

# Assignment No. 5: Color Harmony – Transforming Color Using Complements and the Three Attributes of Color (Hue, Value and Intensity/Saturation)

Art 213 - Color Theory, Spring 2020, East Los Angeles College

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Date Due: Friday, May 8, 2020

This is a two-week long assignment aimed at transforming, balancing, and harmonizing colors, or to be more specific, to practicing the following skills:

- To identify the primary, secondary and tertiary colors on the color wheel.
- To identify and mix complementary colors.
- To mix colors that match perceived hues.
- To use the attributes of color to mix hues to specific values and intensities, or to mix opposite values and intensities.

The size of the artwork is 9 inches by 9 inches, cut from 11 inches by 14 inches Bristol Paper.

## Part I: Setting up for Assignment No. 5

1. Take 1 piece of 11" x 14" Bristol Paper and cut it down to a 9x9 inch square. Use your ruler and be precise. Keep the excess scraps of paper to use in step 3.
2. Use the painter's tape in your kit and tape a border around your 9x9 inch square paper. Take your time and do this neatly and precisely.
3. Make a 7 step value scale on your cut scrap of Bristol Paper. Follow the demonstration in class. Here is my example: [ValueScale.pdf](#)



4. Going back to your 9" x 9" inch paper, use a pencil to draw a simple pattern which covers your paper. Please follow the examples and instructions in class for possible patterns.
5. Divide your paper up into 5 Areas, as demonstrated in class.
6. Now that your value scale is dry, use your X-acto knife to cut a small square hole in the middle of each value. Number your values (White, Level 1-very light, Level 2-light, Level 3-medium value, Level 4-dark, Level 5-very dark, Black)

## Part II: Overview of the Project

The following list provides an overview of what you will be doing with each of the five areas. *\*\*Please follow the demonstrations provided in class for a more detailed explanation of each step of this project.* For each area from 1 through 5, you will call on a segment of the color knowledge you have gained so far.

- **Area 1.** In this area, you will choose a minimum of 3 colors (plus black and white if desired) and fill in your design. Choose colors that are harmonious to you.
- **Area 2.** You will see, name, mix and paint the *exact complements* of the original hues in Area 1. This means, you will paint the complements at the same value level and intensity level as each original hue. If you have black, white or grey in Area 1, these values do not change at all for Area 2.
- **Area 3.** You will see, name, mix, and paint the *opposite values* of the original hues in Area 1. The intensity levels should remain the same as Area 1. Use your small handmade Value scale to find the opposite values. Level 3 values remain the same.
- **Area 4.** You will see, name, mix and paint the *opposite intensities* of the original hues in Area 1. The values should remain the same as Area 1. If you have black, white or grey in Area 1, these values do not change at all for Area 4. This is because *intensity* refers to colors/hues. Black, white and grey are not hues, and therefore they can not change in intensity.
- **Area 5.** You will *repeat the match of the original hues* you painted in Area 1.

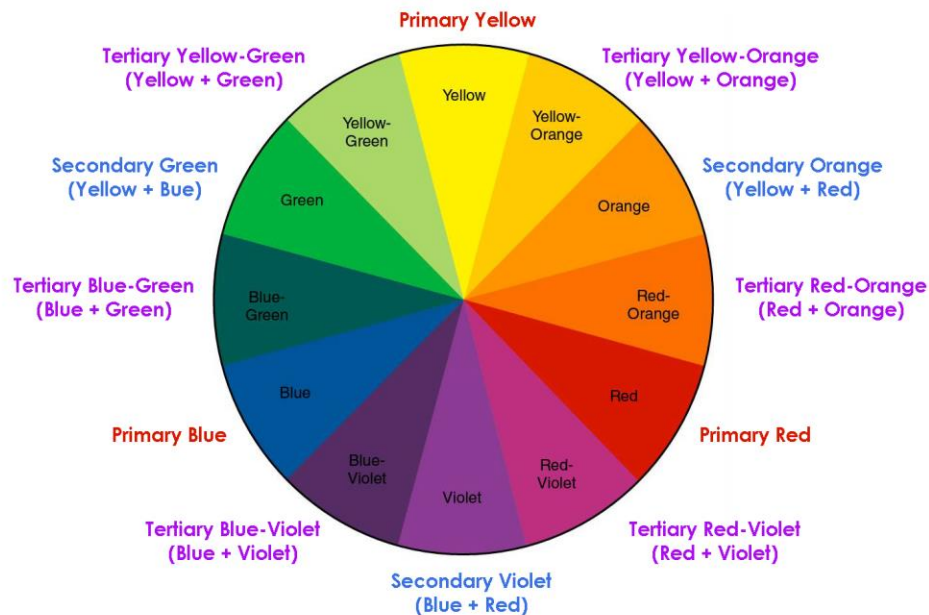
This is a complex assignment, and therefore we will be working on it in class for two class sessions (April 10th and April 17th). It will be due on April 24th by 8am. When you are finished painting, carefully remove the tape from the border. Please post a high quality photo of the finished work BEFORE 8AM!

This assignment will be graded on how well it followed directions of the handout, the accuracy of the mixed hues, values and intensities, and the overall craftsmanship (neatness) of the finished work.

## Part 1A: Identifying Primary, Secondary and Tertiary Colors

The identification of Primary, Secondary and Tertiary Colors is shown in the picture below.

### Primary, Secondary and Tertiary Colors



**Primary = Primary**                      **1 = 1**  
**Secondary = Primary + Primary**      **2 = 1 + 1**  
**Tertiary = Primary + Secondary**      **3 = 1 + 2**

## Part 1B: Identify and Mix Complementary Colors

The Gradient tool in Adobe Photoshop can be used to create “complementary color runs,” or transition between two complementary colors.

## Complementary Colors:

Complementary colors are those at the opposite locations passing through the center of the color wheel in a straight line.

Six pairs of complementary colors:

Red & Green,

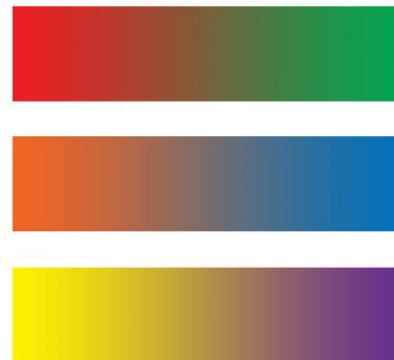
Yellow & Violet,

Blue & Orange,

Red-Orange & Blue-Green,

Yellow-Orange & Blue-Violet, and

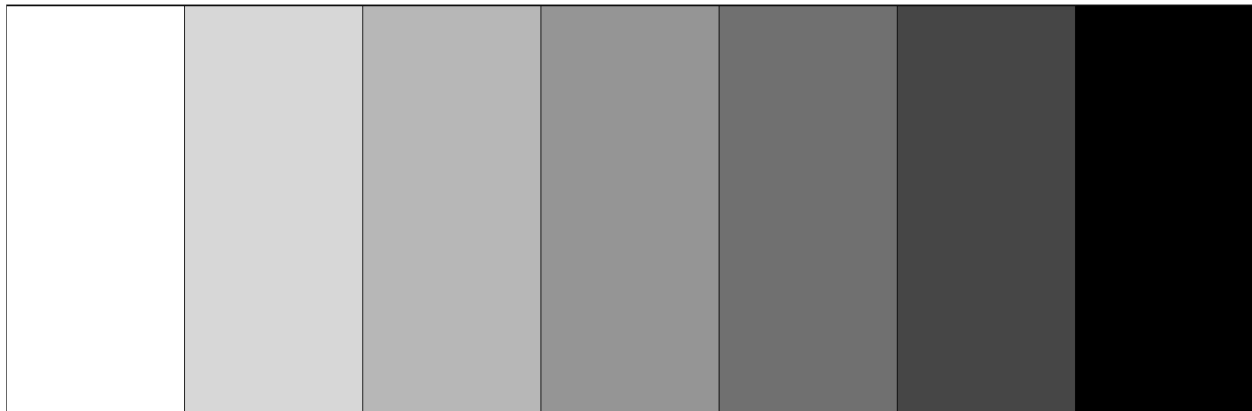
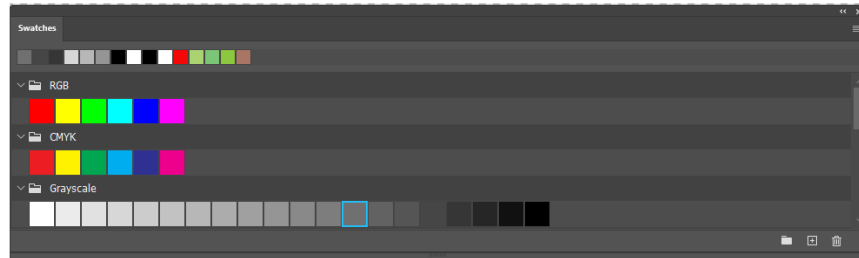
Yellow-Green & Red-Violet.



