Ancient Greek Vase Painting

Experimenting with black- and red-figure

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Second edition in 2024 updated by Shelby Brown

This project is a hands-on introduction to ancient Greek vase painting that includes creating a clay tile decorated in half black-figure/half red-figure techniques. The main project requires a kiln. An alternate option is to use air-drying clay. Simple ways to introduce the differences between black- and red-figure images are also suggested and can replace or precede working with clay. The project is especially appropriate for teachers of ancient civilizations, visual arts, ceramics, classical languages, and mythology.

Overview

Students work with clay to create a fired ceramic tile using both black-figure and red-figure techniques and then thoughtfully compare the two. Especially noteworthy is the difference between painting and incising the details of figures. Students without access to a kiln can work with air-drying clay. Teacher-guided scratch art and drawings in two colors are also alternative (although less effective) ways to explain the process and illustrate the look of the narratives painted in black- and red-figure. With younger students, images can be kept simple and emphasis placed on the activity. Older students can be required to do more research and undertake a more elaborate image. Teachers can modify or replace strategies and assessment.

Grade levels

As described here, the project applies mostly to 8th through 12th grade students. It has been used successfully with younger students, graduate students, and adults.

Goals

This project exposes students in a hands-on way to Greek vase painting in two techniques that overlapped for about 30 years, from about 530-500 BCE. Rarely do students have an opportunity to paint or incise in a Greek technique on clay, and we hope this project will provide a deeper understanding of the art form. The goal is about approximating ancient techniques and developing an informed opinion rather than achieving artistic skill.

For the teacher, the primary goals of the project are to:

- teach the cultural context of ancient Greek, and especially Athenian (Attic) vase

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painting and show students a range of depictions of daily life and mythology.

- allow students to experience to some degree the artistic and technical process of creating Greek black- and red-figure vase painting.
- compare the artistic use of two dominant colors, with black indicating negative space in red-figure but positive space in black-figure.
- enable students to come to a genuine and informed opinion about Greek vase painting from the perspective of both a viewer and an artist.

Additional goals when establishing context for an in-depth project can be to:

- expose students to chronological changes in ancient art and to a consideration of styles as identified in art history (see *Ancient Greek Art: Archaic and Classical Styles*).
- invite conversation about Greek vases and their owners, makers, and functions.

For the student, the goals are to:

- recreate as accurately as is feasible the two techniques—without worrying about being a good artist.
- develop an opinion about the technique and appearance of black-figure and red-figure vase painting. (Red-figure eventually dominated.)

At the end of the project, students are asked whether they would have chosen to favor red-figure over black-figure. Of course, it is not that simple. Technical and practical considerations, contexts outside the world of vase painting, and unknown factors influenced a change in technique, not just artists' personal preferences. The prompt is, however, effective in allowing students to reflect on the artistic process, compare scenes in narrative art, and have an opinion based on experience.

Cultural/historical background

Greek painted vases are among the most famous of ancient art forms, and especially Athenian vessels of about 550--400 BCE painted with figurative scenes. The iron-rich clay used to make Athenian pottery also provided the refined, watered-down slip or gloss (not paint) with which pots were decorated. Multiple stages of firing, and sometimes multiple firings, produced the final glossy red and black colors. Potting and painting vases was a male profession, but some women are attested.

In the Archaic period (about 700-500 BCE), Greek artists painted dark figural decoration on pale clay. This style of dark-on-light evolved in the sixth century BCE, most famously in Athens, into black silhouette figures on reddish clay ("black-figure" decoration). Details were incised into the silhouettes down to the red below, and the predominantly black imagery stood out against the red background.

Around 530 BCE, in a reversal, artists began to paint the outlines and internal details of figures, making pale red the primary color ("red-figure" decoration) against a black background.

