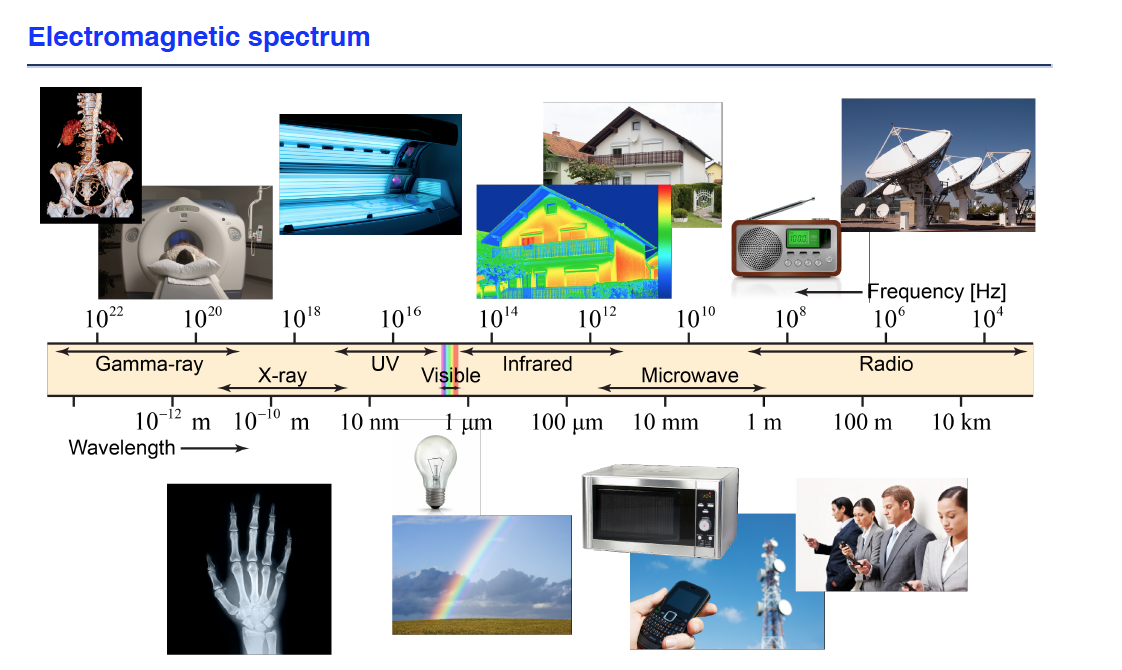
**Physics Unit 8 Light and Optics Note Outline**

**8.1 Properties of Light**

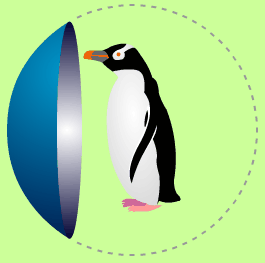
Seven Properties of light

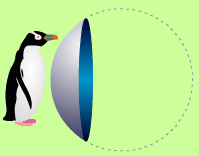
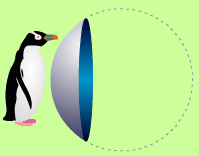
* Light Travels Fast
* Light Has a Dual Nature
* Light Travels in Straight Lines
* How do shadows form?
* Shadows vary
* Light Varies in Intensity
* Light interacts with matter
* Light is comprised of many colors
* What kind of light can we see?

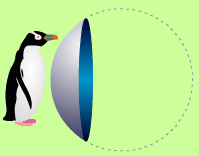


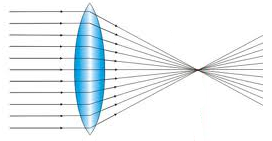
* Light carries energy and information

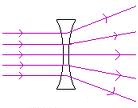
**8.2 Optical Devices**

* Mirrors

Spherical Mirrors  

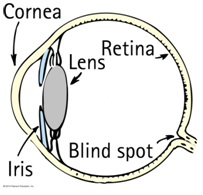


Lens

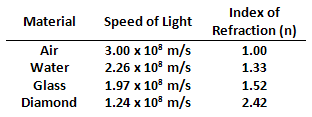


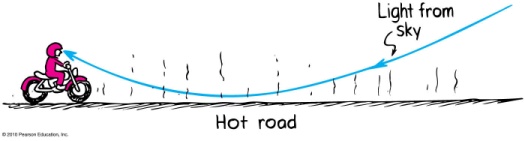
Application: The Eye

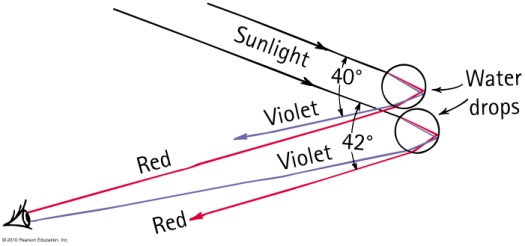
The lens forms a real image on the retina

