

Duncan ColorWorks

Geometry Vases Ceramic Art Lesson Plan



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Geometry Vases - - Ceramic Art Lesson Plan

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Grade Level: 4-6

Duration: 3 ½ hours: 1st Day - 1 hour, 2nd Day - 1 hour, 3rd Day - 1 hour, 4th day-½ hour.

Focus:

Shape and form are words commonly used in art but they are also used math. In geometry the shape or form of an object determine its name. Is it rhombus, a polygon, a circle, or a rectangle? To work geometrically, you need to create pictures in your mind and reproduce them on paper or with clay or other materials. Sometimes you need to draw them precisely, using hand or computer tools. You also need to reason about shape, space, and dimension, which requires good habits of mind: you must imagine, observe, and describe carefully, perform experiments, make tentative guesses about what you observe and then explain why things are as you see them. In this lesson students will choose a shape and build a vase. The shape, formed many times over in different sizes, will be used and fitted together to construct a container. The repetitive use of the same shape provides an opportunity to create patterns and colorful designs. Making a connection between math and art will open other artistic paths and connect art & math with world.

Educational Objectives:

This lesson provides opportunities for student to:

- Explore geometric shape names and math.
- Recreate geometric patterns and design.
- Connect math and art curriculums.
- Develop a three dimensional ceramic form construction.

Teaching Tips:

- Grade level determines container size. The younger the student the larger pot and the older the student is the smaller pots can get.
- Let the cut shapes set over night under moist newspaper and then join them using slurry and water.
- Review patterns in our environment and in the classroom to show students the geometric patterns are everywhere.
- Younger children will not need to focus on details while older students can focus on clean edges, smooth joints and use fine tip brushes to paint.
- Review geometric shapes, names, and expand to area, volume, and perimeter.

Vocabulary:

- **Principles of design:** The organization of works of art. They involve the ways in which the elements of art are arranged (balance, contrast, dominance, emphasis, movement, repetition, rhythm, subordination, variation, unity.)
- **Form:** A three-dimensional volume or the illusion of three dimensions (related to shape, which is two-dimensional); the particular characteristics of the visual elements of a work of art (as distinguished from its subject matter or content).
- **Harmony:** The principle of design that combines elements in a work of art to emphasize the similarities of separate but related parts.
- **Design:** The plan, conception, or organization of a work of art; the arrangement of independent parts (the elements of art) to form a coordinated whole.



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Duncan Materials:

For 25 students, this project would require:

Envision Glaze:

- IN 1001 Clear Glaze- 2 pints

Cover-Coat™ Underglazes: at least 4 ea. 2 oz. containers

- **Circumference Vase**
 - CC159 Bright Blue
 - CC160 Deep Purple
 - CC141 Light Yellow
 - CC187 Rustic Red
 - CC101 Arctic White
 - CC165 Black Brown
- **Rhombus Vase**
 - CC193 Hunter Green
 - CC141 Light Yellow
 - CC187 Rustic Red
 - CC101 Arctic White
 - CC160 Deep Purple

Brushes/Tools:

- BR 582 No. 5/0 Detail
- BR 529 No. 4 Sabeline Round or other large coverage brush
- TL 415 Sponge

Miscellaneous Materials:

- 30 pounds of White bodied clay (approximately 1 lbs. for each student)
- Rolling pin(s) for rolling slabs
- Two boards of equal thickness to use as shims for slab rolling
- Bucket of water for washing Brushes during the project
- Lids, bowls, q-tips, and other shapes
- Card board paper towel roles & toilet paper roles
- Newspaper

Step-by-Step Instructions:

Circumference Vase:

1. Give each student 1 lb. clay.
2. Role the clay into slabs using a slab roller or rolling pins.
3. Measure and role a slab around the paper role then join the seam by scoring the edges.
4. Using bowls and lids as guides for cutting, cut several circles and half circles. Let them sit aside until they become leather hard but not dry.
5. Arrange them so you create a container or vase and attach the smaller circles and container to the base.
6. Set aside under newspaper to dry. When dry, clean edges with a strait edge by lightly scraping away imperfections.



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7. When the piece is completely dry decorate with Cover-Coat™ Underglazes to make bright and intense designs, bisque fire to Cone 04.
8. Brush on Envision Glaze IN 1001 Clear Glaze and Fire to Cone 06.

Rhombus Vase:

1. Give each student 1 lb. clay.
2. Role the clay into slabs using a slab roller or rolling pins.
3. Using a ruler cut several rhombus shapes, you will need at least four larger rhombuses to make the container. The smaller rhombus will decorate the exterior.
4. Let them sit aside until they become leathery but not dry.
5. Arrange them so you create a container or vase and attach the rhombus to the rhombus base. Arrange and attach the smaller rhombus.
6. Set aside under newspaper to dry, 3 to 7 days. When dry, clean edges with a strait edge by lightly scraping away imperfections.
7. When the piece is completely dry decorate with Cover-Coat™ Underglazes to make bright and intense designs, bisque fire to Cone 04.
8. Brush on Envision Glaze IN 1001 Clear Glaze and Fire to Cone 06.

Assessment:

- Set high standards for students and discuss how to reach them.
- Discuss with students why decisions were made based on insight, rationale and technique.
- Have students assess their own work, in addition to their peers, to gain understanding and appreciation.
- Use a variety of specific types of evaluation to determine individual and group performance.
- Continue assessment after project completion to help students reflect on projects and enhance further creations.

Connections:

- Social studies: Study a cubist timeline and its era of development
- Math: Using your art study volume, perimeter, and capacity.
- Language Arts: Write about the use of shapes to create images, cubist theory.

References:

Cubist Sculpture:

<http://www.student.arts.gla.ac.uk/9905934s/mmcourse/project/html/SCULPTURE.htm>

California State University: [http://worldart.sjsu.edu/PRT142*7\\$300*7972](http://worldart.sjsu.edu/PRT142*7$300*7972)

The Math League: <http://www.mathleague.com/help/geometry/polygons.htm#rhombus>

Weisman Art Museum: http://hudson.acad.umn.edu/surprises/intro_2.html

UC Berkley: <http://www.cs.berkeley.edu/~sequin/ART/>

Health & Safety:

Products used in the Colorworks™ program are created with children in mind. Therefore, they are lead free and non-toxic.