



# Making metal mandalas



## Standards

### Creating

#### A:Cr2.1.4a-8a

Explore and invent art-making techniques and approaches.

#### VA:Cn11.1.4a-8a

Through observation, infer information about time, place, and culture in which a work of art was created.

## Objectives

*Students will...*

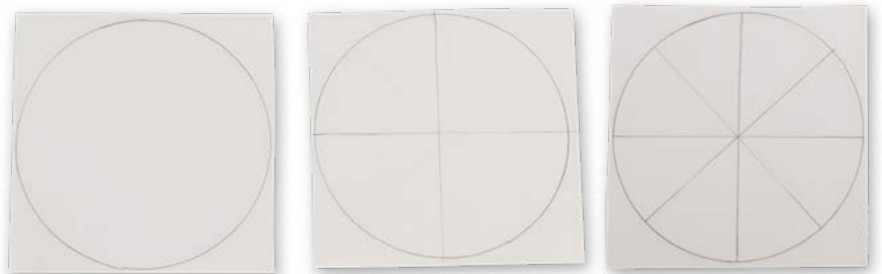
- Execute their own design using metal tooling techniques
- Create a mandala that demonstrates radial symmetry.

# Engagement and class discussion

1. Begin by engaging students in a conversation about metal tooling and mandalas.
2. Metal tooling, also called repoussé or metal embossing, is when an artist uses tools to create a low-relief design in metal. Discuss metal tooling as a class by looking at images of artwork throughout history. Examples include **Mexican Milagros tin art**, **armor plates from ancient Greece**, and **Himalayan mandala plates**. Explain that artists have used gold or silver when creating detailed metal tooling artworks and copper or bronze to make large sculptures and armor.
3. Then, discuss mandalas, which are designs that have radial symmetry. They consist of repeating shapes and lines that go around in a circle with a central point. Explain that “mandala” is Sanskrit for “circle,” and mandalas are a symbol of the universe in Hindu and Buddhist culture. Mandalas can be created in many ways and artists have used paper, cloth, threads, metal, or stone to make them.
4. Next, tell students they will be creating their own mandalas using the metal tooling technique.