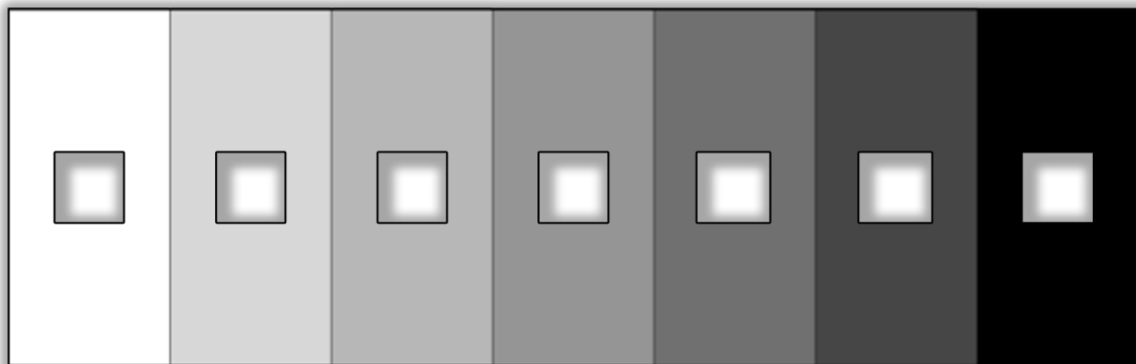
*Mixing of complementary colors with Gouache (left), or Gradient tool in Photoshop (right).*

## Part 1C: 7 Step Value Scale on Scrap of Bristol Paper (Bristol Paper Replaced by Photoshop Swatch Menu)

Instead of using Gouache and Bristol Paper, with the permission from the Instructor, this part of the assignment has been completed with various tools of the Adobe Photoshop program, as shown in the screen shots below.



White	Level 1- Very Light	Level 2- Light	Level 3- Medium Value	Level 4- Dark	Level 5- Very Dark	Black
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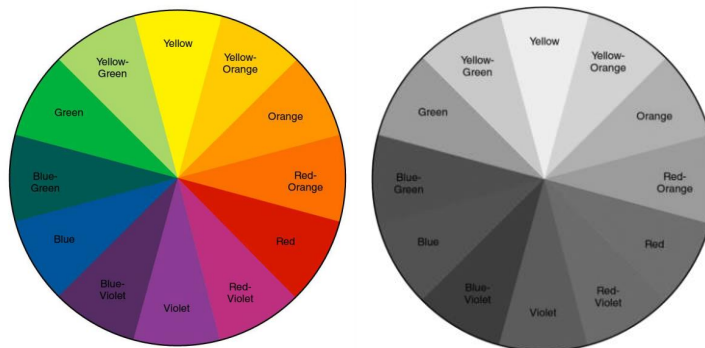
*The Photoshop Swatch panel (top; to be invoked from the Windows menu) and the 7-Value Grayscale (bottom).*



*The instructor's 7-Value Grayscale.*

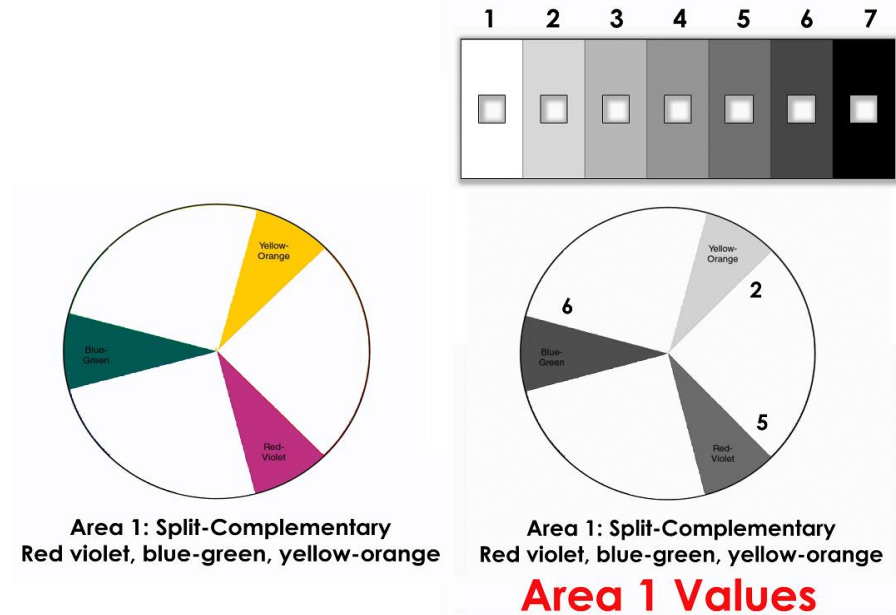
## Part 2: Color Harmony Using Complements & Three Attributes of Color (Hue, Value & Intensity/Saturation) in Five Areas

I created a 9" x 9" file in Photoshop and selected one of the sketched patterns to divide the area into five parts.



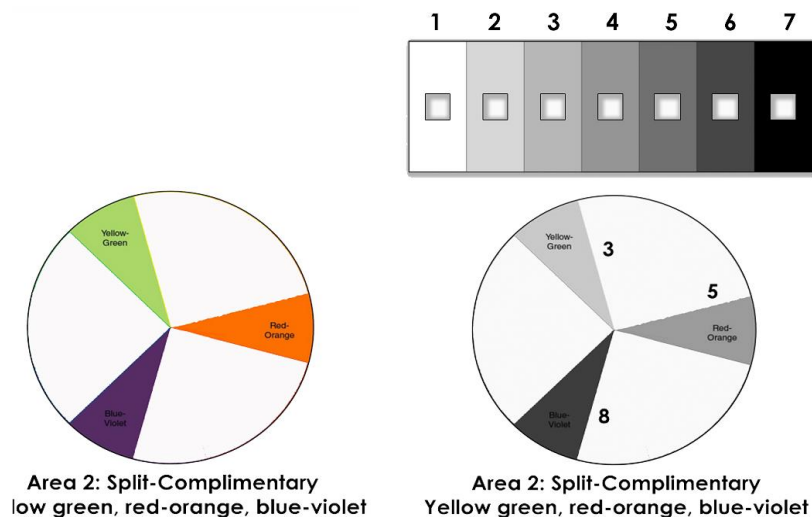
*The Color Wheel (left). The Grayscale image of the Color Wheel (right).*

- Area 1. In this area, I chose a minimum of 3 colors (plus black and white for some shapes and outlines) and filled in my design. I chose three colors in a split-complement color harmony scheme (red violet, blue-green, and yellow-orange). In Photoshop, I used the Copy and Paste tools to create a file containing the image of the color harmony scheme for Area 1; I went to the Image→Mode→Grayscale menu to convert the colored image into a grayscale image, which shows the values of the selected colors; next, I pasted the image of the 7-Value Grayscale next to it to determine the values of each of the three colors; and I used the Text tool to type the values of each colors, as shown in the picture below.



*Color harmony scheme for Area 1 and values of the selected colors.*

- Area 2. I chose, named, mixed and painted the exact complements of the original hues in Area 1 (red-violet→yellow green, blue-green→red-orange, and yellow-orange→blue-violet). This meant that, I painted the complements at the same value level and intensity level as each original hue. I had used black and white in Area 1, these values did not change at all for Area 2.

