CREATE A MUNSELL HUE CHART WITH ADOBE ILLUSTRATOR

After our introduction to color using paint, creating structured hue charts such as Munsell's in Illustrator can be a good way to observe saturation and value relationships within a single hue. It will also provide you with color palettes to use in future projects.

The Set Up

- Open your Preferences. (Illustrator Menu - Or Command K)
- Units and Display Performance > General Units: This should be set to Inches
- Guides & Grid: Gridline every .5" and with 1 Subdivision. This will give you simple half-inch grid to work with.
- Create a new document: 8.5 x 11, RGB Mode (important to select correct mode)
- Turn On Your Grid & Snap to Grid. (View Menu)
- Palettes: Open your color, transform. pathfinder & align
- palettes (Window Menu)

Step One – Make A Vertical 11 Step Value Scale

1. Create a half inch square. Select the rectangle tool in your tool palette. You can drag to fill one grid unit. Use the RGB mixer in the Color Palette to Fill it with black and give it a Stroke of none. **Do not use the CMYK mixer to mix your black**. It will not create the darkest color possible.

2. Option-drag the square with the selection tool ▶ up 10 units and fill with white & no stroke. **(fig. a)**

3. Create a BLEND between the black and white squares to create your 11 step scale. Select both squares. First Go to Object Menu > Blend > Blend Options and use the Spacing pulldown to choose "Specified Steps." Type "9" in the field.

   Select your white and black squares, go to Object Menu > blend > make (command-option-B), This will make a 9-step blend between black and white. Click the Preview box to get a look at how the blend will appear. Click "OK." **(fig. b)**

4. Important Step: Now you must EXPAND the blend. Huh? Illustrator creates these blends on the fly which means that you can edit the position, shape or color of your objects and Illustrator will recalculate the blend automatically. The line that you see running through your scale represents the area in which Illustrator is calculating new shapes and colors for you (see fig.b) However, you cannot actually use the in between colors or shapes because they are not really shapes yet, just calculations. For our purposes it is necessary to be able to select those intermediate gray colors and use them for our Munsell chart. So we must make those grays into actual editable objects.

   Expand the Blend (object menu > blend > expand). Note that the blue line is gone and all of the units of your gray scale are selected (they have blue lines around them and little squares on all of the corners) this is a sure-fire indication that your blend has been expanded. **(fig. c)**

5. Important Step: You must ungroup these objects. (Object Menu/Ungroup) If you do not ungroup these expanded blends very strange things will happen later on!
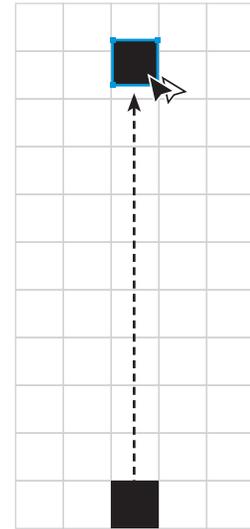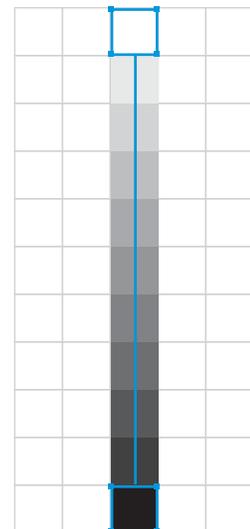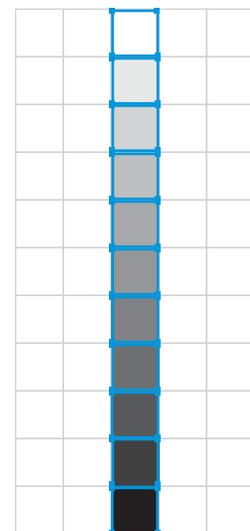

fig. a
option-drag

fig. b
blend

fig. c
expanded
blend

Step Two – Determine The Relative Value Of The Hue
create swatches of your hue, superimposed on the scale to help you determine its relative value

1. Create a fully saturated hue for your Munsell Chart.
   How about Yellow-Orange? (This may be a different mix than the one we will use for our charts) Mix your Hues with the CMYK Mixer: 100 Yellow & 50 Magenta.

2. Create circles of your hue that sit on top of your value scale.
   First turn off your snap-to grid. Otherwise your circle will keep snapping to the grid! Make a .15" Yellow-Orange circle in the center of your white square in your value scale. **(fig. d)** See tip at the bottom of page.

