



In the diagram above:

S_o = distance between object and the *focal point* on the object side of the lens

S_i = distance between image and the *focal point* on the image side of the lens

f = the focal length of the lens

In this experiment you are to **determine the mathematical relationship (or equation), if any, that exists between S_o and S_i .** You will need to apply your graphical analysis skills!

Since the focal point of a lens is not apparent, you will need to devise a method of determining the focal length. Once this is known, S_o and S_i can be calculated by subtracting the focal length from the respective distances of object to lens and image to lens.

Set up many arrangements of object, lens, and screen with the optical bench apparatus so that you will have plenty of data to graph. Please document all measurements and uncertainties in one or more data tables.