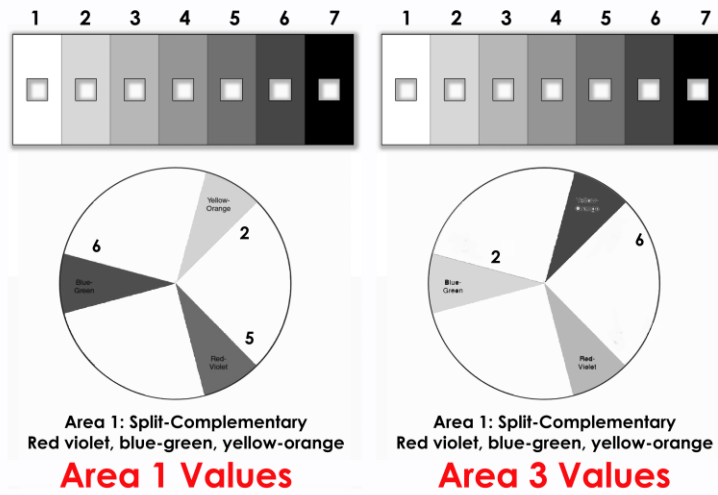


*Color harmony scheme for Area 2 and values of the selected colors.*

- Area 3. I chose, named, mixed, and painted the *opposite values* of the original hues in Area 1. The intensity levels remained the same as Area 1. I did this with the help of the 7-Value Grayscale and a grayscale image of the Color Wheel. Level 3 values remain the same. In Photoshop, I created a layer containing the image of the Color harmony scheme for Area 1; I copied this color image and pasted it in a new file; I went to the Image→Mode→Grayscale menu to convert the colored image into a grayscale image; I copied this grayscale image and

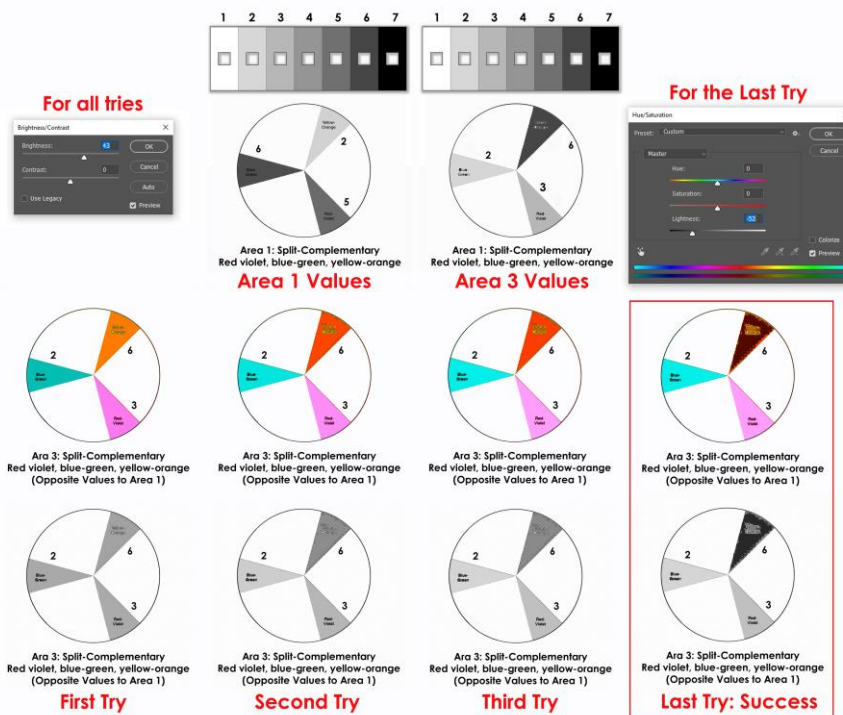


pasted it twice into the previous file; I moved one copy away and renamed it Area 3 in the Layer panel; I used the Eyedropper, Magic Wand and Paint Bucket tools to change the values of grays in the Area 3 color wheel, as shown in the pictures below.



*Area 3 values are opposites to those in Area 1.*

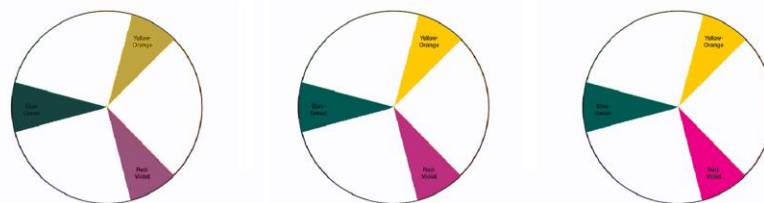
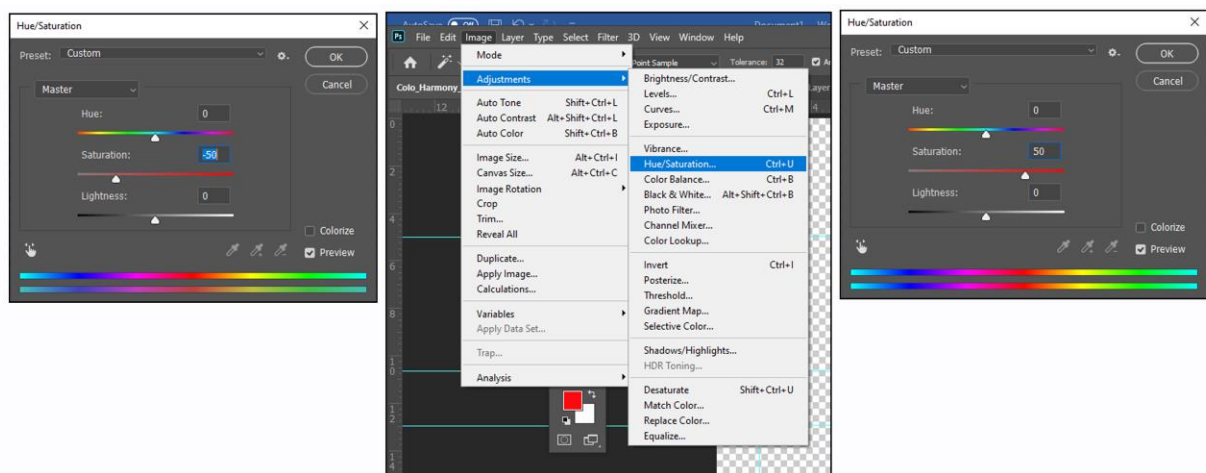
Next, I started to change the values of the color slices; I used the Magic Wand tool to pick up one of the three color slices; I went to the Image→Adjustments→Brightness/Contrast... and Hue/Saturation menus, and I dragged the Brightness slider leftward or rightward to increase or decrease the values of the color; I repeated the same process for the other two color slices; next, I copied this edited color wheel and pasted it into a new file and changed its Mode to Grayscale; next, I copied this grayscale image and pasted it back into the previous colored file; I compare this grayscale image with the Area 3 Values image above, to determine if the changes were sufficient; I tried four times to succeed, as shown in the picture below.



*My last try was successful; and it gave me the desired solution to the color scheme for the Area 3.*



- Area 4.** I chose, named, mixed and painted the *opposite intensities* of the original hues in Area 1. The values remained the same as Area 1. I had black and white in Area 1, these values did not change at all for Area 4. *Intensity* refers to colors/hues. Black and white are not colored hues, and therefore they cannot change in intensity. Unlike values which can be mathematically defined fairly precisely using the 7-Value Grayscale, in Photoshop, and changed with the Image→Adjustments→Brightness/Contrast... or Hue/Saturation menus, the opposite intensities are hard to define in Photoshop; in Photoshop, the Image→Adjustments→Hue/Saturation menu includes the Saturation slider that defines the intensity of any selected color as 0%, and allows increase in saturation up to +100% for maximal intensity or -100% for maximal dullness or close to grayscale. Therefore, I made it convenient to define “Opposite Intensities” as -50% and +50% in the Saturation bar of the Hue/Saturation menu window, as shown in the picture below. Since colors in other areas are mostly intense or fresh, I decided to use the duller colors in this Area 4.



