



## Ceramic Tile Color Wheels

This exercise is a basic introduction to the fundamentals of the color wheel as it applies to ceramics and glazing with Laguna Clay's Creatable Colors Cone 06 Glaze System.

### Students will be able to:

- Understand basic color theory.
- Understand glazes for ceramics.

**Grade Level:** 7<sup>th</sup> thru 12<sup>th</sup> grades

**Class Time:** 1-2 45 minutes class periods

### Lesson:

This lesson will introduce color theory as it applies to the techniques of glazing ceramics with Laguna Clay's Creatable Colors Cone 06 Glaze System.

Optional ways to approach lesson based on the State Standards in your area:

- Glaze Chemistry
- History of Majolica, an Italian technique

Please see your State's Academic Standards for appropriate grade level application and objectives.



### Vocabulary:

**Hue:** the name of a color; a basic color

**Primary Colors:** the colors from which all other colors are made- Blue, Yellow & Red.

**Secondary Colors:** the colors that are created from equal amounts of two primary colors- Purple, Orange & Green.

**Complementary Colors:** a pair of colors that are opposite each other on the color wheel- Blue & Orange, Red & Green, Yellow & Purple.

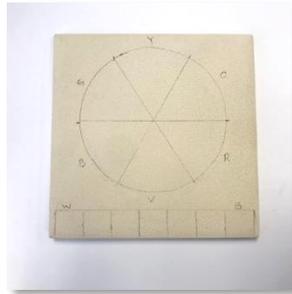
**Glaze:** A vitreous substance fused onto the surface of pottery to form an impervious decorative coating. Glazes consist of silica, fluxes and aluminum oxide. Silica is the structural material for the glaze & if you heat it high enough it can turn into glass. Its melting temperature is too high for ceramic kilns, so silica combined with fluxes, substances that prevent oxidation, to lower the melting point.

**Majolica:** a kind of earthenware made in imitation of Italian maiolica, especially in England during the 19th century.

*Creatable Colors Cone 06 can be used just like regular paint. When you mix yellow with Blue, you do get green. Your color combos are endless, and we have the whole rainbow!*



**Step 2:** Lightly mark where you're going to start your color wheel. Yellow at the top and work your way clockwise around the wheel. Once you lay down your Creatable Colors Cone 06 Glazes, you'll erase the markings.



**Step 3:** Prepare your Creatable Colors, Water containers and paint brushes; have little sponges on hand for cleanup.

**Yellow** – Paint two coats EM-2102, let each coat dry before applying second coat. Be sure to have nice even coats.

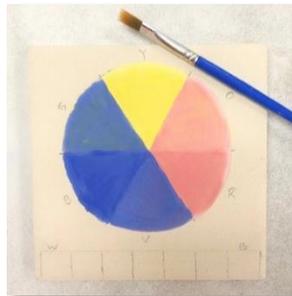
**Orange** – Paint one coat of EM-2102 yellow, let dry a few seconds and apply one coat of EM-2119 Strawberry Red.

**Red**– Paint two coats of EM-2119 Strawberry Red, let each coat dry before applying second coat.

**Violet**– Paint 1 coat of EM-2119 Strawberry Red, let dry a few seconds and apply one coat of EM-2104 Cobalt Blue.

**Blue**– Paint 2 coats of EM-2104 Cobalt Blue, letting each coat dry in between applications.

**Green** – Paint 1 coat of EM-2104 Cobalt Blue, let dry a few seconds and apply one coat of EM-2102 Yellow.



**Step 5:** Clean around your color wheel and/or grey scale edge using a small sponge and a little bit of water. Craftsmanship is key!

Apply a coat of Majolica EM-2118 around your color wheel, filling in any unglazed tile. Let dry for a minute or two, apply a second coat. This will create a smooth background that you can then use a Sharpie to label your color wheel with. Majolica can also be used to coat the entire tile before starting any of these steps but is not necessary for this project. For future tile projects, a nice base coat of Majolica gives the tile that Italian/Early European look. Great for school mural projects and fundraisers!

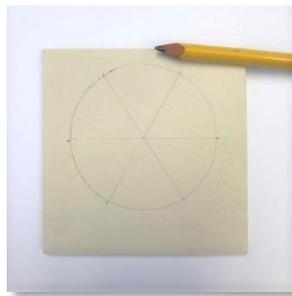
**Step 6: VERY IMPORTANT!** Have the students write their name on the back of their tile in an Underglaze pencil. All the tiles are going to look alike, and you would want to make sure each student got their back once its been fired. A labor of Love!

