

REFLECTION, DIFFRACTION, REFRACTION

SECTION 15: FOCAL LENGTHS OF DOUBLE CONVEX LENS



Westminster College

PROCEDURE:

1. Hold the double convex lens about 30 cm from your eyes, and focus it on a picture or object 2M distant. Bring the object into focus.
2. Reach behind the lens with a pencil point and position the pencil point where the in-focus object appears to be. (Your pencil won't actually be touching the object.) Adjust the position of the pencil point and the lens until both the object you are looking at and pencil point are in focus and appear to be touching each other.
3. Have your partner measure the distance between the lens and the pencil point. How many cm between the pencil point and the convex lens?
4. Next, hold the double convex lens over the words on this page. Keep the lens 5 cm from the page. Try to read the words. Describe the appearance of the letters in the middle portion of the lens. Describe the appearance of the letters near the edges of the lens.
5. Move the convex lens closer to the typed page. Observe how the different areas of the lens move in and out of focus. How far is the convex lens from the typed page when the words are easiest to read?
6. What do you find is the best focal length for magnifying words with this double convex lens?