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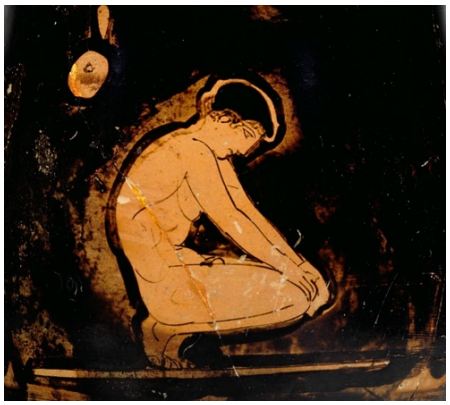
Attic Greek black-figure jug (amphora), about 570-560 BCE, attributed to Painter of Acropolis 606. Horseman on a galloping horse. Incisions through the black create the limbs of the youth and details of the horse, such as his shoulder. Added white color highlights the mane. J. Paul Getty Museum. Public domain.



Attic Greek red-figure jug (oinochoe), 430-420 BC, by the Eretria Painter. A young athlete squats on the balls of his feet near a hanging oil jar. A misfire shows the thick black outline the artist painted around his body before painting the background. J. Paul Getty Museum. Public domain.

The evolution from black- to red-figure was gradual and did not happen in a clear linear chronology. The two painting techniques overlapped chronologically for a brief time (roughly, 530-500 BCE) and even appeared together on opposite sides of some pots (the vessels painted in both styles are called “bilingual”). Black-figure painting survived longer into the fourth century BCE as a technique on certain vases, such as the Panathenaic amphorae given as athletic prizes.

Evidence for Greek vases and vase painting includes:

- the vases themselves, found in a variety of contexts.
- painted images of daily life and mythological behavior.
- images on vases depicting kilns, potters, and painters.
- scientific analyses of ancient vases and replicated slip and gloss.
- experimental archaeology: replication of potting, painting, and firing practices.
- descriptions in literature of dining and drinking behavior.
- texts describing vases, potters and painters, and kilns.

Writing on vases

Painters’ sometimes wrote on their pots and the inscriptions were positioned to engage the viewer, encircle and emphasize parts of figures, name the characters, and indicate speech. Many Greek potters and painters also signed their work. If a painter wanted to associate the words directly with a figure (to provide a name or “speech bubble”), he (usually he) wrote left-to-right starting near the head, if possible, but he could also write right-to-left in reverse.

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Below left, on one side of a two-handled jug, Odysseus kills a sleeping Thracian in an episode from the Trojan War. ODYSEVS is written left-to-right from the hero's waist down over his thigh. On the other side, Diomedes prepares to stab a Thracian. His name is written in mirror writing starting at the back of his head, right-to-left in reverse over his right shoulder and arm:

Chalcidian black-figure neck amphora, about 540 BCE, with added color. J. Paul Getty Museum**.** Public domain. https://www.getty.edu/art/collection/object/103WJ9

Time needed

- Preparing **clay tiles to be fired** requires time, a kiln, and support. Professional help is desirable to cut 6-inch-square tiles for firing**. It can save time to use smaller tiles and create only a black-figure image**.
- Teacher or students can slice, or cut and then roll out, tiles from a slab of **air-drying clay** to the right thickness. Depending on class size this can take **an hour** once the classroom has been prepared.
- Introducing vase painting and planning/designing templates to be applied to tiles can take up to **two hours**.
- Applying the image to the clay and painting and incising two different halves can also take up to **two hours**. Some students will finish quickly, and others will enjoy spending time on details. The teacher decides the depth of the introduction and any write-up.

Class size and helpers needed

The complete project becomes unwieldy with more than 20 students, even for a teacher familiar with the process. For first timers and teachers working with larger numbers of students, assistance from other adults or knowledgeable students is very helpful.

An ideal ratio is at least one helper for every ten students, and more help is better.

- If students work at their own pace, individual questions distract the attention of the teacher, but they also promote experimentation and enthusiasm.