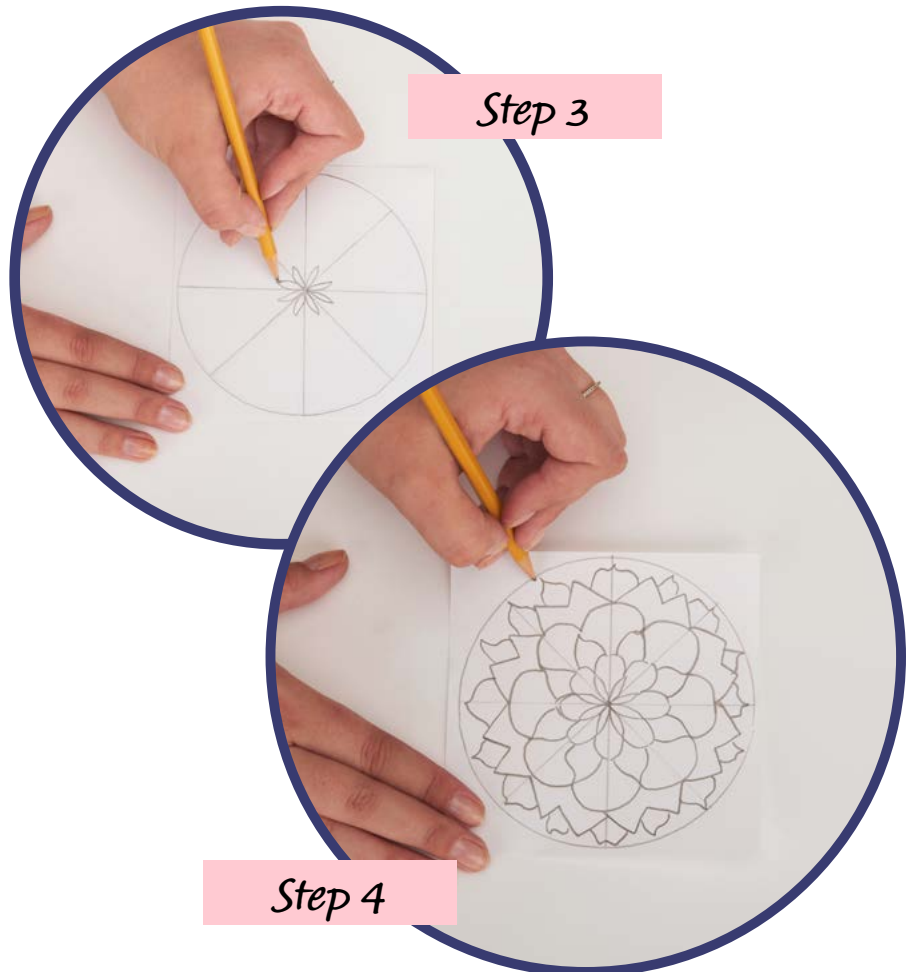
## Drawing mandalas

1. Each student should draw their mandala on a piece of 5" x 5" paper. Have them start by drawing a circle that mostly fills their paper, using a roll of masking tape, an empty container, or a stencil as a guide.
2. Then, demonstrate how to draw one line horizontally through the center of the circle and another line vertically so they have four equal quadrants on their circle. Next, have them draw two more lines through their quadrants to divide their circle into eight equal pieces. They should then draw a small circle in the middle where the lines intersect and start their drawings from this point.
3. Next, have students draw their first shapes in a ring around their center point. Encourage them to try different shapes, such as ovals, teardrops, circles, triangles, clouds, or flower petals. Remind them to use their quadrant lines and repeat the shape in each section so their design is symmetrical.
4. Encourage students to continue to add shapes, building their way out from the center and making sure they are repeating each shape for a symmetrical design. They should finish off their mandala when they reach the edge of their circle.
5. Students can add fine details at this stage, but they may want to wait until they transfer their design to metal, as it can be easier then.