**Step 7:** Load up your kiln with all your beautiful Ceramic Color Wheels and Bisque fire to Cone 06 (1823°F) according to your classroom firing schedule. An 8-hour fast fire is good for this project, since we just want a fusing of color and its on a thick tile that can handle the quick firing. Please refer to an alternative firing schedule when moving onto more delicate/intricate/bigger work.



**Instructions:**

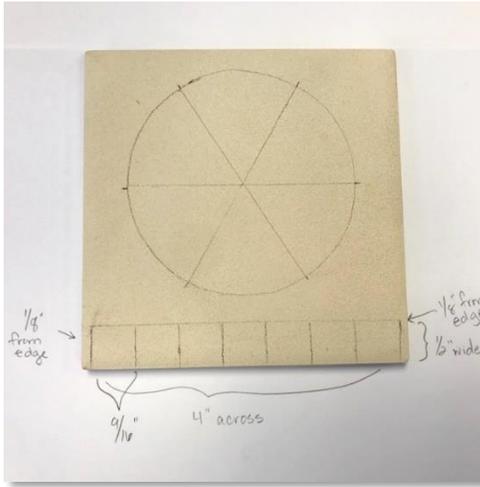
**Step 1:** Using a pencil and a template trace a circle onto the ceramic bisque tile. Make your horizontal line, mark your quadrants at 60° and 120° and connect your marks opposite from each other.



*If you are going to do a grey scale and explain tints and shades, place circle ¼" from the top of your tile, giving you enough room at the bottom for a grey scale bar.*

Draw out your grey scale bar at the bottom of your 4 ¼" x 4 ¼" tile.

1/8" from each edge, making a ½" high from the bottom, 4" wide. Then divide the scale into 7 parts: 9/16" apart.



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**Step 8:** Once the tiles are done firing and are cooled, have the students label their Creatable Colors Color Wheel with a sharpie marker indicating their colors around the wheel.



**Step 9:** Enjoy your Creatable Colors Color Wheel, which can now also double as a coaster. (Apply felt round stickers on the bottom of tile to prevent scratching surfaces.)



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**Materials:** (gather enough of the following materials to fill your class size)

- Ceramic Bisque Tile – 4 ¼ x 4 ¼ x ¼
- Compass, Protractor & Ruler
- Cardstock
- Scissors
- Pencil
- Underglaze Pencil
- Paint brush



- Black Sharpie – Fine tip
- Little sponges for clean up
- Container for water to rinse brush in between colors

**Creatable Colors Cone 06 Glaze System:**

- EM-2119 Strawberry Red – 1 pint
- EM-2102 Yellow – 1 pint
- EM-2104 Cobalt Blue – 1 pint
- EM-2118 Majolica – 1 pint

*\*1 pint should be enough for two to three average class sizes to share.*

Additional Materials for advance students or further exploration of color theory (see step 4 for more detail):

- EM-2101 White
- EM-2100 Black
- Paint tray or small container for mixing
- 2- 5ml plastic syringes

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**How to make a template for this activity and learn a little geometry too!**

Using a compass, measure out 1½" from center to outside circles edge and create a complete 360° circle. Be sure to mark your center point.

Use your protractor, measure a horizon line, trying to be as level as possible, contacting one side of the circle to the other.

From your horizon line, find 60° and 120° and mark, flip to the bottom of the circle and mark again.

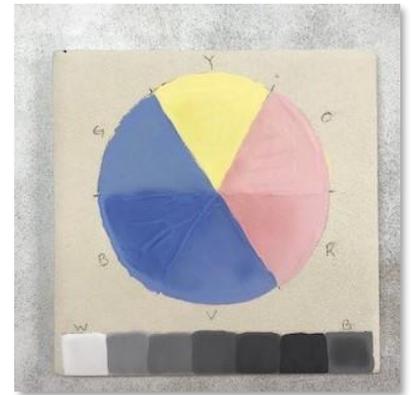
Connect all your opposite markings and your circle should now look like a pie. Yummy.

Cut out your circle and mark each section with the color and how many coats for each section.

*Included in your Laguna Clay Creatable Colors Sample box is a cheater template for you to replicate.*

**Step 4:** If you wanted to take color theory to the next level and have students lay down a grey scale bar at the bottom of the tile continue on here:

Your first box on the far left should be true white and the section on the far right should be true black. Your middle section should be equal parts white and black getting true grey.



You can be super scientific and accurate by using a 5 ml plastic syringe, one for white and one for black:

- 5ml white to 1ml black
- 4ml white to 2ml black
- 3ml white to 3ml black – middle section/try grey
- 2ml white to 4ml black
- 1ml white to 5ml black

Have the students work together to create each mixture of tint or shade.



When the 5ml syringe is completely pulled out, you get 6ml of liquid.

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