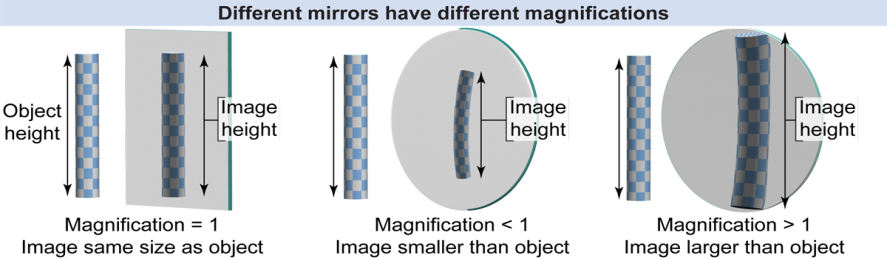
Myopia (near sidedness) – the image forms in front of the retina

Hyperopic (far-sidedness) – the image forms behind the retina

* Prism
* Reflection
* Refraction

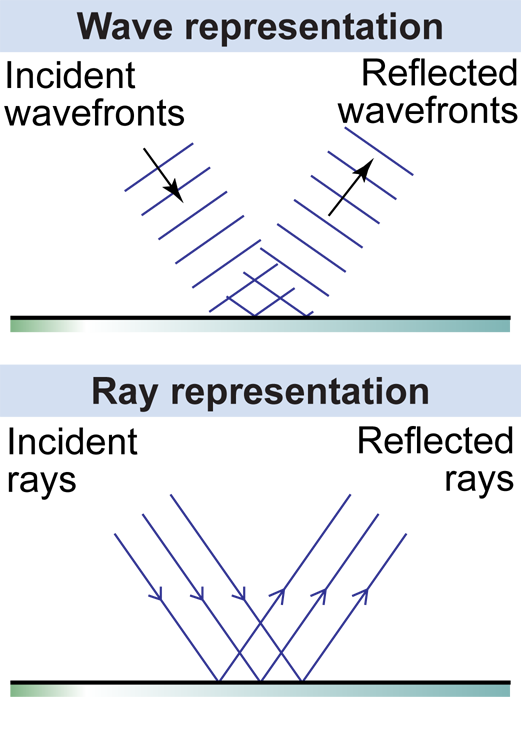


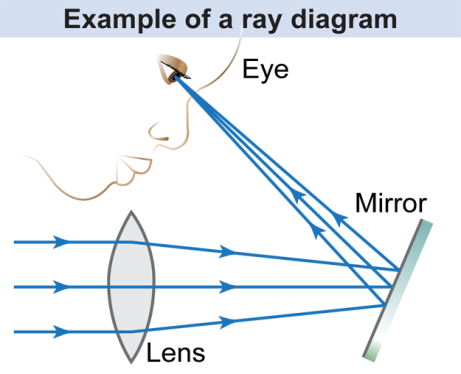
* Examples of Refraction
* The magnifying glass

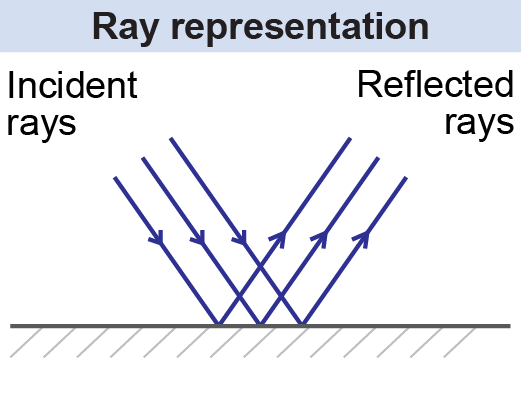


* Objects and Image Heights
* What do magnification values mean?
* Light passing through medium
* Transparent
* Opaque
* Translucent