**Area 1: Split-Complementary**  
Red violet, blue-green, yellow-orange

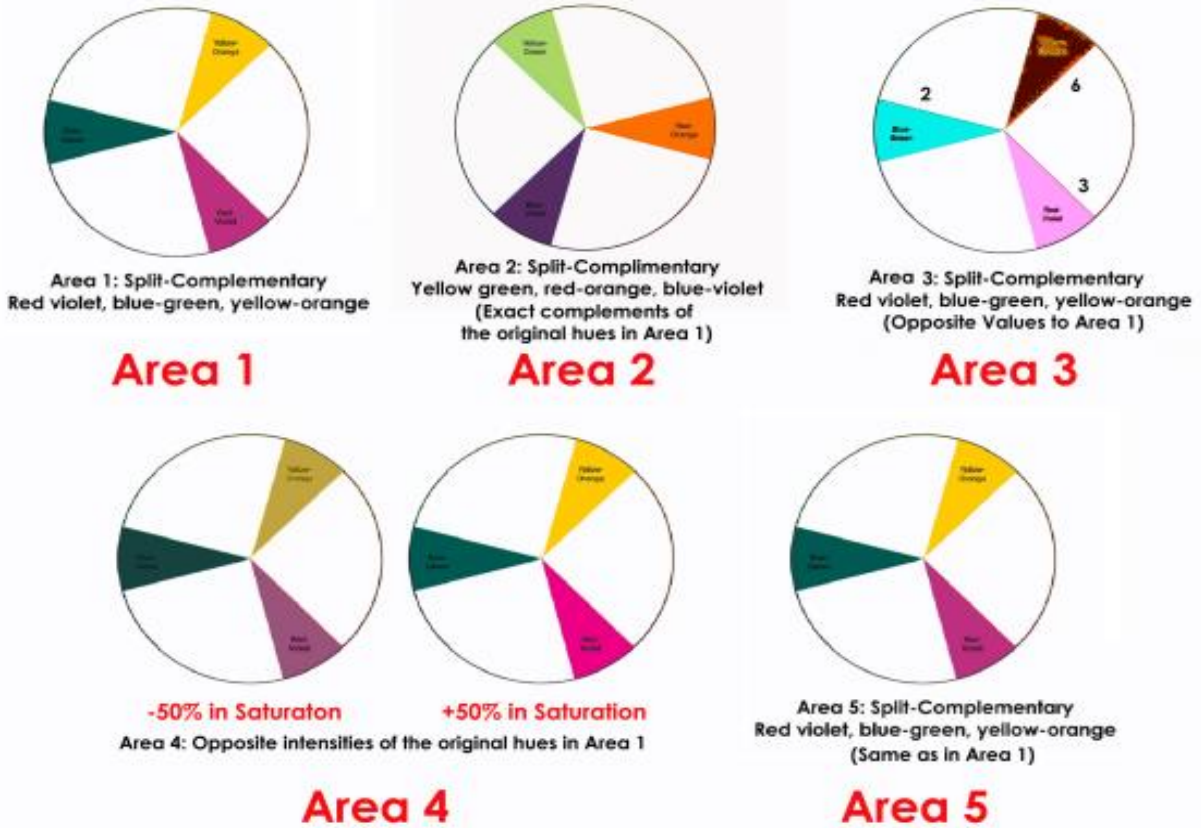
-50% in Saturaton

0% in Saturation

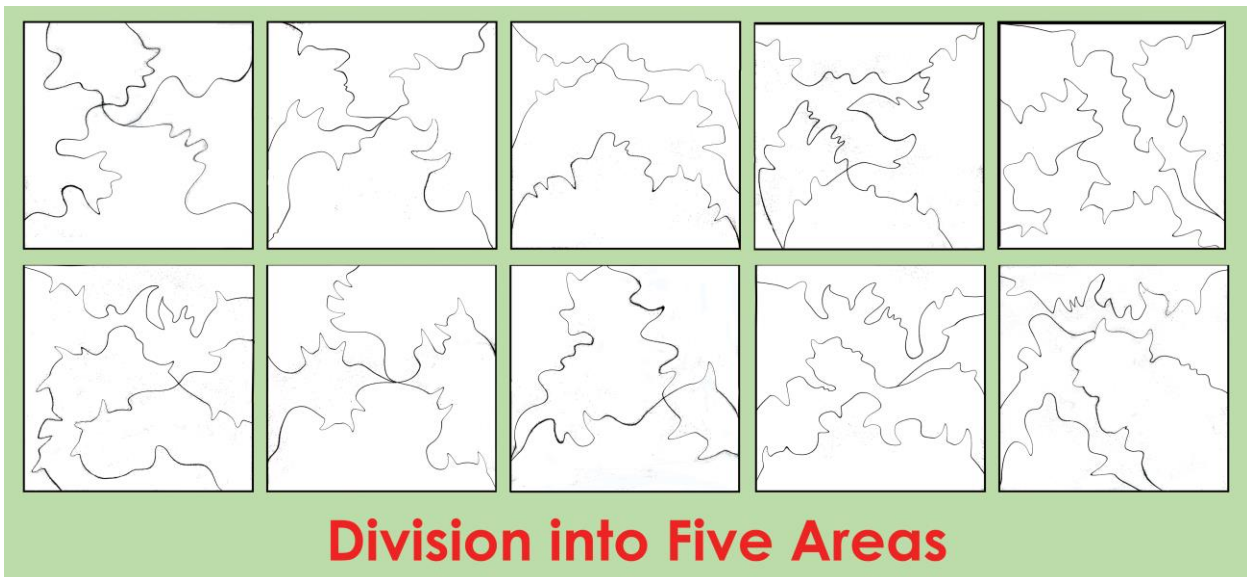
+50% in Saturation

### **Area 4: Opposite Intensities of Original Hues in Area 1**

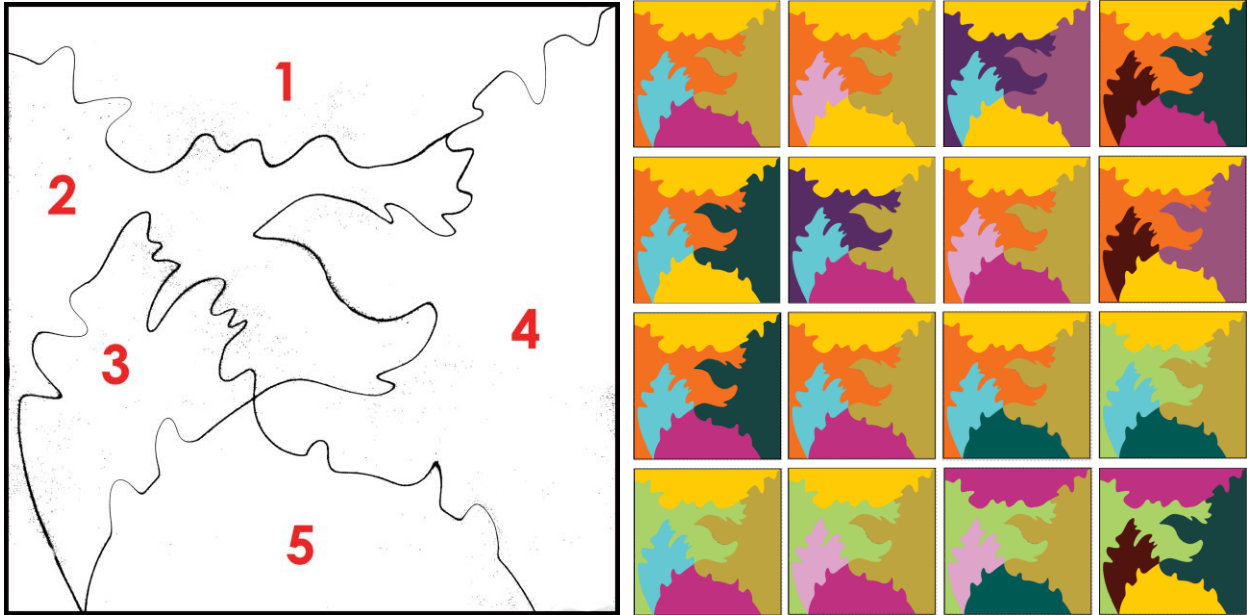
- Area 5.** I repeated the match of the original hues in Area 1. Up to this point, the color map for all areas has been completed, as shown in the picture below.



