Edexcel International GCSE Physics 4PH1 Learning Plan

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|  **Unit: 3 Waves** | **Chapter: 10. Properties of Waves** | **Hours: 5** |
| Content coverage | Learning outcomes | Resources | Assessment |
| **Section 3: Waves****a)** Units**b)** Properties of waves | **3.1** use the following units: degree (o), hertz (Hz), metre (m), metre/second (m/s), second (s).**3.2** explain the difference between longitudinal and transverse waves**3.3** know the definitions of amplitude, wavefront, frequency, wavelength and period of a wave**3.4** know that waves transfer energy and information without transferringmatter**3.5** know and use the relationship between the speed, frequency and wavelength of a wave: wave speed = frequency × wavelength*v* = *f* × *λ***3.6** use the relationship between frequency and time period: frequency = 1/time period*f* = 1/*T***3.7** use the above relationships in different contexts including sound waves and electromagnetic waves**3.8** explain why there is a change in the observed frequency and wavelength of a wave when its source is moving relative to an observer, and that this is known as the Doppler effect**3.9** explain that all waves can be reflected and refracted. | Video and Powerpoint:3.1 General Wave Properties3.2 Reflection and RefractionTextbook pages:Page 97 – What are waves?Page 99 – Describing wavesPage 100 – The wave equationPage 101 – The ripple tankPage 101 – Wavelength and frequencyPage 102 – ReflectionPage 103 – RefractionPage 104 – The Doppler Effect | Page 105Questions (1) to (5)Chapter 10 Textbook Answers (PDF)Chapter 10 - exam question - pdfChapter 10 - exam question mark scheme – pdfChapter 10 - Talking paper video  |

Videos – [www.igcsesciencecourses.com](http://www.igcsesciencecourses.com)

Textbook Ref: Edexcel International GCSE (9-1) Physics Student Book - Pearson (Arnold, Johnson, Woolley))