



## Diving into Color Theory

**Lesson Description:** Introduce students to color theory. Teach them about primary, secondary, and complementary colors. Explain the color wheel and show students how each color fits into it. Then, with their newfound knowledge, students will create four different drawings of the same thing: one in only one color, one in primary colors, one in one pair of complementary colors, and one in all colors on the color wheel.

**Lesson Objective:** Students should learn about primary, secondary, and complementary colors. They should understand what happens when two colors are mixed (i.e. when two complementary colors are mixed or when two primary colors are mixed). They should understand the color wheel and the placement of colors on it. They should understand how to darken and lighten a color.

**Art History/Theory Relation:** An in depth history of color theory isn't strictly necessary to teach to students during this lesson. However, some significant art history connections are the text *On Colors*, written in ancient Greece by Aristotle's academy, and *Opticks* by Isaac Newton. *On Colors* contains some of the first known theories about color. While the text contains a lot of faulty observations, it is notable for proposing that all colors exist on a spectrum from dark to light. This is important for students to understand so they know how to darken and lighten colors. *Opticks* proposed that white is the combination of all colors (not the absence of color like most thought before) and that the color spectrum should be wrapped in a circle. Newton made the last proposal due to his discovery that mixing the first color (red) and last color (violet) of the color spectrum produces magenta, an extra-spectral color that does not exist in the rainbow. Students should understand that both ends of the color spectrum are connected, but it is not necessary for them to learn about the more complex color wheel containing violet.



### Example Piece:



### Materials Needed:

NOTE: All for Art lesson plans are always flexible with materials and students can use whatever they have on hand! We always strive to make art available to everyone, no matter how limited the resources available to them are. Thus, the following list is simply an ideation of possible materials for the above project.

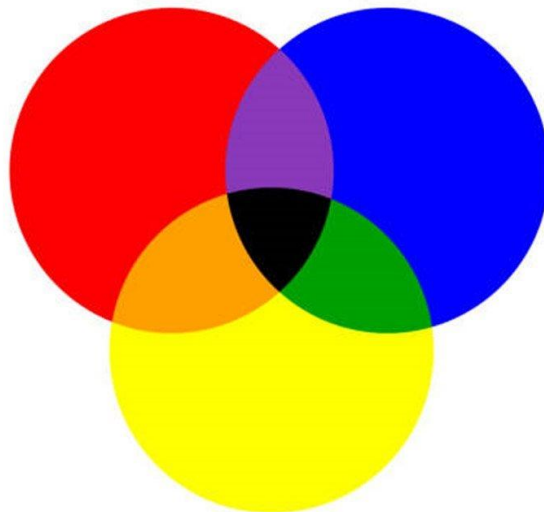
1. Paint in various colors
  - a. We recommend that students do their project with acrylic paints, but we also understand that this may not be an option for everyone. Gouache paints or watercolors are acceptable as well.
  - b. If you/your students aren't able to use paints at all, we recommend the following materials:



- i. Oil pastels/crayons (we recommend oil pastels over crayons but crayons will do) for their first (one color only with black and white), second (primary colors only), third (one pair of complementary colors only), and fourth (all colors) drawings.
2. If using paint: Paintbrushes and paper plates for palettes
3. An object for students to draw/paint. Keep in mind that they will be drawing this object four times, so stick with something simple. In the example piece, we used a pear, but any other simple object (like a bowl, another fruit, etc.) will do.
4. A surface for students to draw/paint on.

### **Step-by-Step Procedure:**

1. Introduce color theory. First, explain primary colors: tell students that they are the three basic colors from which all other colors are made up of and they cannot be made from a mixture of any other colors.
2. Next, explain secondary colors: explain what each combination of primary colors makes (how each secondary color is made). I like to show the following visual to help students understand what mixing each primary color yields:



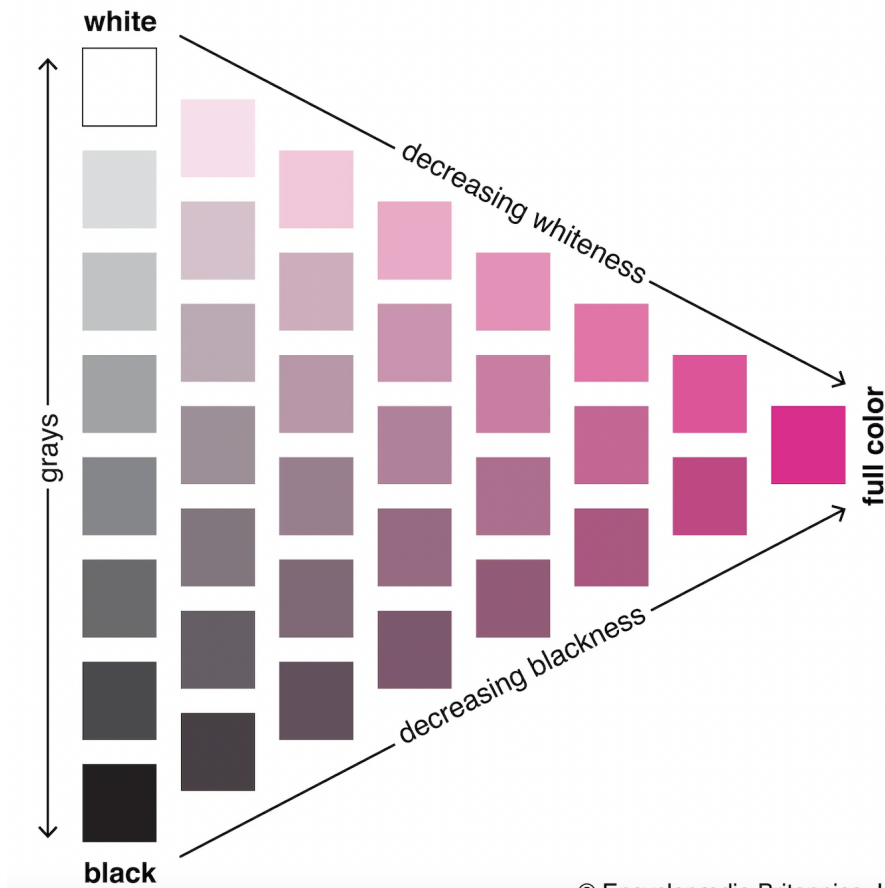
3. Explain complementary colors: tell students about each basic pair (blue and orange, red and green, and purple and yellow) and how they can be located



on the color wheel (they are opposite of each other). Explain that when mixed, pairs of complementary colors create gray and when placed next to each other, they create a high contrast.

4. Explain how to lighten and darken colors: students can lighten colors by adding white and darken colors by adding black. Explain how each color exists on a spectrum from light to dark and any color can be lightened or darkened. Show them this visual to help them understand what will happen to a color if they add white or black to it.