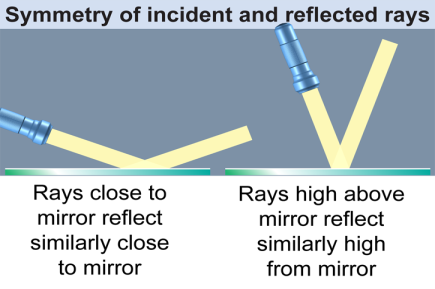
**8.3 Reflection**

* Ray representation of light
* Ray Diagrams

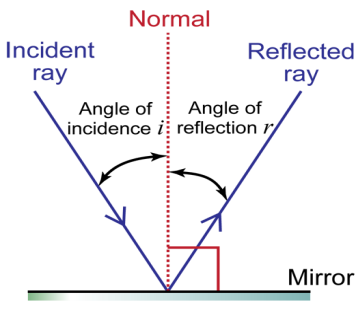




* Incident and Reflected Rays

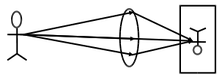


* Symmetry

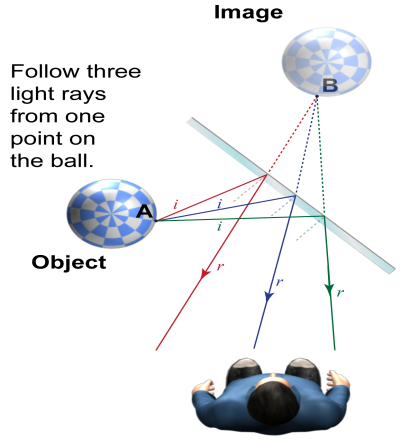


* Angle of Incidence and Reflection

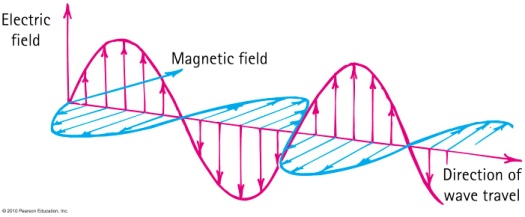


**8.4 Images**

* What is an image?



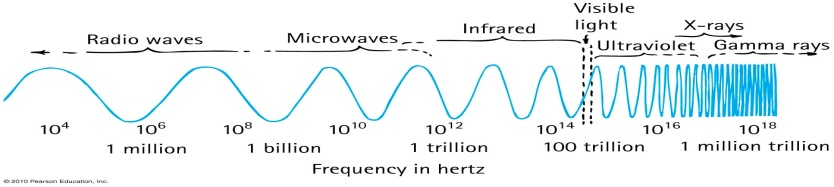
* Image formation for a flat mirror



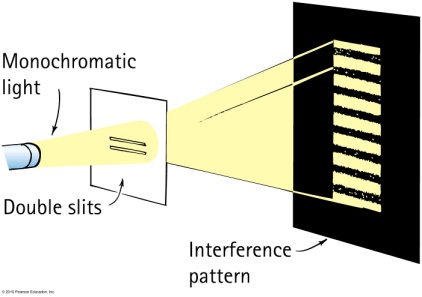
**8.5 Light Color and Frequency**

* What is light?
* What is an electromagnetic wave?
* Light waves vs. Sound waves
* **Speed of Light**

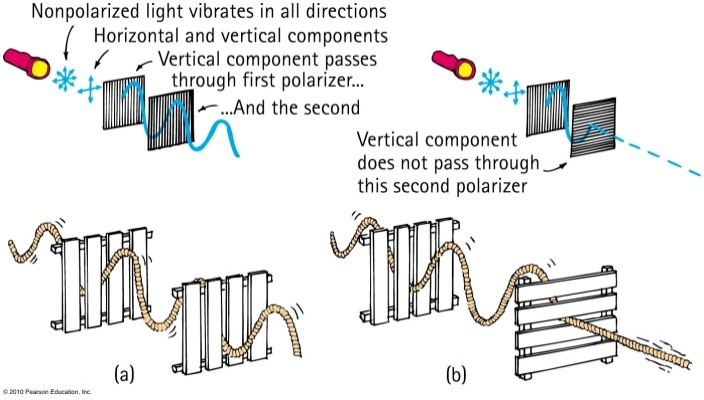
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* The EM Spectrum
* Wave Particle Duality of Light
* Frequency and Color



* Light as Waves



* Polarization