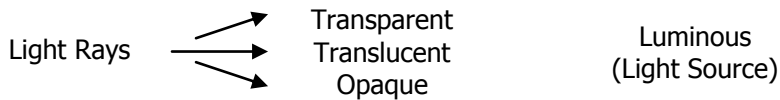


Light and Optical Systems Concept Map

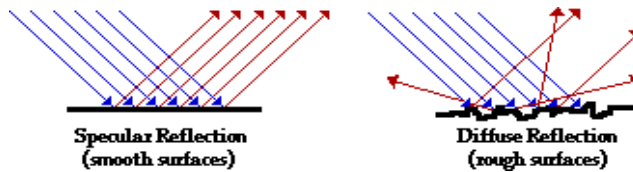
The Theory of Light

LIGHT TRAVELS IN STRAIGHT LINES
LIGHT CAN BE REFLECTED
LIGHT CAN BEND
LIGHT IS A FORM OF ENERGY



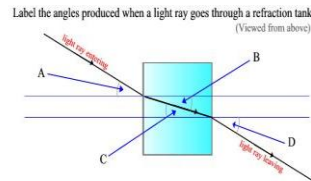
REFLECTION

LAW OF REFLECTION – The *Angle of Incidence*, of the light hitting a plane mirror, equals the *Angle of Reflection*, of the light being reflected by the mirror.



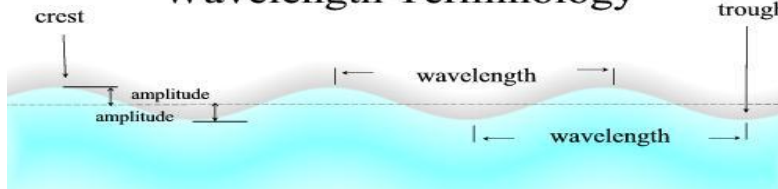
REFRACTION

LAW OF REFRACTION – The *Angle of Incidence* of the light entering a medium of greater or less density will have an *Angle of Refraction* that will increase or decrease from the normal, because the light is bent (slows down or speeds up)



Wave Model of Light

Wavelength Terminology



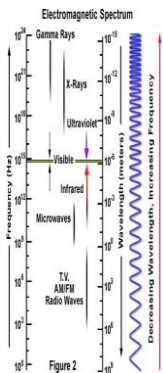
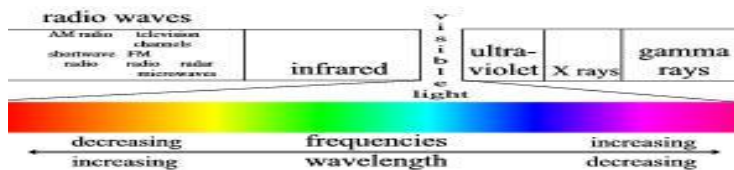
Light Sources

Natural ← → Artificial

Colours of Light

ROYGBIV

The Electromagnetic Spectrum



Thoughts About Light

Archimedes
(Warships)

Pythagoras
(Eyes – Light Source)

Euclid
(Reflected)

Al-Haytham
(Optics)

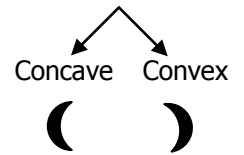
Sir Isaac Newton
(Prism)

Ole Romer
(Speed of Light)

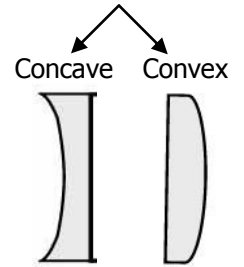
Albert Michelson
(Light Speed)

Devices Using Light

Mirrors



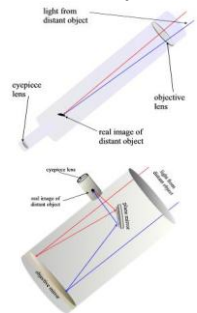
Lenses



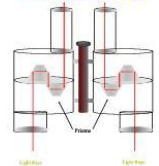
Microscopes



Telescopes



Binoculars

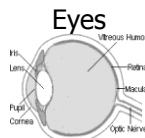


Television
Computer
Laser

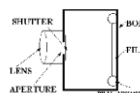
Analog Images

Digital Images
(Pixels)

Image Formation



Camera



Stadium Image

Resolution

CCD