

- Some of these bronze objects were made to be placed in tombs. Why do you think such elaborate objects were created for tombs?
- Why did the artisan choose to make these objects out of bronze rather than other materials such as wood, paper, or clay?

Interpret

- What do the patterns and designs on the bronze surfaces remind you of? What might they mean?

Part 2

Introduce the bronze production process

1. Review a video of the bronze casting process: <https://www.youtube.com/watch?v=RgMLzRWw1EE>
2. To impress upon your students the incredible labor organization needed to produce ancient Chinese bronzes, have students play the roles of the various craftsmen involved in the production process.
3. Line up nine students and have a simple prop ready for each one that represents their “job” during the bronze production process. Inform students that a whole town would have been filled with artisans busy making bronze, and that up to one hundred people could have performed each job.
 - a. **The Artist:** holding a pencil and paper to sketch the design.
 - b. **The Tin Miner:** holding a piece of tin foil.
 - c. **The Copper Miner:** holding a handful of copper pennies. Separate tin and copper miners since these two metals are not typically found in the same mountain.
 - d. **The Forest Manager:** holding a twig with leaves on it. Someone has to manage the forests to make sure there is plenty of firewood to be able to smelt the ore out of the rocks.
 - e. **The Mold Maker:** holding some clay.
 - f. **The Smelter:** holding a drawing/picture of fire.
 - g. **The Farmer:** holding a rubber chicken and raw rice. Craftsmen involved in the bronze production likely cannot tend their own farms. The collective farmer is responsible for making sure there is food for the workers.
 - h. **The Cook:** holding a plastic rice bowl. As with the collective farmer, there are cooks to make sure everyone is fed.
 - i. **The Boss:** holding a clipboard. This job bears the most responsibility, making sure that whatever order was placed is finished on time.

Part 3

Design and paint a bronze vessel

1. Tell students that they will each have the chance to design their own bronze vessel inspired by those from ancient China.
2. Have students either select a shape from the examples on this website <http://learninglab.si.edu/q/ll-c/d3VkmDCNR4Uu-5kA8>, or have them make up their own unique shape and sketch the outline. Students should think about the purpose of their vessel. What will it be used for? What shape is best suited for that purpose? Ancient Chinese craftsmen discovered that round bronze vessels stand best on three legs, while square vessels stand best on four. Students should think about both practical and aesthetic considerations when selecting the shape of their vessel.
3. Then, have each student take one piece of brown or green construction paper and fold it in half.
4. Have students paint one half of the *shape* they have chosen on the right side of the fold. The paint should be wet and thick like syrup. They should immediately fold over the paper to rub some paint on the left side, creating a mirror image. Have students retouch the left side to fill in where the rubbed off paint was.

5. Then, have students use more black paint and the same process to fill in a symmetrical *pattern* on each side.
6. Once dry, have students fill in blank unpainted areas with the metallic crayons or Cray-Pas.
7. Display all of the student work, and have students discuss what is similar and different in their “bronze” creations.

Extensions

Visual Arts

- Take the two-dimensional drawing of a bronze vessel design and turn it into a three-dimensional sculpture using a material of your choice.

Science

- Research different metals and rate them in the order of hardness.

Social Studies

- Research another ancient culture that discovered how to make bronze, and compare objects made by that culture to these Chinese bronze examples.

Resources

The Art and Archeology of Ancient China. A Teacher's Guide. Smithsonian Freer Gallery of Art and Arthur M. Sackler Gallery, 2003. Pp. 42–43, 52, 60. <https://asia.si.edu/wp-content/uploads/2020/05/Art-and-Archaeology-of-Ancient-China.pdf>

Ancient Chinese Bronzes (Freer and Sackler). <https://asia.si.edu/learn/ancient-chinese-bronzes/>

Bronze Casting Technique (Asian Art Museum). <https://www.youtube.com/watch?v=RgMLzRWw1EE>

How to create a bronze vessel (Princeton Art Museum).

<https://artmuseum.princeton.edu/asian-art/archived/creating-a-bronze-vessel/>

Smithsonian Digitization 3D, Lidded ritual ewer.

<https://3d.si.edu/object/3d/lidded-ritual-ewer-huo-form-elephant-masks-and-dragons:d8c63598-4ebc-11ea-b77f-2e728ce88125>

The Great Bronze Age of China (Metropolitan Museum). http://afe.easia.columbia.edu/special/china_4000bce_bronze.htm

View these objects online at: <https://asia.si.edu/object/F1936.6a-b/> and <https://asia.si.edu/object/F1930.54a-b/>

Learn more at <https://asia.si.edu/teachingchina>



