

CLASS-IX

SUBJECT- PHYSICS

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Good Morning students!

This lesson is of Class - IX for the subject of Physics, Topic - 'Lens and Refraction of light through a lens' which is covered in Chapter - 5 'Refraction Through A lens' and this particular topic is on Page Number - 103 of your textbook, titled - 'Concise Physics by Pelina Publications'

All students may now open Page Number - 103 in front of you.

LENS :

Students, where have you heard the word LENS? For what purpose they are used?

* Lenses are mainly used in spectacles and camera. It is used to see an object.

A lens is a transparent refracting medium bounded by either two spherical surfaces, or one spherical surface and the other surface plane. They are of two kinds :

- i) CONVEX or CONVERGING LENS
- ii) CONCAVE or DIVERGING LENS

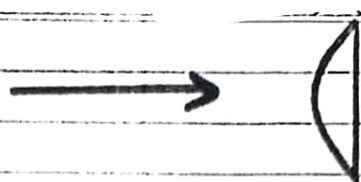
CONVEX LENS - It is thick in its middle and thin at the periphery. A lens which bulges out in the middle, is a convex lens. It is further categorised into 3 types :

a) Biconvex or
Double-convex or
Equiconvex lens

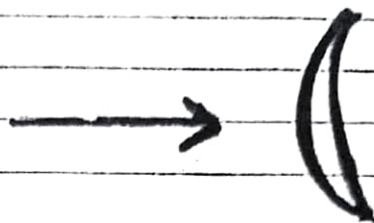


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b) Plano - Convex lens



c) Concavo - Convex lens



Note - In all the three cases, the middle part is thicker than the periphery.

CONVERGENT ACTION OF CONVEX LENS

Refraction of light can be understood very easily in a lens by considering lens to be made up of a rectangular slab at the centre and one prism on either side of it (as shown in figure - 1)

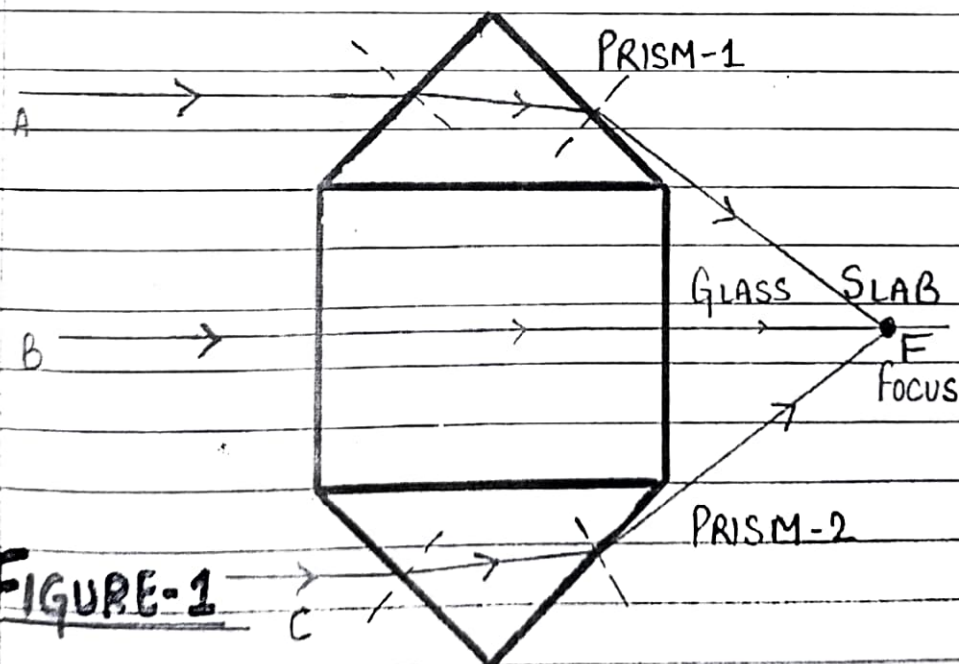


FIGURE-1

It can be seen in figure - 1, the set of prisms forming a convex lens converges (or brings the rays closer) the parallel rays (which are incident on lens) to a point F (known as focus of the lens). Thus, a convex lens has a converging action on the incident light rays.