

In a lens, light is refracted at the first air to glass surface. Light then

travels through the glass of the

lens and is refracted again at the

glass to air surface on the other

side. This means that there are

always two refractions in a lens.

No image (either real or virtual) is produced when an object is located at F’ in front of a converging lens. The refracted rays are parallel and do not intersect to form an image. Even if you extend the rays behind the lens using dashed lines you cannot see a virtual image.



No real image is produced when an object is between F’ and O. The refracted rays spread apart, or diverge. The human brain, however, extrapolates the diverging rays backwards to where they appear to originate, which in this case is on the same side as the object. This results in a virtual image, which can only be seen by looking into the lens.

