

Barnsley Academy – (Year 8 Science 8PL) Curriculum
Scheme of Work – 2023-24

Term 1 – Week 2

	1	2	3	
Lesson Focus	Big Picture – Refraction and vision	Big Picture – Correcting vision	Big Picture – colour and filters	
Prerequisite Knowledge	KS2, The Universe Y7 Energy 7PE Previous lesson: light waves, Chemical and electrical effects of a light wave, reflection and reflected images.	KS2, The Universe Y7 Energy 7PE Previous lesson: light waves, Chemical and electrical effects of a light wave, reflection and reflected images, refraction, and vision	KS2, The Universe Y7 Energy 7PE Previous lesson: light waves, Chemical and electrical effects of a light wave, reflection and reflected images, refraction and vision, correcting vision	
Core Knowledge	<ul style="list-style-type: none"> ▪ Describe how refraction takes place using key words and phrases. ▪ Draw the pathway that light takes through a glass block and measure the angle of refraction using a protractor. ▪ Label the parts of the eye ▪ Use ray diagrams to show how images are formed in pinhole cameras and the eye ▪ Describe how an image is formed and how we see 	<ul style="list-style-type: none"> ▪ Watch a video of how to safely carry out an eye dissection ▪ Describe how the eye focuses on near and far objects ▪ Explain the cause of long and short sightedness and how this can be corrected 	<ul style="list-style-type: none"> ▪ List the colours of the visible spectrum ▪ Describe how white light can be dispersed and explain why we see objects as a particular colour. ▪ Describe and explain how coloured filters change white light. ▪ Predict the colours of objects in coloured light and apply knowledge to a range of exam questions 	

Expert Model /Guided Practice/Agreed Approach (Procedural Knowledge)	Highlighting key terms, refraction, dense medium, normal Demonstrating the practical procedure for noting the angle of incidence vs the angle of refraction of a light ray through a glass block	Highlighting key terms, demonstrating eye dissection, or directing students to note key points in the video on dissection.	Highlighting key terms, visible Sprecum, frequency, filters, absorption, transmit	
Independent Practice	IP 1 – describing what happens when light hits a glass block IP 2 – carrying out the refraction practical and drawing the pathway that light takes through a glass block and measure the angle of refraction using a protractor. IP 3 – calculating mean values from test results IP 4 – labelling the eye IP 5 –how an image is formed on the retina of the eye IP 6 – tracking the path of light through the eye	IP 1 –explaining how the eye focuses on near and far objects IP 2 – explaining the cause of long and short sightedness.	IP 1 –colours in white light IP 2 – explanation on what happens when light hits coloured surfaces IP 3 –how a filter works. IP 3 & 4 –filters exam question.	
Assessment (Informal/Formal)	Circulation/live feedback/self-assessment/class assessment/whole class feedback (mini whiteboard)/quiz.	Circulation/live feedback/self-assessment/class assessment/whole class feedback (mini whiteboard)/quiz.	Circulation/live feedback/self-assessment/class assessment/whole class feedback (mini whiteboard)/quiz.	
Resources	worksheets, practical equipment	Worksheets, practical equipment	worksheets	
Specific SEN(D)/EAL support				