### The Ostwald system

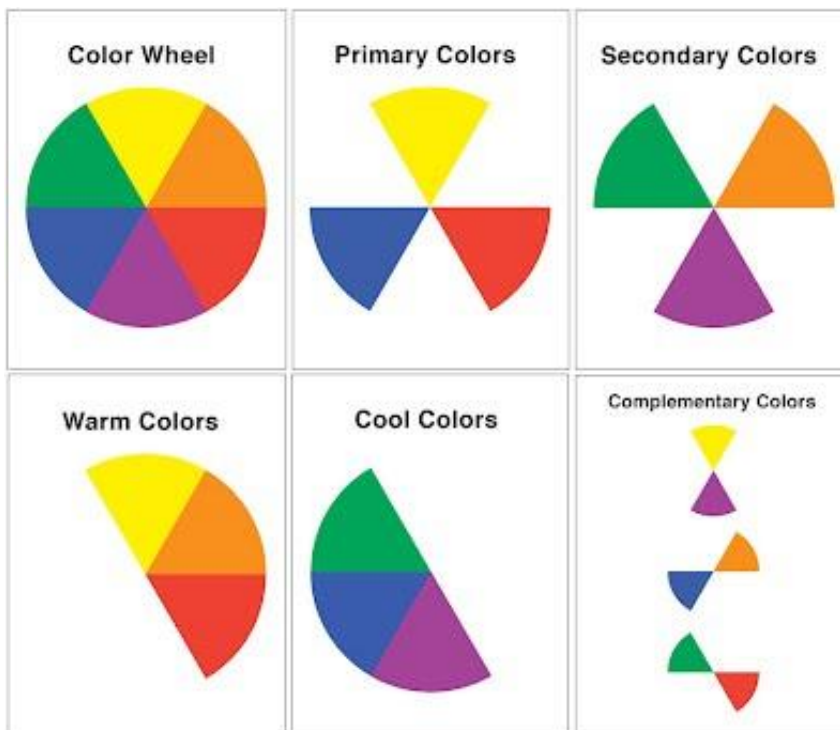
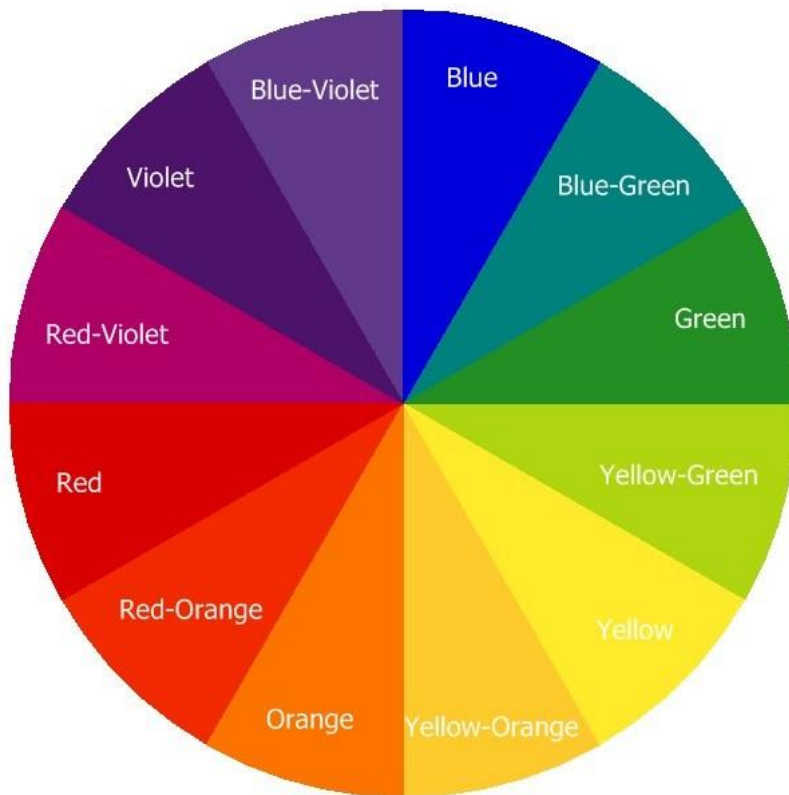


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5. Tie it all together by showing students these great color wheels. Show them the placement of primary, secondary, and complementary colors and make sure to explain that colors are placed in between the two colors that when mixed together will create that color.



all for art





6. Distribute materials and set up an object for students to paint/draw. Help them section their painting/drawing surface into four parts.
7. First, have them paint/draw the object in only one color (using black and white to create different tints). This step is crucial to understanding how black and white can darken or lighten a color and that each color exists on a spectrum.
8. Next, have them paint/draw the same object using only primary colors (red, yellow and blue). This step will help them understand how primary colors can create other colors. When making this painting/drawing, encourage students to mix the colors together to yield different colors and to use those colors in their work.
9. Next, have them paint/draw the object using one pair of complementary colors. Let them choose which pair they want to use. Again, encourage mixing of the colors so students can explore how the two colors gray each other down. Also encourage them to try using pure samples of each color next to each other at one or two spots in the work– this will create a point of interest and show students how complementary colors create contrast when placed next to each other.
10. Finally, have them paint/draw the object using whatever colors they want. In this final drawing/painting, students should utilize all of their knowledge about primary, secondary, and complementary colors as well as what they know about lightening or darkening a color. Encourage them to use all major six colors on the color wheel (red, orange, yellow, green, blue, and purple) in this piece.

### **What Students Should Aim to Accomplish with their Final Piece:**

Students' final pieces should include four paintings/drawings as detailed above. Students should understand what primary, secondary, and complementary colors are, as well as how to lighten and darken a color. They should understand the color wheel and be able to find the primary, secondary, and pairs of complementary colors on it.