

Prior Learning:		At KS2, students have learned about light and shadows, and how we see things. In year 7, they learned about the particle model of matter.			
Lesson Number	Title	Lesson Objectives	Content	Key words	Assessment/Homework
1	Light on the move	How does light travel?	<ul style="list-style-type: none"> Recognise transverse and longitudinal waves. Describe the evidence for light travelling in straight lines. Produce diagrams to demonstrate how light travels in straight. 	<ul style="list-style-type: none"> Rays Vacuum Transparent Transverse Longitudinal 	
2	Drawing Ray diagrams	How do we use ray boxes to investigate light?	<ul style="list-style-type: none"> Know that ray diagrams can be produced when ray boxes are used with mirrors. Produce ray diagrams and examine relationships between the angle of incidence and the angle of reflection. Produce a set of results from ray diagrams measuring the angles of incidence and reflection, using this as evidence to verify the relationship between the angles. 	<ul style="list-style-type: none"> Ray Angle of incidence Angle of reflection 	
3	Reflection	What happens to light when it hits a reflective surface?	<ul style="list-style-type: none"> Recognise that light is reflected from plane surfaces but not opaque materials. Explain in terms of the surface why light is reflected from plane surfaces but not opaque surfaces. Use the terms specular reflection and diffuse reflection to outline why light reflects off some surfaces, but not others. 	<ul style="list-style-type: none"> Diffuse reflection Specular reflection 	

4	Refraction	How do lenses work?	<ul style="list-style-type: none"> • State and recognise that refraction occurs when light changes direction. • Explain in terms of particles why refraction occurs at a changing interface. • Explain how convex lenses are used to help light converge and their use to help people see. 	<ul style="list-style-type: none"> • Refraction, interface • Refracted ray • Converging lens • Concave • Convex 	20-mark multiple choice quiz
5	Cameras and eyes	How do cameras and eyes work?	<ul style="list-style-type: none"> • State the differences between how an eye and a camera function. • Explain the differences between how an eye and a camera work to process images. 	<ul style="list-style-type: none"> • Sensor • Retina • Shutter • Pupil • Cells • Cone cell 	
6	Colour	How do we get coloured light?	<ul style="list-style-type: none"> • Recognise what a rainbow is and be able to state the seven colours of the rainbow in order. • Explain how a rainbow is formed by the dispersion of white light. • Explain how a filter affects white light and why objects appear the colour they are. 	<ul style="list-style-type: none"> • White light • Frequencies • Prism • Spectrum • Dispersion 	
Revision and Test					
Where we will use these ideas again		Students will build on this knowledge at KS4 in P6, when they learn about light and lenses, and in B5 when they learn about the eye in more detail.			