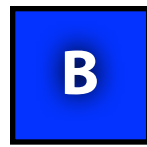
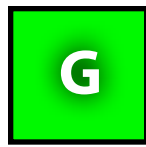
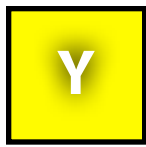
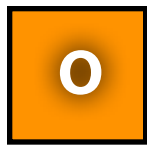


PHYZLAB SPRINGBOARD: FUN WITH COLORS



R: 1.0

R: _____

R: _____

R: _____

R: _____

R: 1.0

G: 0

G: _____

G: _____

G: _____

G: _____

G: 0

B: 0

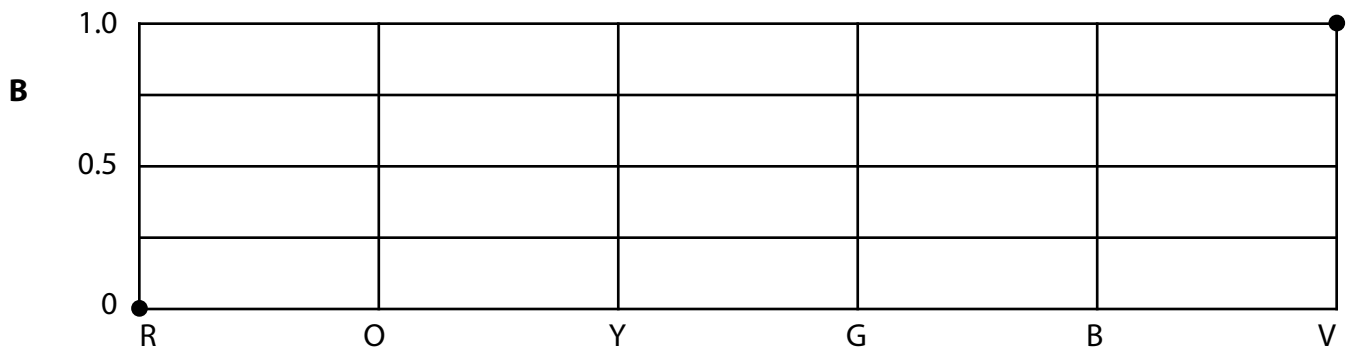
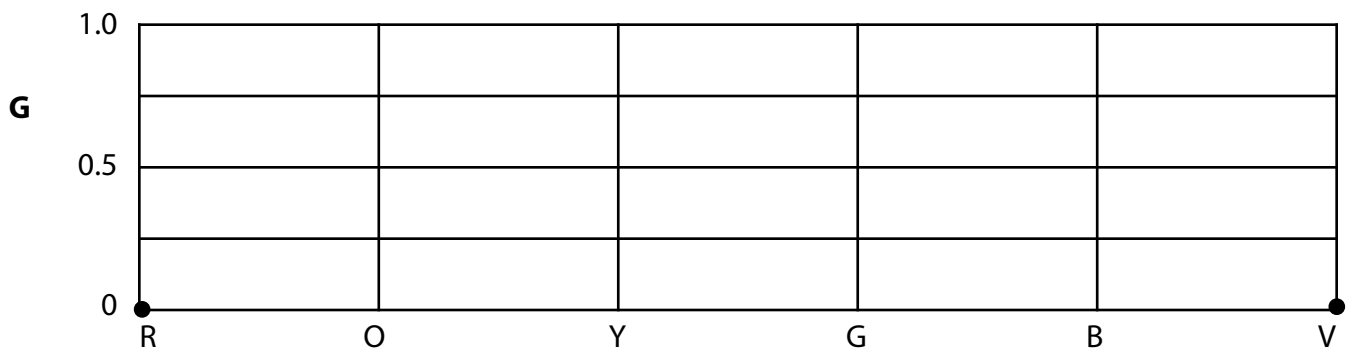
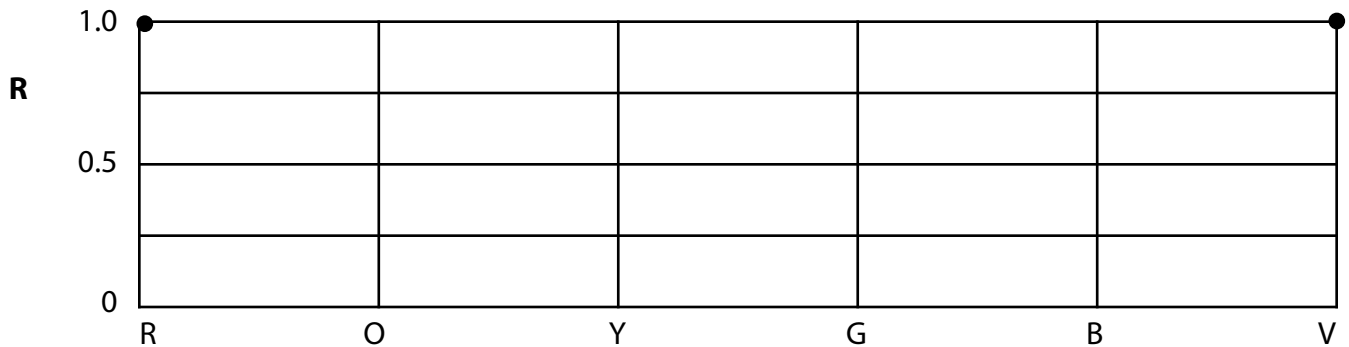
B: _____

B: _____

B: _____

B: _____

B: 1.0



Use the PhET sim “Color Vision” or comparable smart phone app.

1. Identify the primary color (RGB) makeup of each spectral color shown and listed at the top of the front side of this sheet. Then plot Color Makeup vs. Spectral Color for Red, Green, and Blue. (limit your values to 1.0, 0.5, and 0). Notice that Red and Violet have been completed for you.

2. One of the spectral colors is unlike all the other colors in terms of its RGB makeup. Which one is it and how is it different?

3. Which came first, the color name, “orange,” or the fruit named “orange”?

4. The “graphs” of RGB makeup vs. Spectral Color are not strictly quantitative graphs. But let’s not let that stop us from doing a bit of quantitative analysis. Note that each graph is distinct from the others. Connect the plotted data points with straight lines (we wouldn’t do this with a proper graph).

a. Which color bounds the greatest “area under the curve”? ___Red ___Green ___Blue

b. Which color bounds the least “area under the curve”? ___Red ___Green ___Blue

5. Binary Digital Colorimetry. Name the “color” obtained in each RGB makeup setting listed below. Note that in each case, each primary color is either a 1 or a 0. Try completing the table on your own before checking the results with technology. After making your best guesses, check your answers using the sim or app.

R	G	B	“Color”
0	0	0	
1	0	0	
0	1	0	
0	0	1	
1	1	0	
1	0	1	
0	1	1	
1	1	1	