   Option-Shift-Drag the circle to make a duplicate on top of the black square at the bottom of your scale. **(fig.e)**

   Make the in-between circles by creating a blend. Click on the first yellow-orange circle with the blend tool and then click on the second yellow-orange circle with the blend tool. Since the blend tool holds onto the settings of the last blend performed, you should end up with 9 circles (9 steps) between your two original circles. **(fig.f)**

3. Select the row in which the value of the hue and the gray seem to be the same. Look for the combination that appears to have the least amount of contrast.

fig.d   fig.e   fig.f
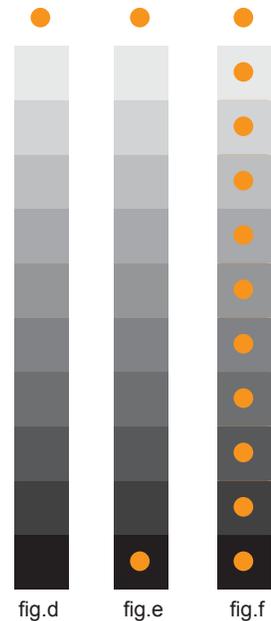
Step Three – Determine What Column The Fully Saturated Hue Falls Into
This is the most difficult step in creating a Munsell chart. The Munsell system is based on visual balance; even steps of value and even steps of intensity. The goal in placing the hue in it's outside position is to create steps in intensity that match the steps of value that appear in the value scale. BE SURE TO TURN YOUR GRID SNAPS BACK ON!

1. Move your hue out to an outer position in the grid.
   You'll really need to guess the first time. It's safe to assume that it will be more than 3 and less than 7. Create a square of the Yellow-Orange hue using the CMYK mixer in the Color Palette and drag the square into position. **(fig. g)**

2. Create a blend between the hue and the value.
   Select both squares. (Object menu > Blend > Make). Change the "specified steps" in the blend to the number of spaces that fall between the value and the hue (Object menu > Blend > Blend Options). The example at right has 4 specified steps between the value & the hue. **(fig. g)**

3. Adjust the steps until it looks even.
   To do this, simply move the hue square to the left or right and then go to "Blending Options" and change the number of steps again. You can also option-drag the blend to make three or four copies. Then make blends of different length and select the best one. **(fig. l)**

   Tip: to quickly change the "specified steps" select the blend and double click the blend tool in the tool palette.

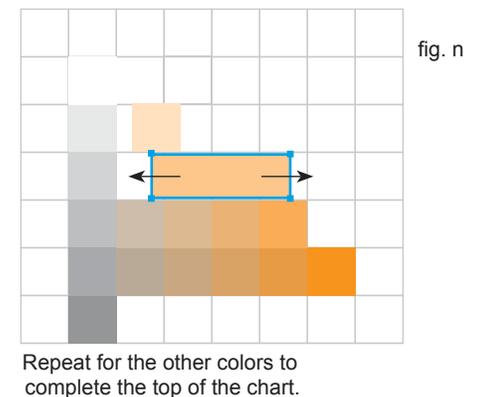4. When you are satisfied, Expand the blend and ungroup it.
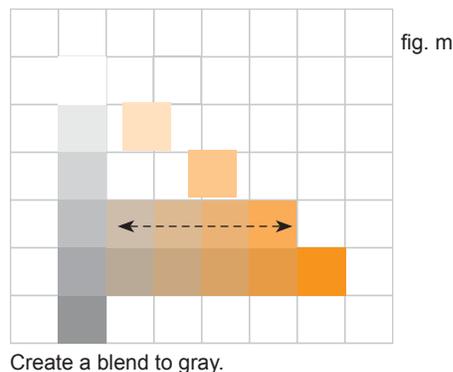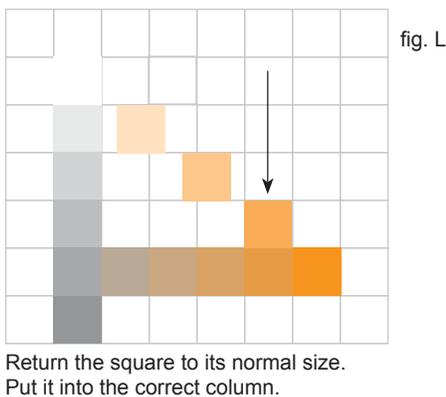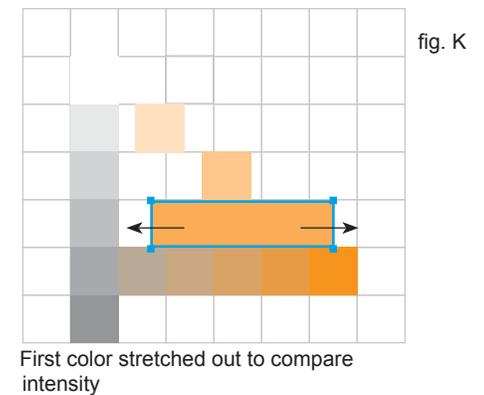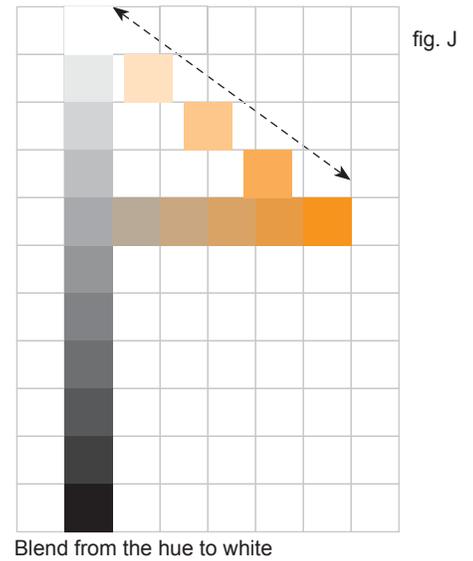

