



Light & Optics









Links: <http://www.hazelwood.k12.mo.us/~grichert/sciweb/optics.htm>
http://dir.yahoo.com/Science/Physics/Light_and_Optics/
<http://camillasenior.homestead.com/optics4.html>



Unit 3 - Light and Optical Systems

1.0 Our knowledge about light and vision comes from explanations, inventions & investigations








1.1 A Challenge of Light (pgs. 176-181) - Timeline History of Views about Light & Astronomy

Ancient Times	[China] - used mirrors [Greece]	 <i>Archimedes</i>	- planned for the use mirrors in war
		 <i>Pythagoras</i>	- thought light was beams of light coming from our eyes
		 <i>Euclid</i>	- light was reflected - light travels in straight lines
1 ST Century			<i>Ptolemy</i> – Light bends when it travels from air to glass
1000 AD (Middle Ages)			<i>Al-Haythem</i> – wrote a book to help explain optics, being the first to accurately describe how vision worked
1670			<i>Isaac Newton</i> – showed that white light is a mixture of different colors of light
1676			<i>Ole Romer</i> – determined the speed of light
1920's			<i>Albert A. Michelson</i> – was able to determine more accurately the speed of light

Properties of Light

- Light travels in straight lines
- Light can be reflected
- Light can be bent
- Light is a form of Energy

1.2 Optical Devices (pgs. 182-186) - Timeline History of Optical Instruments

1300 AD		<i>Alessandra della Spina</i> – wore the 1 st pair of eyeglasses
1595		<i>Zacharias Jansen</i> – built the 1 st microscope 
17 th Century		<i>Antonie van Leeuwenhoek</i> – credited with the discovery of cells using a very simple microscope
1600		<i>Galileo Galilei</i> – invented the refracting telescope
		<i>Isaac Newton</i> invented the reflecting telescope
1854		<i>Ignatio Porro</i> – prism erecting system (simple binoculars)
1985		1 st Endoscope used
1990		<i>Hubble Space Telescope</i> – named after Edwin Hubble – who's notion of an "expanding" universe formed the basis of the Big Bang theory http://hubblesite.org/