

Light Key Terms

On-level Physics

The following are the terms you should be familiar with in order to properly complete this unit. You are expected to be able to define each as well as apply these terms in any situation during this and subsequent units of study.

reflection - Occurs when a wave strikes an object and bounces off.

diffraction - The bending of a wave around a barrier or through a narrow slit.

light - Common term for electromagnetic radiation; usually indicates the part of the spectrum humans can see.

photon - A tiny particle-like bundle of electromagnetic radiation. The particle component of light.

electromagnetic radiation - Transverse waves that do not require a medium. Composed of oscillating electric and magnetic fields that regenerate each other.

electromagnetic spectrum – A “picture” of all the electromagnetic waves as they gradually change in frequency.

transparent - A type of material that allows light to pass through it and you can clearly see through it.

translucent - A type of material that allows some light to pass through it but you cannot see clearly through it.

opaque - A type of material that absorbs or reflects all light and does not allow you to see through it.

polarization (light)- the aligning of vibrations of an electromagnetic wave, usually by filtering out waves vibrating in other planes.

pigment - A material that absorbs specific colors and reflects all others. It is defined by the colors it reflects.

index of refraction - The ratio of the speed of light in a vacuum to the speed of light in a given material.

refraction - The bending of a wave caused by a change in speed as it travels from one medium into other.

retina - layer of light sensitive nerve cells located at the back of the eye.

cone - nerve cells on the retina that respond to different colors of light

rod - nerve cells on the retina that respond to various intensities of light.

total internal reflection - the complete reflection of light at the boundary between two media. Occurs when the light is in a material with a higher index of refraction than the other material at the boundary. If the angle is sufficiently large the angle of refraction exceeds 90° resulting in reflection.