A lens is a transparent object made of glass or plastic that can refract or bend light rays. It is used to focus and redirect light, which makes it an essential component in many optical instruments, such as cameras, microscopes, telescopes, and eyeglasses. Lenses come in different shapes and sizes, but they can generally be categorized into two types: convex (or converging) lenses and concave (or diverging) lenses.

A convex lens is thicker in the middle than at the edges and can converge parallel rays of light to a focal point. This type of lens is used in magnifying glasses, cameras, and telescopes.

A concave lens, on the other hand, is thinner in the middle and thicker at the edges. It diverges parallel rays of light, and is used in eyeglasses to correct nearsightedness.

The power of a lens is determined by its focal length, which is the distance between the lens and the focal point. A lens with a shorter focal length has more power and can bend light more strongly than a lens with a longer focal length.