fig.g

Value

Intensity

fig.h
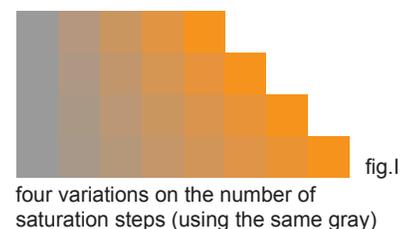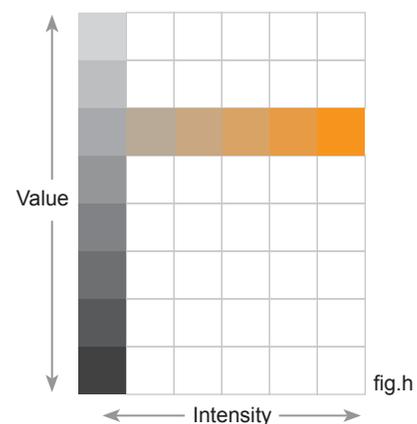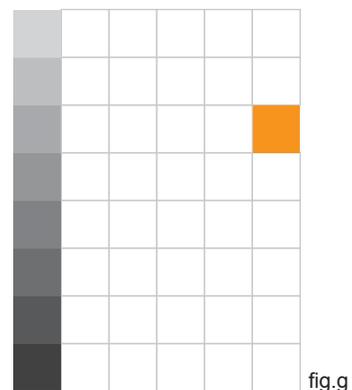
TIP: What's a good way to make the circle right in the center of the square?

a. *turn off snaps. (or your circle will keep snapping to your grid!)*

b. *Go to outline view. In this view you will see the center of the square where you will place your new circle. It is represented by an X.*

c. *Zoom into the square.*

d. *Select the Ellipse tool. Option-click on the center of the square (represented by an x). Holding down option will create your circle from the center!*

e. * In the ellipse dialogue box enter .15" for width and height. Click ok.*

f. *Your circle will appear right in the center of the square.*

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fig.l

four variations on the number of saturation steps (using the same gray)

Step Four – Create The Rest Of The Colors
You will create the rest of the colors with blends as well.

1. Create a blend between the hue and white.
   Make your "specified steps" the number of rows between the hue and white. In the example at right the specified steps are 3. The blend will be created along a diagonal. **(fig.J)**

2. Expand the blend and ungroup it.

3. For each of these new colors, which are tints of the hue, determine what column it will fall into. The farther out, the higher the color's intensity. Take the first color and stretch it out horizontally. This will allow you to compare it to the colors underneath (the tone scale from gray to the full intensity hue) **(fig. k)** You will need to de-select the square in order to compare the colors accurately.

4. Comparing the color to the ones below it, select a color whose saturation most closely matches that of your new color. When you have decided, use the bounding box to reduce the square to its original .5" size and put it into the column that you selected. **(fig. L)**
   You can use the arrow keys to nudge your square arround the page.

5. Create a blend between the Color and the gray in that row. **(fig. m)** Expand and ungroup.

6. Repeat steps 3-5 with the remaining colors to complete the top of the chart. **(fig. n)**

fig. J

Blend from the hue to white

fig. K

First color stretched out to compare intensity

fig. L

Return the square to its normal size.
Put it into the correct column.

fig. m

Create a blend to gray.

fig. n

Repeat for the other colors to complete the top of the chart.

7. Create a blend between the hue and black.

8. Make your "specified steps" the number of rows between the hue and black . In the example at right the specified steps are 5. The blend will be created along a diagonal **(fig. o)**. Expand and ungroup. These new colors are shades of the hue.

9. Repeat steps 3-5 to complete the lower part of the chart. **(fig. p)**

fig. o

Blend from hue to black

fig. p

Completed Chart