*Color map for all areas.*



*The various version of outlines for the five areas in the composition.*

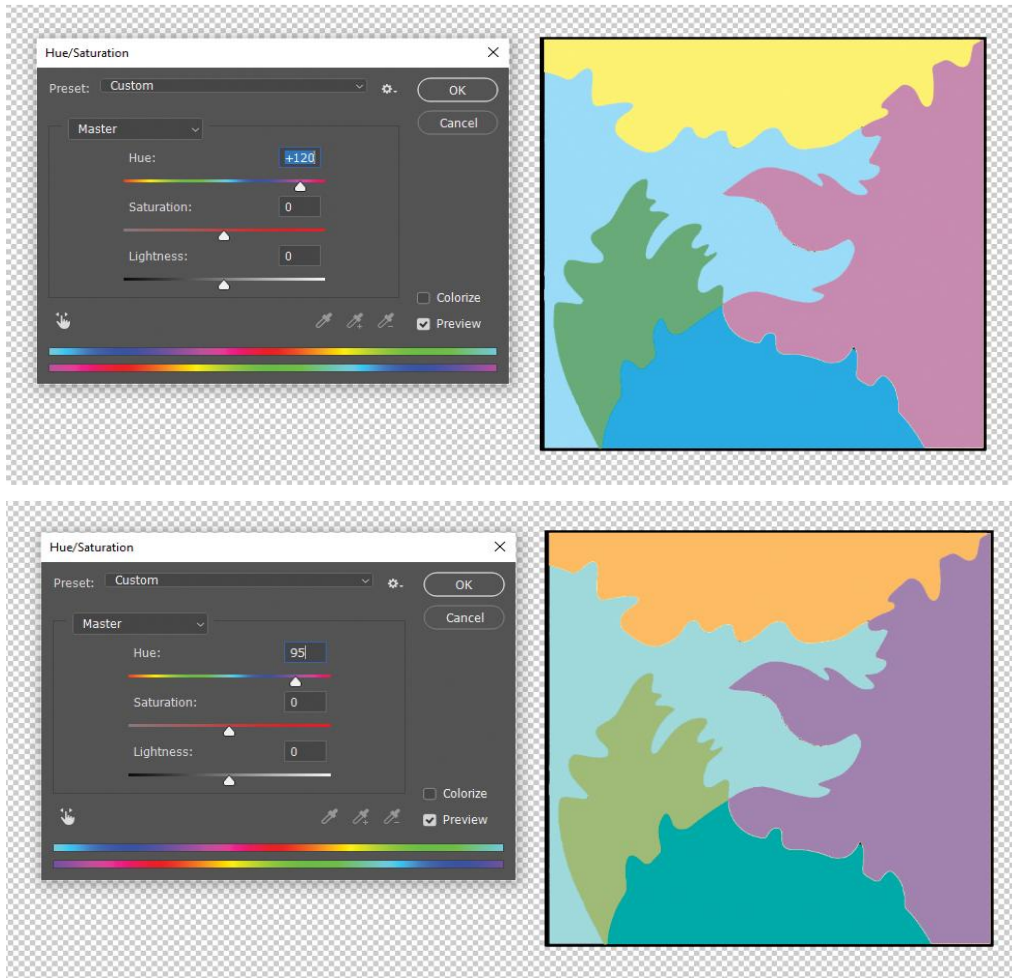


*The selected composition (left), the various versions of color distributions (right), with the one at the bottom-right corner selected, for its strong contrasts in temperature and values between adjacent areas.*

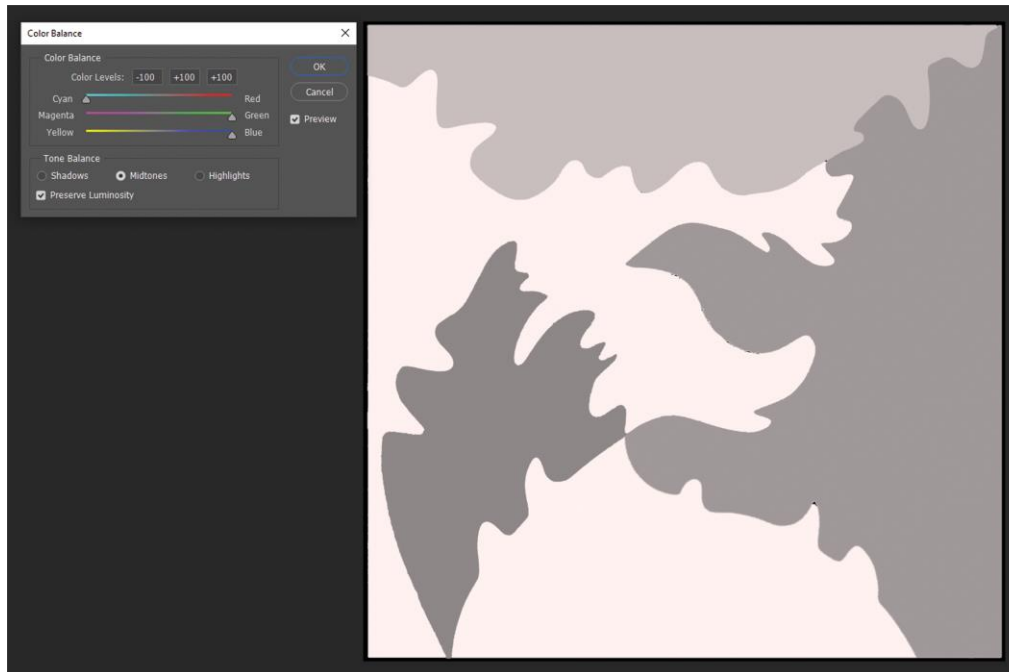


*The selected color scheme for this project.*

Notice that in Adobe Photoshop, if desired, the values and hues of the selected color scheme could be changed automatically without breaking the overall balance and harmony of the color scheme, with the following menus: (1) Image→Adjustments→Levels, (2) Image→Adjustments→Brightness/Contrast, (2) Image→Adjustments→Hue/Saturation, and (4) Image→Adjustments→Color Balance. This is shown in the pictures below.



*Image →Adjustments →Hue/Saturation menu.*



*Image → Adjustments → Color Balance menu.*



*Cool Grays and Warm Grays could be used.*

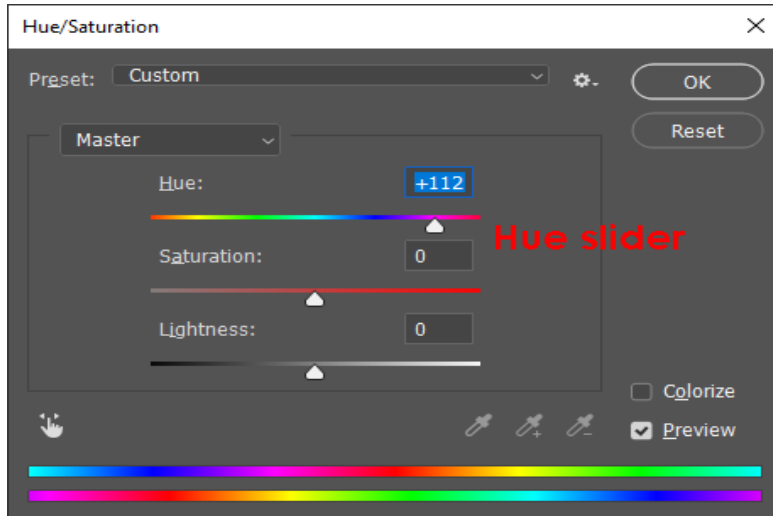


I have decided to make this project a preparation for a series of graphic design works for textile or gift wraps celebrating various ethnic cultures; I collected through Google Image Search a lot of illustrated images to be used as references, as shown in the screen shots below, close to the end of this writing. For this assignment, I have celebrated the Irish Civilization; I have some Irish-American friends; I always appreciate the contributions of the Irish people to English-language literature, arts and music, to social justice, charity and progress, to science, technology and economic growth. I selected some Irish cultural symbols such as shamrock, ancient castle, wine bottle and cup, Celtic harp, knots, cross, waving pattern and hat; these icons have been assigned to selected areas and painted with the three designated colors according to the selected color scheme plus white and black (neural colors). In addition, I used light pink flower and heart patterns with black outlines for all five areas as unifying graphical elements.



