

Light and Optical Systems Summary & Review

<p>What do we know about the nature of light?</p> <p>What technologies have been developed that use light?</p> <p>What principles of light do these technologies show?</p>	
<p>Key Concepts Science Focus 8 (Unit At A Glance p. 262)</p>	<p>Guiding Questions and Activities to Help you Study</p>
<p>Topic 1 <u>Principles of Light Sources</u> Cost <u>Ray Model of Light</u></p>	<ul style="list-style-type: none"> - <u>What is light</u> (p.176)? - <u>What are the basic principles of light</u> (p.177-178)? - Describe and give examples of natural and artificial light (p.179-183) - How is the cost of lighting calculated. (p.184) - Know how to draw and label a ray diagram (p.185)
<p>Topic 2 <u>Reflection</u></p>	<ul style="list-style-type: none"> - Give an operational definition for reflection (p.188) - State the Law of Reflection (p.194) - Draw and label a diagram to show the Law of Reflection (p.194) - How is an image formed in a mirror? (p.194) - How is this Law of Reflection applied in everyday life? (p.198-199) - What are <u>fiber optics</u>?
<p>Topic 3 <u>Refraction</u></p>	<ul style="list-style-type: none"> - Give an operational definition for refraction (p.200) - State the Law of Refraction (p.204) - Draw and label a diagram to show the Law of Refraction (p.204)
<p>Topic 4 Concave and Convex lenses <u>Eye</u> <u>Camera</u></p>	<ul style="list-style-type: none"> - Describe the difference between concave and convex <u>lenses</u>? (p.208) - <u>What happens to light when it passes through a lens</u>? (p.209) - <u>How does your eye form an image</u>? (p.210) - Identify the similarities and differences between your eye and a camera. - What is accommodation? (p.215) - What is a blind spot? (p.217)
<p>Topic 5 <u>Telescopes</u> Binoculars <u>Microscopes</u></p>	<ul style="list-style-type: none"> - Describe the difference between a reflecting and a refracting telescope (p.221) - How are prisms used in binoculars? (p.223) - How has the development of the microscope and the telescope lead to increasing scientific knowledge? (p.224)
<p>Topic 6 - The Source of Colour - No longer part of the curriculum</p>	
<p>Topic 7 <u>Wave model of light</u> <u>Frequency and Wavelength</u> Lasers <u>The Science of Light</u></p>	<ul style="list-style-type: none"> - How is wavelength determined? - Draw a wavelength model of light and label the crest, trough, wavelength and amplitude. (p.238) - What is the wave model of light? (p.239) - How is a sunset made? - What makes a <u>rainbow</u>? - How do <u>lasers</u> work?
<p>Topic 8 <u>Electromagnetic Spectrum</u></p>	<ul style="list-style-type: none"> - What is the <u>electromagnetic spectrum</u>? (p.249) - Describe the differences, and give examples of all the different types of waves in the <u>electromagnetic spectrum</u>.
<p>Design a Concept Map linking the ideas introduced and reinforced in this Unit on Light and Optical and Systems</p>	
<p>Try some of the <u>Practice Quizzes</u> to see how much you have recalled from this Unit</p>	