*Step 1*

*Step 2*



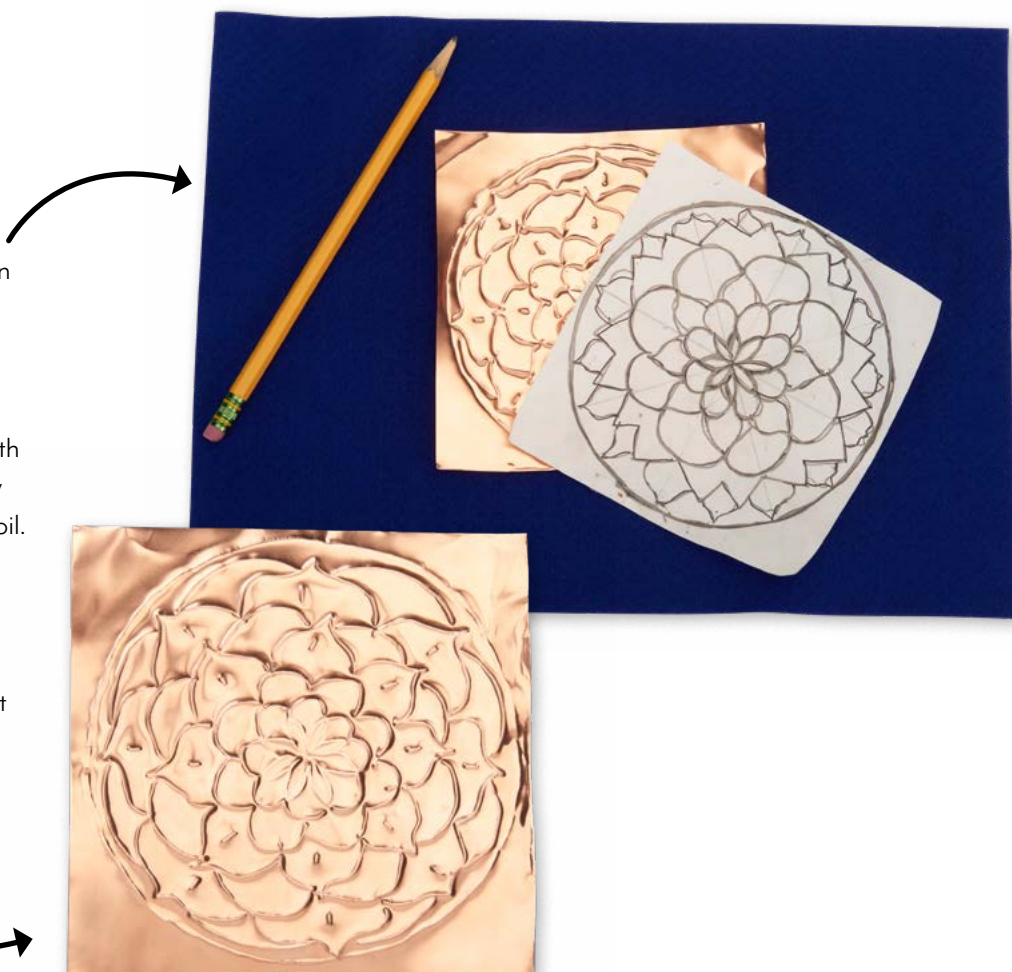
*Step 3*

*Step 4*



# Transferring mandalas to metal

1. Have students tape their design on top of a piece of 5" x 5" aluminum tooling foil, with the design facing up. They should then place a piece of cardboard, felt, or foam underneath the sheet to protect their work surface.
2. Then, have them trace over their design with a ballpoint pen (so they can tell where they already traced), pressing it into the metal foil.
3. Once the initial design is transferred, have them remove the paper drawing and trace over the lines on the tooling foil a bit more with a dowel or dull pencil. Warn them that pressing too hard may puncture the metal.
4. At this stage, students can add intricate details to their designs.



## Extension activities

Have students follow one of the directions below for a choose-your-own-mandala adventure!



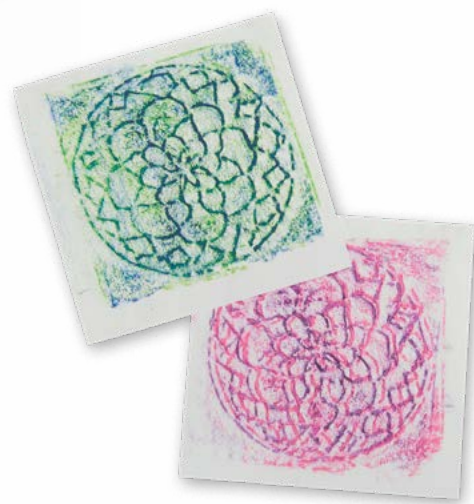
1. **Materials:** black acrylic paint, paintbrush, paper towels

Add a thin layer of black acrylic paint over your entire metal piece. While the paint is still wet, use a dry paper towel to wipe it away, letting the black paint settle into the lines of your design. This will create a worn, weathered look.



2. **Materials:** colored permanent markers

Use permanent markers to add color to your mandala. Be sure to color on the embossed side (the side with the raised drawing) instead of the debossed side (the side with the pushed-in drawing).



3. **Materials:** crayons, white paper

Use your newly created mandala as a texture plate to create prints of your work. First, place a white piece of paper over your design and use the sides of crayons or oil pastels to create prints. Overlap two colors for a cool effect. You'll want to only create prints if the metal does not have paint or permanent marker on it, as these could rub off on the paper.



## Materials list

- Metal foil sheets – 5" x 5" squares, precut ([9735892](#))
- White drawing paper – cut to 5" x 5" pieces ([9700925](#))
- No. 2 pencils ([9733722](#))
- Colorful ballpoint pens ([9731311](#))
- Masking tape ([9720468](#))
- Circular objects to trace, such as masking tape roll or empty plastic containers
- Cardboard, felt, or stacks of newspapers to be used as backing when pressing into metal