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Classroom procedure

The teacher can start with a brief overview of Archaic Greek vase painting from about 700-600 BCE (with its early dark figures on pale clay) but should focus mainly on black- and red-figure vases spanning about 540-490 BCE. Depending on the nature of the class, topics can include the context of the vases used in Greek dining and *symposia* (drinking parties), the varied shapes of vases related to their function, and the scenes shown on the vases.

Students will need to see images of vases decorated in black- and red-figure techniques and discuss the differences, noting particularly the change in positive space – the image itself – from a deep black image highlighted against a red negative space, to a pale red image standing out against a black negative space. Ask what effect the strong contrast has on the viewer and what other differences the students notice between the two. The Greek "paint" was neither paint nor glaze, but simply a diluted clay (called "slip" or "gloss") of the same clay as the pottery. The firing produced the glossy red and black colors.

First compare black-figure vases that have no added color with red-figure vases. Then also illustrate black-figure scenes enhanced with added white and purple, used to enliven clothing and armor and to paint the skin of women white (and the coats of horses). View the complete Odysseus jug above (this is a vessel from southern Italy created after Greek colonization).

Students will execute the two techniques side by side on a tile, changing across a dividing line, (not something ancient painters did). The teacher can instead choose black-figure only.

Alternatives or introductions to creating a tile

Scratch art

An introduction to black-and red-figure can include asking students to mimic the two techniques on paper. Once they choose (or invent) a scene they can cut black-figure silhouettes out of black *Scratch Art* pages (available online) and use a needle or pointed clay-working tool to incise details into the black silhouettes. They paint (or draw with a fine marker) black outlines and details of red figures cut from terracotta-colored paper. The black figures can be glued to a reddish paper background and the red figures to a black background.

Practicing with markers on paper to create black and red-figure images

While students can easily understand the concept of "black on red" and "red on black" images, it can nevertheless be confusing to execute black and red-figure paintings and to transition from black to red, or to make black hair meet a black background.

One preparation (or replacement) strategy is to have students use fine markers to create a version of an image in two colors. On the red-figure side students simply darken the background of the line drawing of an existing image and perhaps enhance existing black lines The black-figure side is trickier, and it is not comparable, since a needle is not used to incise

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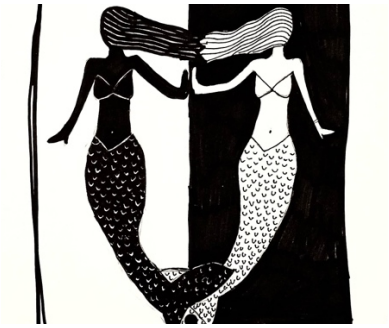
into the black silhouette down to a different color below. Students instead need to leave a blank space next to each black line.

Line drawing of the Cattle of the Sun, from *A Coloring Book of the Odyssey from the Art of Ancient Greece*, 1999. Bellerophon Books (ISBN 0-88388-207-8). It has been turned into a black and white-figure drawing.

Another option is to have students draw their own figure or shape, divide it or overlap it with a similar shape, and turn those images into black- and red-figure.

Student's complex red- and-black-figure heart



Student's black and white-figure mermaids

Creating a clay tile

Preparation, cost, and set-up

The most expensive items are the terracotta clay and glaze or underglaze for those with a kiln, and the self-hardening clay and acrylic for those without. These will cost about $3 - $5 per student, assuming a minimum of 20 students participating. Teachers working at schools with a ceramic studio will ideally join forces with a ceramics teacher to create an interdisciplinary project and borrow/share materials. Fine brushes and other tools can be reused.

- The process is messy, and requires newspaper on the tables, water, rags, and hand wipes (unless there is a sink in the room), and time to set up and clean up daily.