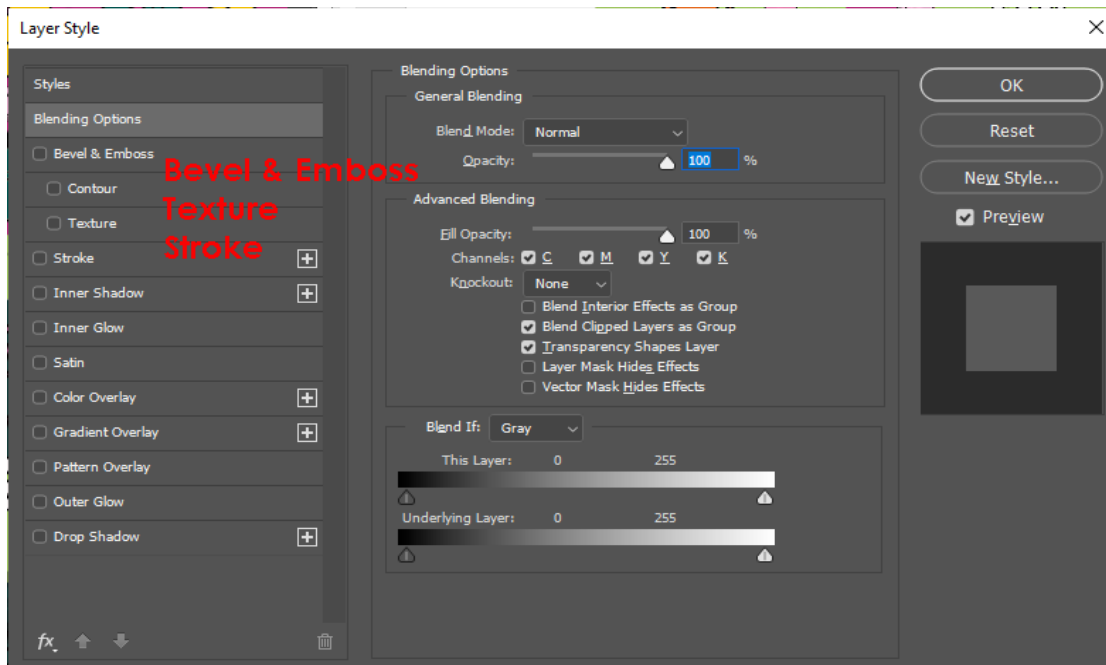
The 2D image with all graphical elements (**THIS IS THE COMPLETED WORK FOR ASSIGNMENT SUBMISSION**).

If desired, the Image→Adjustments→Hue/Saturation menu could be used to change the overall color harmony scheme of the image, by dragging the Hue slider leftward or typing a negative value to make the overall color scheme cooler, by dragging the Hue slider rightward or typing a positive value to make the overall color scheme warmer; notice that the maximum value on both sides (180 or +180) yield the same results.



*The Hue/Saturation menu window.*

If desired, Bevel and Emboss effects, Texture and Stroke (outlines) could be applied to any graphical element. Simply double-click the layer in the Layer panel to invoke this window.



*The Layer Style window.*





*Making the overall color scheme cooler with negative values in the Hue text field: -50 (top-left), -100 (top-right), -150 (bottom-left), and -180 (bottom-right).*



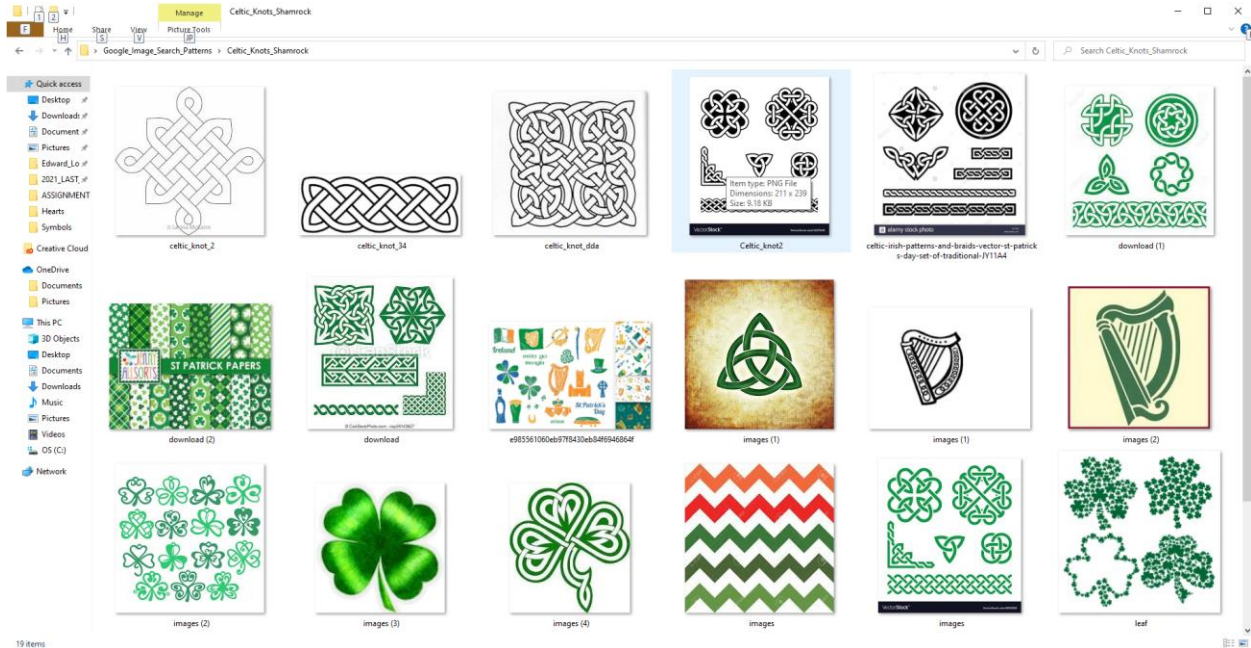


*Making the overall color scheme warmer with positive values in the Hue text field: +145 (top-left), +100 (top-right), +150 (bottom-left), and +180 (bottom-right); notice that the +180 yields the same result as the -180.*

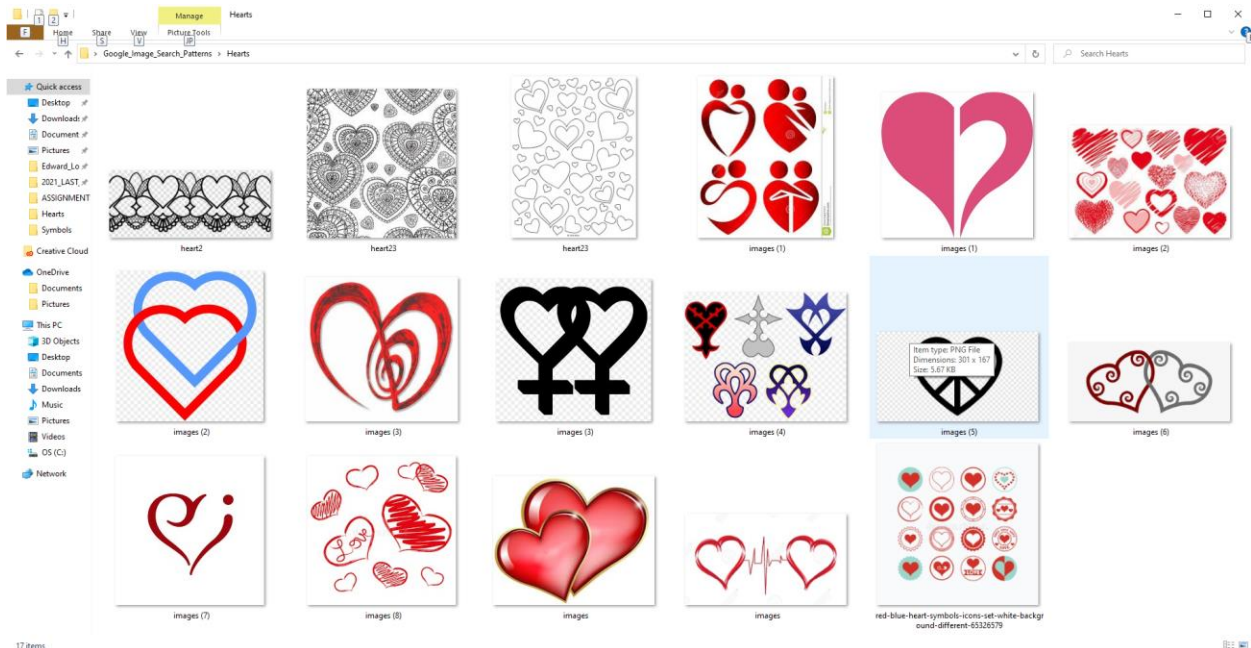




*In this version, the five areas in the background have been applied a Bevel & Emboss effect.*

