**Primary to Secondary Colors**

**Essential Question** Do artists use science to create color?

**Grade** Kindergarten

**Time** 15–20 minutes

**Art Concepts** Primary and secondary colors, shapes (square, rectangle, triangle, circle), lines (type of lines and direction of lines), abstraction

**Materials** Napkins (or paper towels), three washable markers in primary colors (yellow, blue, red), a large brown-paper bag or newspaper (something to protect the surface you are working on), sponge or paper towel, water

**Artwork in Focus** [Color w/ Abstraction: Blue, Yellow and Green](https://collections.lacma.org/node/230310), Marsden Hartley (1913)

**Talking about Art** Marsden Hartley was a talented American Modernist painter and writer influenced by artists such as Pablo Picasso, Robert Delaunay, Franz Marc, and Wassily Kandinsky. It is thought that *Abstraction: Blue, Yellow and Green* is one of his pieces in which he worked on color theory, the science of how humans see color and how artists use color in their art. This painting was **abstract**, meaning it does not look like something you would see in real life. But this piece does use real science! The artist mixed the **primary colors**—red, blue, and yellow (colors that cannot be created by mixing colors—to create **secondary colors**—colors (like green, orange, and purple) that are created from mixing primary colors—and added white and black.

 Let’s first pay attention to the color of the painting. Can you find the three primary colors in this artwork? Can you spot any secondary colors? What colors can you mix to create the green that you see? Now, let’s look at the **shapes**. What kinds of **lines** can you describe (are they straight or curvy)? What other shapes do you see (are they squares, triangles, rectangles, circles, or odd and uncommon shapes)?

**Making Art**

1. Prepare your work space by laying down a paper bag or newspaper on the surface you’ll be working on. Place the napkin or paper towel on top of the covered surface.
2. Find the center of your napkin. If it is folded, try finding the corner that doesn’t open up, but try not to unfold the napkin completely right now.
3. Using a washable marker, color in that corner of the napkin so that it is really dark and the marker seeps into the napkin—but do so slowly so the napkin doesn’t rip.
4. Now, slowly draw several lines in blue marker.
5. Draw several yellow lines next to them. Make sure that some of the yellow lines cross over your blue lines.
6. Draw several red lines next to the yellow and blue lines. Make sure these cross over some of your blue and yellow lines, too.
7. Then, take a wet sponge or wet paper towel and dab the napkin, getting it wet through all its layers. Try not to make the napkin soaking wet, because it will tear. Leave the napkin folded for a few minutes and let it dry completely.
8. Open the napkin and notice how the colors bleed. These new colors are secondary colors. What colors did you make?

**Reflection** Do you see the color green on your napkin? Did you use a green marker? What colors mixed to create your new green color?

 Repeat this question with purple and orange. What would happen if you mix the same primary colors again? Will it always result in the same secondary colors? Is this science? (Since you are able to repeat it with the same results, mixing is indeed science!)

 Now let’s see what’s happened to your straight lines. Where did they go? What did the water do to your lines?

 Finally, look back at Hartley’s painting. Do you notice anything similar to your artwork? What is different about it?

**Curriculum Connections** California Arts Standards for Public Schools—Visual Arts

K.VA:Cr3: Explain the process of making art while creating. K.VA:Cr2.1: Through experimentation, build skills in various media and approaches to art-making.

Common Core State Standards Math

[K.G.](http://www.corestandards.org/Math/Content/K/G/B/6/)A.1: Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *in front of*, *behind*, and *next to*. K.G.A.2: Correctly name shapes regardless of their orientations or overall size.

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