Clay tiles for firing or air-drying

For teachers with access to a ceramic studio/kiln:

- Any cone 04-06 reddish terracotta clay is effective (Laguna, for example). Students can roll out the clay with rolling pins and cut out the tiles, but it is best if the teacher can

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order 4 or 6-inch tiles pressed by a professional. Six-inch tiles provide good surface space for the student to experience painting and incising the two techniques, but four-inch tiles can work for black-figure only or a simple image in both techniques.

- Teachers with no kiln handy may find a local studio (such as those designed to handle ceramics-focused birthday parties) that will fire tiles for a fee.

Air-drying (self-hardening) clay products harden within 24-48 hours, depending on the weather. **Do not use an oven-bake clay and avoid products that stay pliable**. You want them to harden. To keep them from hardening too quickly, cover them with very slightly moist kitchen towels (or other small thin towels).

- Amaco Self-hardening Mexican Pottery Clay: 5 lbs. costs as little as $20 in 2024 and comes in larger amounts as well. The clay comes in a rectangular block, and pieces can be kneaded and rolled out with a rolling pin, or ¼-inch tiles can be sliced off the block lengthwise (this is easier, but only if the slices can be made consistent).
    - **TAKE NOTE** – if tiles are sliced off the short end of the block (as seems logical, since this will create square tiles), they may crack as they dry. Instead, slice the clay into rectangles lengthwise and cut them in half.
- Other options in terracotta colors include Crayola Air Dry Clay, Jovi Air Dry Modeling Clay, DAS Air-hardening Modeling Clay, and Activa Natural Self-hardening Clay. These come in bulk and in smaller sizes. Grey and white colors may be less expensive than terracotta colors, although they do not resemble Greek clay.

Tools needed (available from art supply stores, hobby shops, and online)

- Burnishing tools for clay to be fired: strips of chamois, clay burnishing tools
- Mayco shiny black glaze or Laguna black underglaze (for firing) OR black acrylic paint for air-drying clay (black Liquitex Mars Basics or Apple Barrel Acrylic Paint Gloss)
- Copies of vase paintings taken from books and coloring books
- Sticks of compressed graphite
- Sharpened pencils
- Scissors
- Masking tape
- Small brushes with fine pointed tips and slightly larger ones squared-off bristles
- Needles or very fine embossing tools (brand example: Kemper)
- Small plastic cups with lids (the size for take-out salad dressing), for glaze/acrylic

Creating the tile

The steps for both fired and air-drying clay are similar. Since the most important difference between black- and red-figure is incising, the time can be reduced if students attempt a black-figure image only. This does usefully require both painting and incising, although it does not permit direct comparison of the two techniques while creating them. If the teacher has access to a kiln and to larger tiles, trying both techniques and comparing them side by side during the process of making the tile (and once it is finished) is most effective.

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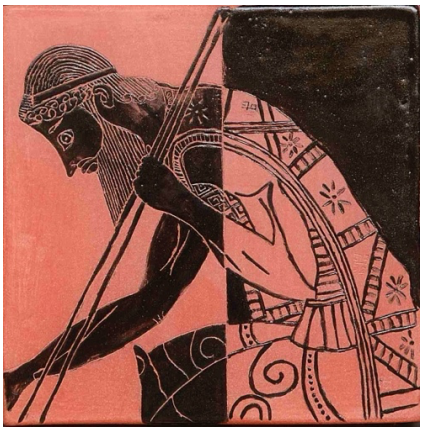

Examples of gloss, needles, brushes, and burnishing tools. Example of finished tile (Ajax playing dice).

Step 1

Put down newspaper to protect the table and give each student a leather hard tile. They have already chosen an Archaic period image (these were executed in both techniques). Students incise their names on the back of the tile with a needle or metal incising tool.

Students can mirror-write their names. If reverse-writing is difficult, right-handers try this:

Right-handers: holding a pencil in each hand, place the points in the center of a piece of paper and write the name outward from the center, paying attention only to the dominant hand. As the right hand writes the name left to right, the left hand writes (not very well) right to left. Then try mirror writing with the right hand.

