

Name: \_\_\_\_\_

## Processing – Making a Face – Introducing Color

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Today we will focus on using Processing to plot out a simple face. We are going to use the 'ellipse' command as well as a new command, 'fill', that will allow us to color our image.

Recall that the ellipse command uses four arguments (the four numbers inside of the parenthesis).

*ellipse(x, y, width, height);*

\* reminder – the 'x' and the 'y' describe a point that is at the center of the ellipse. The 'x' is how far to the right, and the 'y' is how far down.

\* Also, remember that in Processing, the coordinate grid has been flipped upside down. (0,0) is the upper left corner instead of the lower left corner.

Now let's look at the new command, *fill*. The fill command allows you to fill your paintbrush with color. Processing uses numbers from 0 to 255 to describe color. There are two ways *fill* can be used. If we just enter one number, for example *fill(230);*, then the color will be somewhere between black and white. The scale that Processing uses is 0 = black and 255 = white. All of the numbers in between are shades of gray.

Another way that fill can be used is to create color. If we enter three numbers, for example *fill(130, 25, 200);*, then we will see a color created. Creating colors with Processing is a bit like mixing paint. However, digital colors work a little differently. The three primary colors are red, green and blue. Here are a few different colors. Use the blank space to the right to add number combinations for other colors you discover that you like.:

*fill(255,0,0);* - red

*fill(0,255,0);* - green

*fill(0,0,255);* - \_\_\_\_\_

*fill(255,255,0);* - \_\_\_\_\_

*fill(255, 150, 0);* - \_\_\_\_\_

*fill(255,100,200);* - \_\_\_\_\_

The fill command allows you to put paint on your brush. Now, everything you draw will be that particular color, until you choose to fill your brush with a different color.

Remember you can always experiment if you forget which number does what. **It is ok to play with numbers.**

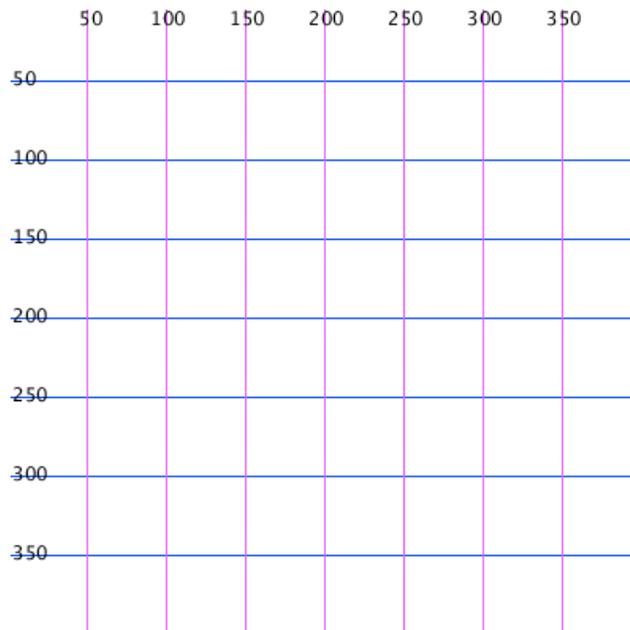
Thus, for example, if we write code like this, with one black oval and one white oval:	It will produce a drawing something like this:
<pre><b>size(400,400);</b> <b>fill(0);</b> <b>ellipse(40, 40, 40, 80);</b> <b>fill(255);</b> <b>ellipse(200, 200, 80, 40);</b></pre>	

**TODO Today: Plot out a face using only 4 ellipse commands (you can fill the ellipses with any colors you like).**

*Think about how you can express how you feel using different size and placed ellipses.*

Remember that your first line of code should be **size(400,400);**

You can use this grid to help you.



//notes for the teacher

Talked about 'x' and 'y' being seen as someone walking along the top of the grid and stopping at some point to slide down a rope. The point the person stopped at is the 'x'. How far the person slides down to reach a point is the 'y'.

Instead of the paintbrush description, we also tried 'fill' being thought of as a crayon that is grabbed from a box. Once that crayon is in your hand, everything you draw will be that color until you go to the box and get a different crayon (put another 'fill' command).