

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

Class: \_\_\_\_\_

Date: \_\_\_\_\_

## RGB Color

### Background

We have done some work with light and diffraction slides. We know what is meant by reflect, refract, diffract and absorb. We have also taken a quiz of waves. In this activity, you will look at colored lights and colored filters.

### Getting to the site

1. Log on to your computer
2. Go to the Internet and go to <http://phet.colorado.edu/en/simulation/color-vision> or get there from the class web site

### Part I.

1. Move the colored sliders to create the listed colors. Position sliders either up, down or half-way to produce the given color.
2. Be sure that **RGB Bulbs** is selected at the top left
3. Create the colors listed so the guy can “see” them

Title here: \_\_\_\_\_

<b>Color</b>	<b>Red Slider</b>	<b>Green Slider</b>	<b>Blue Slider</b>
<b>White</b>			
<b>Black</b>			
<b>Grey</b>			
<b>Violet</b>			
<b>Hot pink</b>			
<b>Orange</b>			
<b>Aqua</b>			
<b>Lt. Green</b>			

**Question Part I**

1. Why were the colors of the lamps used in this activity only red, blue and green?\_\_
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**Part II**

1. Stay on the same page, but this time click on Single bulb
2. Be sure under “beam view”, you have “solid” clicked
3. Click on “white light”
4. Use the filters and lights to see what the guy at the right will “see”

**Title here:** \_\_\_\_\_

<b>Filter color</b>	<b>Color seen</b>
Orange	
Red	
Blue	
Green	
Violet	

**Part III**

1. Stay on the same page, but this time click on Single bulb
2. Be sure under “beam view”, you have “solid” clicked
3. Click on “Monochromatic”
4. Use the filters and lights to see what the guy at the right will “see”

**Title here:** \_\_\_\_\_

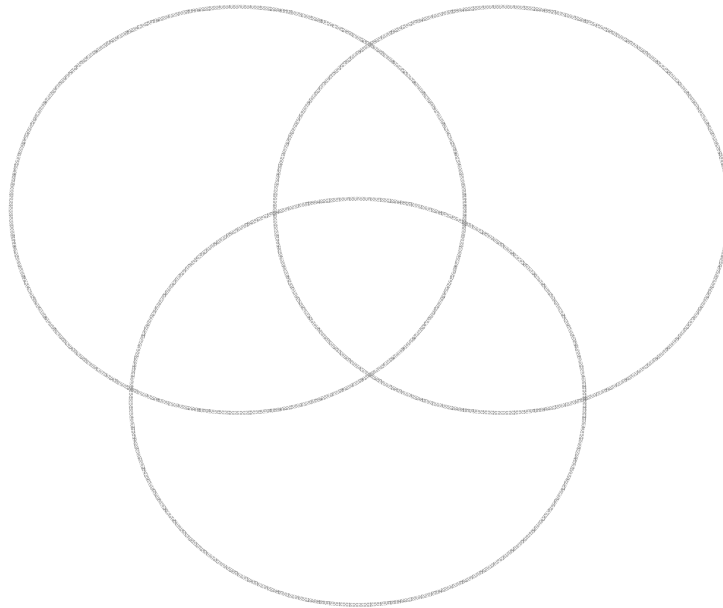
<b>Bulb</b>	<b>Filter</b>	<b>Color Seen</b>
Green	Green	
Red	Green	
Violet	Blue	
Yellow	Blue	
Blue	Red	

**Overall Questions**

1. What is the difference between white light and the light that was monochromatic? (hint: mono mean “one” and chromatic means “color”)\_\_\_\_\_
2. What did the filters actually do?\_\_\_\_\_
3. If you have the blue light on and use the green filter, black is seen. Why?\_\_\_\_\_
4. Complete the Venn Diagram using words or colored pencils....

Red

Blue



Green