Left-handers must cross their arms and work in toward the center from more extended hands. It is not very effective, so it might just be better just to practice mirror writing with the dominant hand. It does take a while to think on reverse.

Step 2

While the clay is leather hard, students smooth (burnish) the tile (top surface only) by rubbing with a chamois, a finger, or the flat edge of a wooden or metal clay-working implement. Even a spoon can work, or a very smooth, polished stone. Moving evenly across the delicate surface so as not to gouge it, they apply consistent pressure with circular, vertical, horizontal, and cross-hatched motions. The surface becomes smooth as platelets of clay align.

Step 3

Students cut a paper template of their chosen image to fit the tile and write their name on it. They rub graphite on the back of the image. (**Do not use a graphite stick with air-drying clay. Just use a pencil.)** If the lines of the image are visible through the paper, students can follow the lines of the design rather than rub the entire back of the paper. They place the design face up (graphite-side down) on the tile and tape it at the top (so they can lift it to check the tile). Finally, they draw over the image with a pencil (not too sharp) or a pointed clay-working tool to transfer faint grey lines and impress the image gently into the surface.

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Step 2: Burnishing with chamois strips. Step 3: Using a graphite pencil on a template

If the faint lines are too hard to see, students can use a needle tool to incise (lightly) some of the important lines.

Incising the graphite image with a needle to increase the visibility of the lines

Next, if the class is attempting both techniques, each student splits the image in half with a ruler: one side will be black-figure and one red-figure. They should think about which technique may be more difficult (this varies for each person), and which half of the image may be more appropriate for one technique.

Step 4

Students pour black glaze or underglaze (for a fired tile) or acrylic paint (for an air-dried clay tile) into the small plastic cups and use a fine brush for outlines and interior designs. To fill in large areas, such as silhouettes and backgrounds, they use a bigger brush. Often three broadly-brushed coats are needed. (Each must dry completely, and going over just one spot multiple times leaves a bump.) Keep brush tips not constantly in use in a cup of shallow water.

- First, students outline the images carefully with a fine brush.

  Next, they paint over the figures on the **black-figure side**, hiding the entire image. This is now an all-black silhouette of the image on the pale reddish clay. The lines incised into the clay should faintly show through the black. If not, putting the template back

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onto the tile surface and gently drawing over the image again with a pencil can add some guiding lines for the needle on top of the silhouette. A Greek artist had guidelines too, but fewer, and drawn freehand.

- Lastly, students carefully paint the outline of the figures of the **red-figure side**, leaving the body of the figure a pale red.

Step 5

At this stage students complete the image by creating interior details starting with the implement which feels most comfortable: brush or incising needle.
~ On the black-figure side, they incise details carefully with a needle tool through the silhouette to the clay below, making reddish lines. They do not paint the background.
~ On the red-figure side, students may choose to use a fine brush to draw the outline of the figure again on top of the existing outline, creating a slightly raised barrier that stops the bigger background-brush from crossing into the figure by accident. Then they paint interior details using a very fine brush as well. Finally, they transition to the bigger brush for the background.

Examples of tiles split diagonally and horizontally and painted in black- and red-figure using slip (which looks grey until fired). The template is still attached.

The **air-drying clay** may feel more plastic or moist and it may be more difficult to use the needle without digging up little bits of clay. Practice, and don't let the clay dry out fully.

Pegasus and Hydra by Maya Madden. Black-figure images on air-dried clay.

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Instructions for student reflection

Think about the process you have gone through. Write an assessment of your project using the guiding questions as prompts for reflection on your experience and opinions.

Burnishing: How well did it work on your tile?

Which tools did you use? How did the different tools work? Did the tile seem to become harder and smoother? Was the burnished surface smooth? Useful? Was the burnished tile easy to paint on? What would you do differently?

Putting the image on the clay: How successful were you?

