

Question #313

At the left below is a photograph of the word "LIGHT" printed on a piece of paper. In the center is the setup that we will use in the question for this week, where a digital camera looks at the word "LIGHT" through some object. At the right are a number of possible objects through which the camera might look, including two modern Fresnel lenses, a "fly eye" Fresnel lens, a thin piece of clear plastic, a piece of white paper, and a beaker of water.



Any of the objects in the photograph at the right above can be interposed between the camera and the sheet of paper with the word "LIGHT" on it while the picture is taken.

Below are six photographs taken of the word "LIGHT" above with the camera and the "LIGHT" paper in the same position and the camera with the same zoom setting.



(1)



(2)



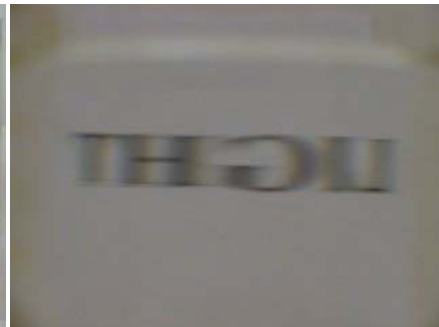
(3)



(4)



(5)



(6)

Identify which of the photographs (1) through (6) above are associated with placing each of the following between the camera and the LIGHT paper:

- (a) a convex Fresnel lens.
- (b) a concave Fresnel lens.
- (c) a beaker of water.
- (d) a sheet of clear plastic.
- (e) a sheet of white paper.
- (f) a convex "fly eye" Fresnel lens.
- (g) a concave "fly eye" Fresnel lens.

Note that one of the "optical elements" above has no matched photograph.

Click here for [Answer #313](#) after April 14, 2008.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).