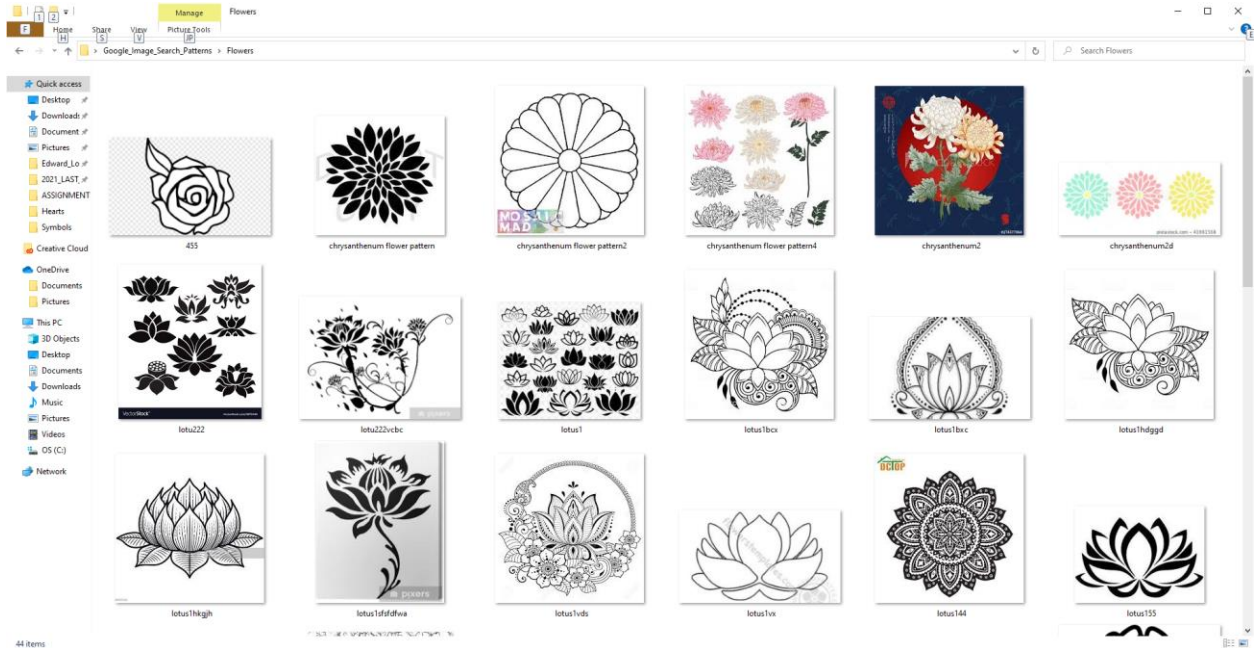


*Celtic knots and shamrock patterns found through Google Image Search.*

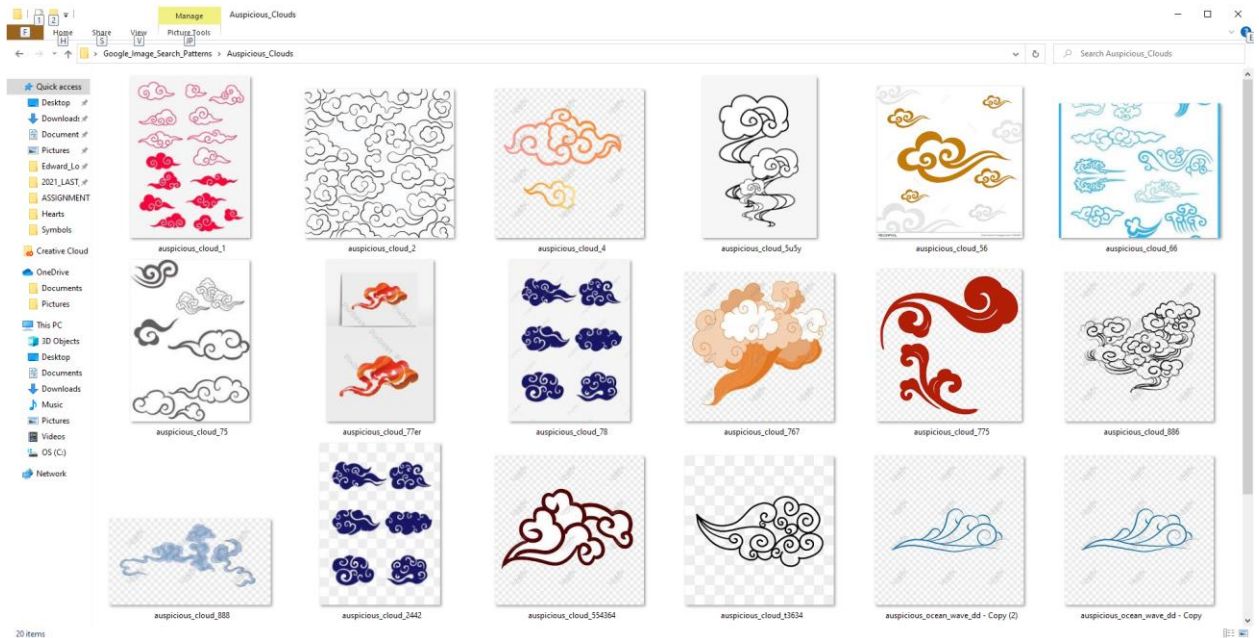


*Heart patterns found through Google Image Search.*

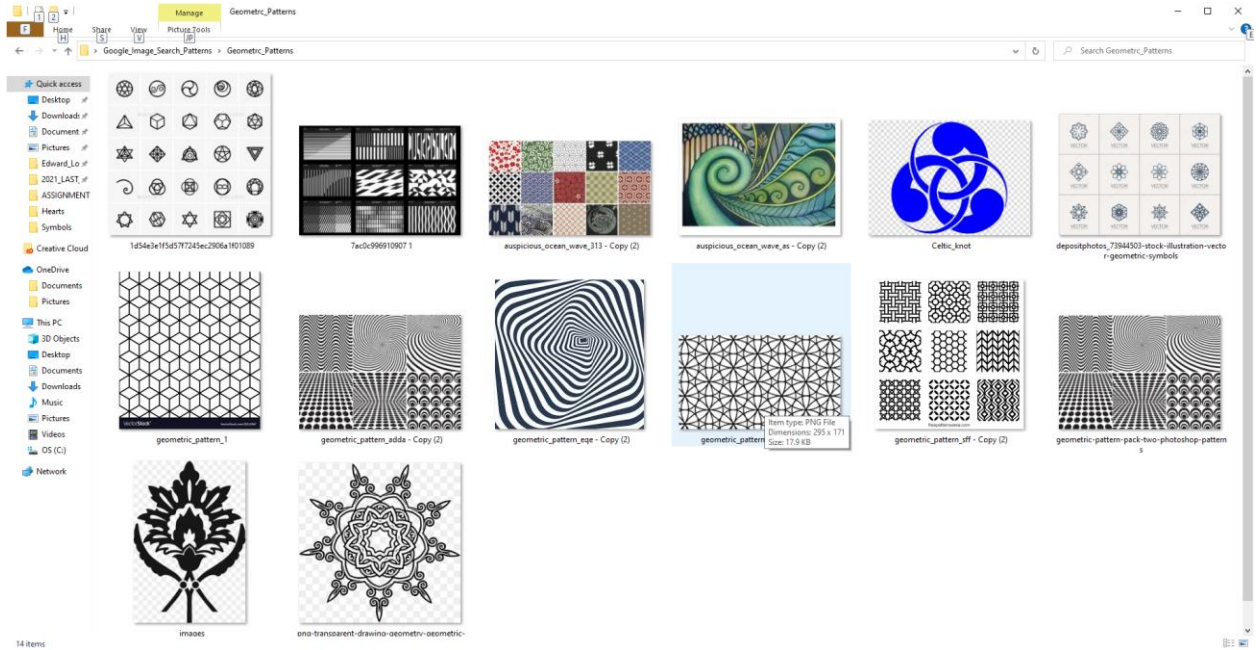




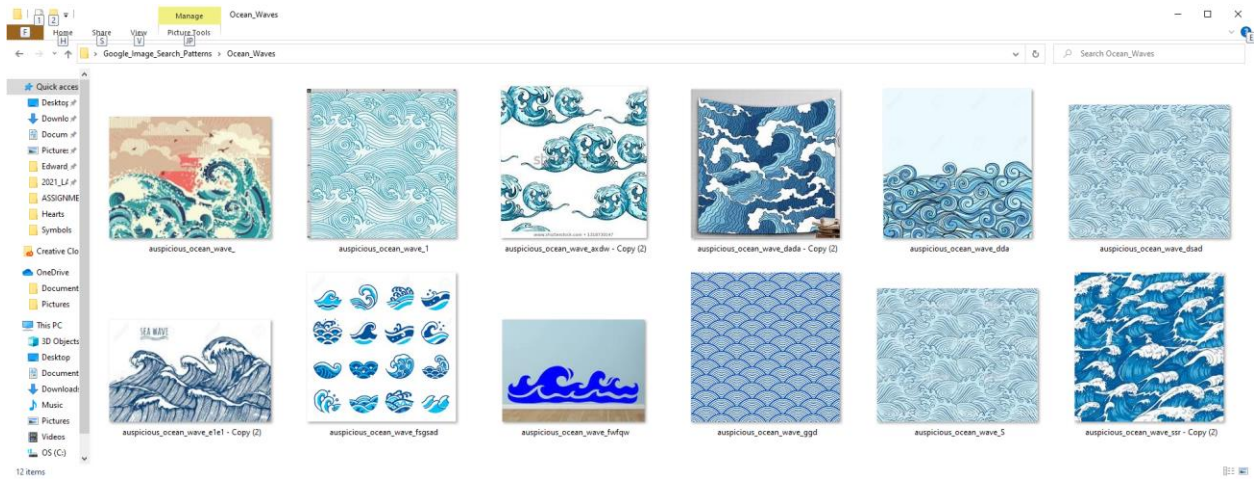
*Floral patterns found through Google Image Search.*



