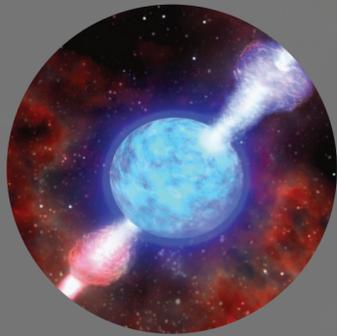
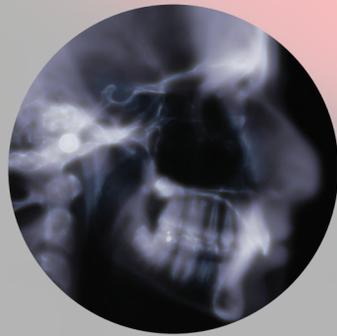


# THE HIDDEN WORLD OF LIGHT



GAMMA RAYS



X RAYS



ULTRAVIOLET



INFRARED



MICROWAVE



RADIO

$10^{-13}$

WAVELENGTH (IN METERS)

$10^{-11}$

$10^{-9}$

$10^{-7}$

$10^{-5}$

$10^{-3}$

$10^{-1}$

10

INVISIBLE LIGHT

VISIBLE LIGHT

INVISIBLE LIGHT

## THE SPECTRUM OF LIGHT

OPTICS IS THE SCIENCE OF LIGHT — what it is made of and how it behaves. Light allows you to see, but there's a lot more to light than meets the eye. The light we "see" is actually only a small portion of the electromagnetic spectrum that includes visible light, gamma and x-rays, ultraviolet and infrared light, microwaves, even radio waves. We are surrounded by these hidden forms of energy; they invisibly crash, bounce, and pass through us all the time!

Optics allows us to see, study, and ultimately harness these diverse forms of energy to communicate, transmit sounds, cut things, and control computers. CDs and DVDs, remote controls, cameras, laser printers, microscopes, telescopes, x-ray machines, barcode scanners, and countless other devices all use light. It is truly everywhere.

OPTICS IS ALL AROUND YOU