



## Basic geometric optics set, light

SCN-F004A

### Function

Intended for experimental study, laboratory and carrying out light experiments on: Light and optics. The principles of geometric optics. Half transparent. Half homogeneous. Isotropic medium. The first principle of geometrical optics, or the principle of the rectilinear propagation of light. The second principle of geometrical optics, or the principle of the independence of light rays. The third principle of geometrical optics, or the principle of the reversibility of light rays. The laws of reflection in a plane mirror. The angle of reflection. The first law of reflection. The second law of reflection. The angle of rotation of the reflected ray. The image formed in a plane mirror and its characteristics. Characteristics of the image obtained in a plane mirror. The number of images formed between two plane mirrors at an angle to each other. Observing and populating the data table. Equation to determine the number of images obtained between two plane mirrors. Reflection in concave and convex spherical mirrors. The spherical mirror. The focus and focal length of the concave mirror. The main axis of the spherical mirror. The three principal rays of the concave spherical mirror. The caustic in a concave spherical mirror. The focus and focal length of the convex mirror. The three main rays of the convex spherical mirror. The refraction of light and its laws, diopters. The incident ray and the refracted ray. The angle of incidence and the angle of refraction. The first law of refraction. The second law of refraction. Determining the refractive index of acrylic. The refraction of light as it passes from a less dense medium to a more dense medium. The critical angle, limit angle of refraction and total reflection. The total

reflection. Gauss law, relationship between the object, lens and image. The Gaussian frame. The abscissas of the object and the image. The object and image ordinates.

## **Knowledge areas**

Physics - Math & Science Fundamentals - Compact Kits

## **Level**

High school - Elementary school

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