

Name

Combining Colored Light Worksheet

Observations

- 1. Describe the color of the light emitted from the overhead projector.
- 2. Describe the initial colors observed in each circle when the plastic sheet is placed on the projector.
- 3. What is placed over each transparent color in order to refract the light and to combine the colors?
- 4. Record the name of the color produced when the following colors of light are combined.

Red and Blue	=
Red and Green	=
Blue and Green	=
Red, Blue, and Green	=

Post-Lab Questions

- 1. Using a textbook or another source of reference, define the following terms.
 - a. Visible light
 - b. Transmission
 - c.Absorption
 - d. Refraction
 - e. Pigment
- 2. When white light is passed through a prism, what is commonly observed?

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3. Explain how the colored transparent sheets are able to change white light into colored light. Explain your answer using an example.

- 4. Explain how the lenses in this demonstration are used to combine the light from each circle.
- 5. Do you think that mixing combinations of red, blue, and green pigments (paints) together will produce the same effect as mixing light? Justify your answer with an example.
- 6. Design an experiment in which the effects of combining colors of paint are compared to combining colors of light. Be sure the experiment includes the following.
 - *a*. The colors of paint(s) needed.
 - *b*. Other additional materials.
 - *c*.The color combinations that must be tested.