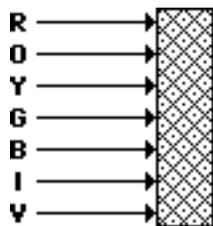




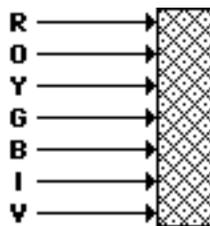
## Light and Color

4. Two students in the cafeteria are discussing the physics of color. The students are claiming that white and black are not really colors of light. If white and black are not really colors of light, then what are they? Explain fully.
5. Explain why a red shirt looks red when visible light ("ROYGBIV") shines upon it.
6. Transparent materials are materials that allow one or more of the colors of visible light to be transmitted through them; whatever color(s) is/are not transmitted by such objects, are typically absorbed by them. The appearance of a transparent object is dependent upon what color(s) of light is/are incident upon the object and what color(s) of light is/are transmitted through the object. Express your understanding of this principle by continuing the arrow(s) for any transmitted color(s) and filling in the blanks in the following diagrams.



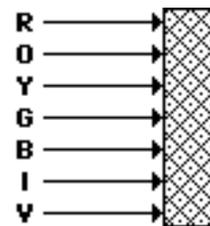
**Pigment capable  
of absorbing  
ROYBIV**

**Appears** \_\_\_\_\_



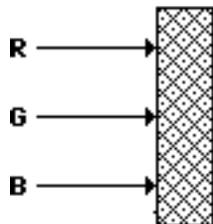
**Pigment capable  
of absorbing  
ROYIV**

**Appears** \_\_\_\_\_



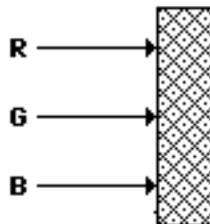
**Pigment capable  
of absorbing  
YGBIV**

**Appears** \_\_\_\_\_



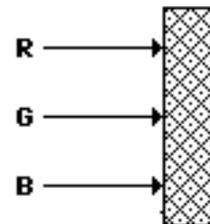
**Pigment capable  
of absorbing  
R**

**Appears** \_\_\_\_\_



**Pigment capable  
of absorbing  
G**

**Appears** \_\_\_\_\_



**Pigment capable  
of absorbing  
OYGBIV**

**Appears** \_\_\_\_\_

7. What color(s) of visible light will a cyan (bluish-green) pair of sunglasses ...
- ... transmit?
  - ... absorb or block?