Light and Optical Systems Summary & Review

What do we know about <u>the nature of light</u> ? What <u>technologies have been developed</u> that use light? What <u>principles of light</u> do these technologies show?	
Key Concepts Science Focus 8 ((Unit At A Glance p. 262)	Guiding Questions and Activities to Help you Study
Topic 1 Principles of Light Sources Cost Ray Model of Light	 What is light (p.176)? What are the basic principles of light (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)
Topic 2 Reflection	 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>?
Topic 3 Refraction	 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)
Topic 4 Concave and Convex lenses Eye Camera	 Describe the difference between concave and convex lenses? (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)
Topic 5 Telescopes Binoculars Microscopes	 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)
Topic 6 - The Source of Colour - No longer part of the curriculum	
Topic 7 Wave model of light Frequency and Wavelength Lasers The Science of Light	 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?
Topic 8 Electromagnetic Spectrum	 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>.
Design a Concept Map linking the ideas introduced and reinforced in this Unit on Light and Optical and Systems	
Try some of the Practice Quizzes to see how much you have recalled from this Unit	