



EQ045G

## Knowledge areas

Physics

## Key Experiments

The principles of geometrical optics

Simulation of the eclipse of the Sun and identification of the umbra and penumbra

Simulation of the eclipse of the Sun and the eclipse of the Moon, the umbra and the penumbra

The reflection in the plane mirror

The image formed in a plane mirror and its characteristics

The number of images formed between two flat mirrors with an angle between them

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 refraction and dispersion of light in optical prisms of 90 and 60 degrees

The spherical lenses and its main characteristics

The relationship between the object lens and the image generated by the lens

Vision defects, correction of hyperopia and myopia with lenses

The measurement of the average wavelength of the colors of the continuous spectrum of light, interference

The total reflection, fiber optics

Diffraction of laser by grating, lattice constant  $1.00 \times 10^{-6} \text{ m}$

The measurement of the diameter of the thread of an opaque fabric to the laser

Comparing the polarization of the laser diode and polychromatic light.

The Rayleigh scattering

Dithering derived by light superposition

The construction of some optical instruments

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