



LIGHT GLOSSARY

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COLOR	Visible light has different wavelengths that we see as color. The longest wavelength is red light and the shortest wavelength is violet. White light is a mixture of all the colors.
CONCAVE LENS	Concave lenses are thinner in the middle and make things appear smaller.
CONVEX LENS	Convex lenses are thicker in the middle and magnify the image.
DIFFRACTION	When a light beam passes through a narrow slit, it separates the colors. The narrower the slit, the more it spreads light into its spectrum of color.
ENERGY	Energy is the ability to do work. Energy can be converted from one form to another. (e.g., from light energy to electrical energy in a solar calculator, from electrical to heat in a toaster, or from chemical to electrical in a battery.)
INDEX OF REFRACTION	The index of refraction for any medium (such as air, water, or glass) is defined as the speed of light in a vacuum divided by the speed of light in that medium. The higher the index of refraction, the more bending occurs. Light travels faster through air than through water or glass. (Air = low index of refraction)
LEEUWENHOEK, ANTONIE VAN	Scientist who made the first microscope, which was a glass bead used as a lens on a metal plate. He was the first person to see bacteria and blood cells. (1623-1723)
LENSES	Transparent pieces of glass or plastic that focus light. By bending light, lenses can make the image appear larger or smaller.
LIGHT	Light is visible electromagnetic energy that travels 186,000 miles per second. Visible light has a wavelength in the range from about 4,000 (violet) to about 7,700 (red) angstroms and may be perceived by the normal unaided human eye.
OPAQUE	Materials that do not transmit light.
PRISM	Refracts or bends the different colors of light (wavelengths) at different angles resulting in the separation of colors. It allows you to see the individual colors in light.
PROJECTOR	Magnifies the image with a convex lens and projects it on a screen.
REFLECT	To bounce or bend back from a surface. More light reflects off smooth and/or shiny surfaces.
REFRACTION	Refraction (bending) occurs when light crosses (at an angle) a boundary between 2 transparent substances of different indexes of refraction. The speed of light changes, making the object appear to be in a new place. Light travels faster through air than water, so the image arrives to your eyes through the air faster than through water, causing a distorted image.

SPECTRUM	A mixture of colors produces white light. The order of colors in the spectrum of white light is from red to violet or R.O.Y.G.B.I.V.: red, orange, yellow, green, blue, indigo, violet
TELESCOPE	A device that uses mirrors and/or lenses to gather visible light, permitting direct observation or photographic recording of distant objects.
TRANSLUCENT	Transmits light but the light is scattered inside the material so you cannot see through it.
TRANSPARENT	Material that lets most of the light travel through it.