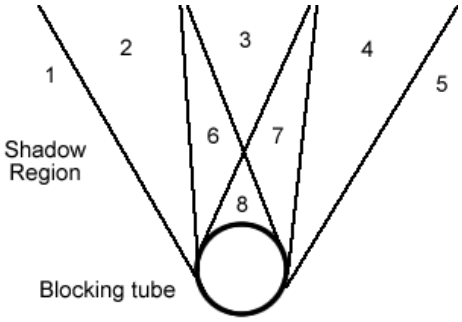
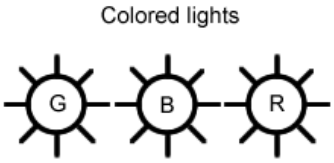
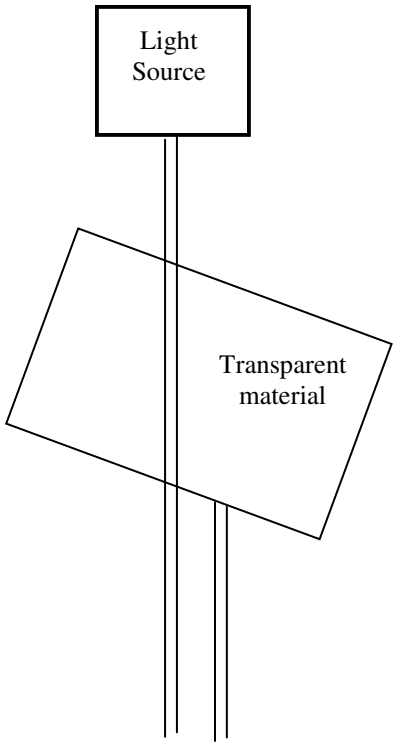


1. Figure out the colors of the different regions.
   Region 1:
   Region 2:
   Region 3:
   Region 4:
   Region 5:
   Region 6:
   Region 7:
   Region 8:

2. If a 3 cm object is 6 cm from a lens that cannot magnify,
A) What kind of lens is it?
B) If the focal length is 4.5 cm, find the height of the image.



C) What is its magnification?

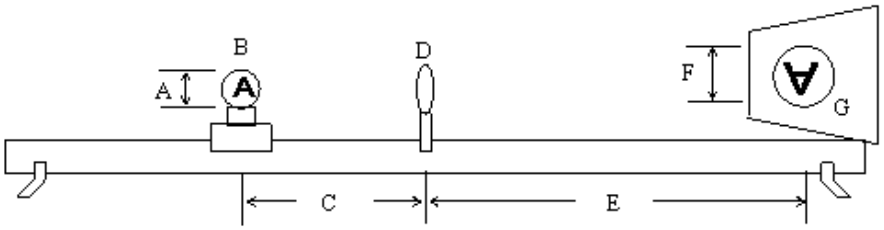


3. The diagram at the right shows the refraction lab that you all spent so much time understanding (hmmmmmmmm…).
   A) Why does the light change directions?

   B) Why does it seem that 1 light ray comes out of the light source, but after it goes thru the piece of transparent material, there are two?

   C) Find the index of refraction for the transparent material.

4. Does light travel faster or slower in the transparent medium?
5. Does the light refract towards or away from the normal when passing from a slow medium to a fast medium?



6. Label the parts of the above diagram correct variables.

7. If E is 15 cm, F is 3 cm, and A is 2 cm, find everything else about the setup.

Due Feb 14

From the website go to Physics Links, then Light and Optics Links, then "Lens Applet 1". For each device and range, describe the image created. Be sure to describe size (bigger/ smaller), location, and orientation (upright or inverted).

8. With a convex lens.
   A) Region 1: p = C

   B) Region 2: p > C

   C) Region 3: C > p > f

   D) Region 4: p = f

   E) Region 5: p < f

9. With a concave lens.
   A) Region 1: p = C

   B) Region 2: p > C

   C) Region 3: C > p > f

   D) Region 4: p = f

   E) Region 5: p < f

10. With a convex mirror.
    A) Region 1: p = C

    B) Region 2: p > C

    C) Region 3: C > p > f

    D) Region 4: p = f

    E) Region 5: p < f

11. With a concave mirror.
    A) Region 1: p = C

    B) Region 2: p > C

    C) Region 3: C > p > f

    D) Region 4: p = f

    E) Region 5: p < f

Find the images of the following objects.

_____ Lens