



Light & Optics

Links: <http://www.hazelwood.k12.mo.us/~grichert/sciweb/optics.htm>  
[http://dir.yahoo.com/Science/Physics/Light\\_and\\_Optics/](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 <sup>ST</sup> 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 <sup>st</sup> pair of eyeglasses
1595		<i>Zacharias Jansen</i> – built the 1 <sup>st</sup> microscope 
17 <sup>th</sup> Century		<i>Antonie van Leeuwenhoek</i> – credited with the discovery of cells using a very simple microscope
1600		<i>Galileo Galilei</i> – invented the <b>refracting</b> telescope
		<i>Isaac Newton</i> invented the <b>reflecting</b> telescope
1854		<i>Ignatio Porro</i> – prism erecting system (simple binoculars)
1985		1 <sup>st</sup> Endoscope used
1990		<i>Hubble Space Telescope</i> – named after Edwin Hubble – who's notion of an "expanding" universe formed the basis of the <b>Big Bang theory</b> <a href="http://hubblesite.org/">http://hubblesite.org/</a>