

## GCSE Separate Science (Physics) P14 Light– Science Faculty

Rationale and Context of Unit:	Core curriculum content:	Tier 2 & Tier 3 vocabulary explicitly taught:
<p>This separate science unit is taught immediately after the Waves and EM topic. An understanding of P12/13 is essential to successfully complete this unit.</p> <p>Behaviours of light and waves are taught throughout KS3 and thus should be familiar to students. Understanding of behaviour is further developed with numerical relationships. This topic will be further developed should students choose to study A level physics.</p> <p><i>Unit contains 5 lessons for separate sciences.</i></p> <p>AQA GCSE Spec Ref: 4.6.2.5, 4.6.2.6, 4.6.3.1</p>	<ul style="list-style-type: none"> <li>• Reflection of light</li> <li>• Refraction of light</li> <li>• Light and colour</li> <li>• Lenses</li> <li>• Using lenses</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Virtual Image</i></li> <li>• <i>Real Image</i></li> <li>• <i>Specular Reflection</i></li> <li>• <i>Diffuse Reflection</i></li> <li>• <i>Transparent</i></li> <li>• <i>Opaque</i></li> <li>• <i>Translucent</i></li> <li>• <i>Convex</i></li> <li>• <i>Concave</i></li> <li>• <i>Principle Focus</i></li> <li>• <i>Magnification</i></li> </ul>
Challenge and Support:	World wide learning/ links to 21 <sup>st</sup> century:	Cultural capital/ Industry/ Enrichment:
<ul style="list-style-type: none"> <li>• Lessons contain additional support slides for LPA</li> <li>• 2 Pre-Written Extension opportunities included within each lesson</li> <li>• Some practical tasks have additional support sheets for LPAs</li> <li>• Gradient pastel background for improved SEN accessibility</li> <li>• Keyword bank available for SEN</li> <li>• Task timings shown on Ppts for ASD</li> <li>• Grade 9 questions highlighted, and model answers worked through.</li> </ul>	<ul style="list-style-type: none"> <li>• BLK 3.0 and superblack materials</li> </ul>	<ul style="list-style-type: none"> <li>• Careers Spotlight – Optometrist</li> <li>• Careers Spotlight – Lighting Design</li> <li>• How do camera lenses work?</li> </ul>
Historical, Social, Moral, Spiritual, Cultural context:	Cross curricular links/ literacy/numeracy:	Common misconceptions:

<ul style="list-style-type: none"> <li>• The pinhole camera</li> <li>• Spear fishing and refraction</li> </ul>	<ul style="list-style-type: none"> <li>• Art: Understanding light and colour</li> <li>• Numeracy: Ratios, Calculating Magnification, Scale Drawing</li> <li>• Literacy: <i>Pixl Unlocks available/issued for keywords exploring etymology</i></li> </ul>	<ul style="list-style-type: none"> <li>• Angle of incidence = angle of reflection</li> <li>• Red, blue and green are primary colours</li> <li>• Transparent objects let all light pass through them</li> <li>• Concave lenses spread out parallel rays</li> <li>• Convex lenses focus parallel rays</li> <li>• Rays should always be drawn as straight lines</li> </ul>
<b>Assessment timeline:</b>		
<ul style="list-style-type: none"> <li>• Practical skills monitored by teacher when conducting experiments.</li> <li>• Peer assessment and regular low stakes self-assessment</li> <li>• Quick check recall tasks</li> <li>• PPQs on Light</li> <li>• End of topic exam to assess pupil progress</li> <li>• Assessed tasks will have feedback 4 to help improve pupils understanding after they have completed the assessment.</li> </ul>		
<b>Home learning</b>		
<ul style="list-style-type: none"> <li>• HL 1 Past paper Qs (Whole unit)</li> <li>• Produce revision resources of end of unit assessment</li> </ul>		
<b>Feedback</b>		
<ul style="list-style-type: none"> <li>• Students will self-assess their home learning ppqs</li> <li>• Students will have feedback 4 on their end of topic text - teacher assessed</li> <li>• Students will generate self-feedback 4 on their end of topic test</li> </ul>		

## Length of unit (duration indicated in lessons)

1	2	3	4	5	6	7	8	9	10	11	12
S	S	S	S	S							
Unit: P14 Light											