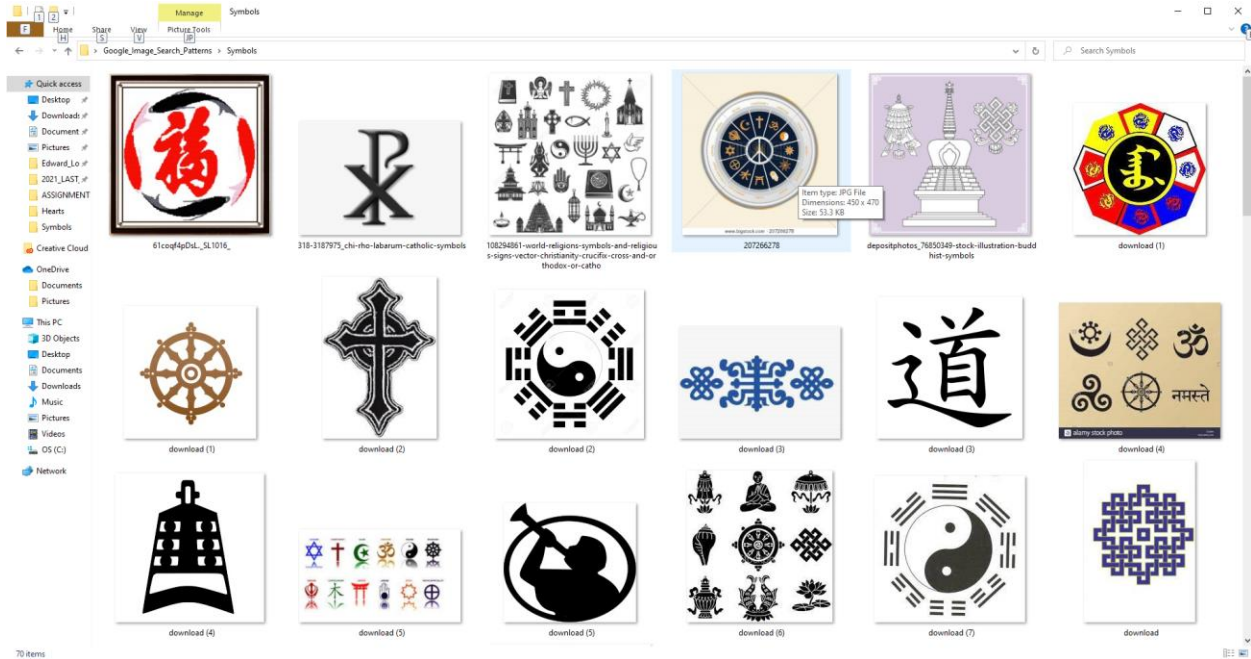
*Auspicious clouds patterns found through Google Image Search.*



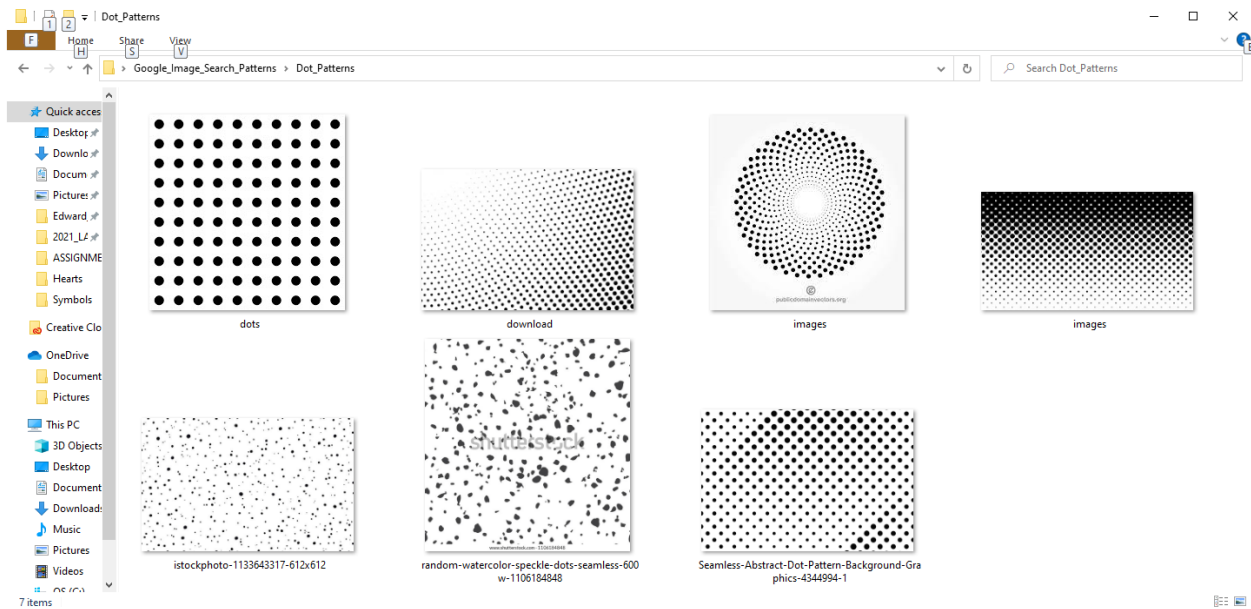
*Geometric patterns found through Google Image Search.*



*Ocean wave patterns found through Google Image Search.*



*Cultural and religious symbols found through Google Image Search.*



*Dots patterns found through Google Image Search.*