Did you incise or draw well enough to see the image clearly, or did you press too deeply or too shallowly? Was it difficult later in the process to paint on top of drawn or incised lines or to see the lines through the black-figure silhouette?

Creating black-figure: How skilled were you?

Could you see the design below the black coat? As you incised into the silhouette, were your lines clean or did clay peel up? Could you create fine designs? What worked and what did not?

Creating red-figure: How skilled were you?

Could you paint as cleanly as you wanted to? Did you come up with strategies to make fine lines? Did you have difficulty when the black background met a black line or shape?

Comparing black- and red-figure: Which do you prefer?

From the perspective of FIRST a viewer and SECONDLY an artist (from "just looking" at each style, and from having carried out the process yourself), which style do you prefer? If you were an ancient Athenian, would you have chosen to switch from black-figure to the red-figure in the early fifth century BCE?

Assessment

Grading is not based on artistic ability, but rather on correct re-creation of the two styles and careful observations and clear write-up of the process. First, briefly introduce the project, your goals, and your procedures. Set the stage for your answers to the questions below.

The Tile		
Care and attention to detail	10 points	____
Black-figure correctly executed	10 points	____
Red-figure correctly executed	10 points	____
Just for trying!	10 points	____
The Write-up		
Introduction	10 points	____
1. Burnishing	10 points	____
2. Putting the image on the clay	10 points	____
3. Black-figure image	10 points	____
4. Red-figure image	10 points	____
5. Comparing black and red-figure	10 points	____
Total points out of 100		_____/100

Comments:

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Resources

Archaic and classical art including vase painting

For further information about archaic and classical Greek artistic styles and images in art, see AIA's *Ancient Greek Art: Archaic and Classical Styles* lesson.

Greek Art in the Archaic Period, TheMet Heilbrunn Timeline of Art History essay, 2003: https://82nd-and-fifth.metmuseum.org/toah/hd/argk/hd_argk.htm.
(Black- and red-figure come up at the end.)

J. Paul Getty Museum, Getty Villa, Gallery 104: Archaic and Classical Art: https://www.getty.edu/art/collection/gallery/1145Z6.

Ancient Greek pottery and vase painting

Abraham, Melissa. 2020. "Ancient Greek Pottery Lends Its Secrets to Future Space Travel." *Getty Iris* (Nov. 17): https://blogs.getty.edu/iris/ancient-greek-pottery-lends-its-secrets-to-future-space-travel/.

Balachandran, Sanchita. 2018. "Uncovering Ancient Preparatory Drawings on Greek Ceramics." *Getty Iris* (Sept. 24): https://blogs.getty.edu/iris/uncovering-ancient-preparatory-drawings-on-greek-ceramics/.

Khan Academy's "Overview of Athenian Painted Ceramic Vases," based on the J. Paul Getty book *Understanding Greek Vases*: https://www.khanacademy.org/partner-content/getty-museum/antiquities/getty-ancient-greek-vases/a/an-overview-of-athenian-painted-ceramic-vases?modal=1.

Lynch, Kathleen. 2021. *A Toast to Ancient Greek Wine Drinking*. Recorded April 2021 for *Archaeology Abridged* for the Archaeological Institute of America, ArchaeologyTV: https://www.youtube.com/watch?v=T24OFbfNNNA.

Richter, Gisela. 1923. *The Craft of Athenian Pottery*. New Haven, CT: Yale University: https://www.gutenberg.org/files/63091/63091-h/63091-h.htm.

This open access book is a century old and the images are fuzzy, but it is still a valuable resource. Richter points out examples of archaeologists' assumptions that don't make sense to potters. She made a good case at the time for one single firing of Greek painted pots. Scientific research 90 years later suggests that multiple firings were likely.
Walton et al 2013:
https://www.researchgate.net/publication/263501171_Material_Evidence_for_Multiple_Firings_of_Ancient_Athenian_Red-Figure_Pottery.

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