



## Flat optical bench, with shoes, double beam

EQ045A3

### Function

Intended for experimental study, physics laboratory and carrying out experiments in physics, natural science, on: Natural sciences. Light and optics. The principles of geometric optics. Medium transparent to light. Half translucent in the light. Kind of opaque to light. Medium homogeneous in the light. Isotropic medium. The first principle of geometric optics. The second principle of geometric optics. The third principle of geometric optics, the principle of reversibility of light rays. The reflection of light in a plane mirror and the laws of reflection. The angle of incidence and the angle of reflection. The first law of reflection. The second law of reflection. The angle of rotation of the reflected ray. Multiple reflections between plane mirrors, an application in signage. Reflection in concave and convex spherical mirrors. Spherical mirror. Vertex, focus, focal length and center of curvature of the mirror. Main axis, secondary axes, opening angle and actual opening of the spherical mirror. The three main rays of the concave mirror and their characteristics. The three main rays of the convex mirror and their characteristics. The refraction of light and its laws, the diopters. The incident ray and the refracted ray. The first law of refraction. The second law of refraction. The critical angle, limiting angle of refraction and total reflection. Total reflection. Brewsters angle. Brewsters Law. Spherical lenses and their main characteristics. Spherical converging lenses. Spherical divergent lenses. The spherical lens and its vergence, convergence or diopter. Vision defects, correction of hyperopia and myopia with lenses. Some refractive errors that the human eye can present, vision defects. Ametropia. Hyperopia, or hyperopia. Myopia. Refraction in 90 degree optical prism, etc.

## Knowledge areas

Physics - Math & Science Fundamentals

### Key Experiments

The principles of geometrical optics

The reflection of light in a plane mirror and the laws of reflection

An application of multiple reflections between flat mirrors

The reflection in concave and convex spherical mirrors

The refraction of light and its laws, the diopters

The spherical lenses and its main characteristics

Vision defects, correction of hyperopia and myopia with lenses

The refraction in a 90 degree optical prism

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