Principals of Waves (BOE15) – Revision Checklist

| I can… | Lesson | Revised |
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| State that waves can be transverse or longitudinal | BOE15 LE2 | |
| Define the word 'wave' | BOE15 LE2 | |
| Describe the movement of a transverse wave relative to direction of travel | BOE15 LE2 | |
| Describe the movement of a longitudinal wave relative to direction of travel | BOE15 LE2 | |
| State that sound waves in air are longitudinal | BOE15 LE2 | |
| Identify areas of compression and rarefaction in longitudinal waves | BOE15 LE2 | |
| Compare transverse and longitudinal waves | BOE15 LE2 | |
| Describe evidence of wave movement in water and sound. | BOE15 LE2 | |
| Define amplitude of a wave | BOE15 LE1 | |
| Define wavelength of a wave | BOE15 LE1 | |
| Define frequency of a wave | BOE15 LE3 | |
| Define period of a wave | BOE15 LE3 | |
| Define wave speed of a wave | BOE15 LE4 | |
| Identify amplitude and wavelength on diagrams | BOE15 LE1 | |
| Use diagrams to determine amplitude, wavelength and frequency of waves | BOE15 LE4 | |
| Rearrange and use the wave speed equation | BOE15 LE4 | |
| Convert units of time, frequency and distance in factors of 1000 | BOE15 LE4 | |
| Use standard form to represent very large or very small numbers | BOE15 LE4 | |
| Carry out calculations using numbers represented using standard form | BOE15 LE4 | |
| Describe a method to measure the speed of sound in air | BOE15 LE5 | |
| Describe a method to measure the speed of water ripples | BOE15 LE5 | |
| Use practical data to calculate wave speed | BOE15 LE5 | |
| State that electromagnetic (EM) waves are transverse | BOE15 LE6 | |
| Explain why EM waves can travel in a vacuum but sound waves cannot | BOE15 LE6 | |
| Describe how EM waves transfer energy | BOE15 LE6 | |
| State that all EM waves travel at the same speed in a vacuum | BOE15 LE6 | |
| Describe the change in frequency and wavelength in the EM spectrum | BOE15 LE6 | |
| State that EM waves are grouped by frequency and wavelength | BOE15 LE6 | |
| Describe the link between frequency of a wave and energy transferred | BOE15 LE6 | |
| State that visible light is the only part detected by our eyes | BOE15 LE6 | |
| Describe examples of energy transfer by EM waves | BOE15 LE6 | |
| Describe uses of radio waves | BOE15 LE9 | |
| Describe the uses of microwaves | BOE15 LE9 | |
| Describe uses of infrared waves | BOE15 LE9 | |
| Describe the uses of ultraviolet waves | BOE15 LE9 | |
| Describe the uses of X-rays | BOE15 LE9 | |
| Describe the uses of Gamma rays | BOE15 LE9 | |
| (HT) Explain why each wave is suitable for its use | BOE15 LE9 | |
| Define the terms absorb, transmit, reflect and refract in terms of waves | BOE15 LE7 | |
| (HT) Explain that behaviour depends on properties of wave and material | BOE15 LE7 | |
| Describe a method to investigate the infrared radiation emitted by different surfaces | BOE15 LE8 | |
| Interpret results from an investigation and form conclusions on which surface emits the most radiation | BOE15 LE8 | |
| Explain that refraction happens because waves change speed in different materials | BOE15 LE7 | |
| Draw ray diagrams showing refraction at a boundary | BOE15 LE7 | |
| (HT) Use wavefront diagrams to explain refraction | BOE15 LE7 | |
| (HT) Explain that radio waves are produced by oscillating electrical circuits | BOE15 LE9 | |

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| (HT) Explain how absorbed radio waves can induce an alternating current | BOE15 LE9 | |
| Explain that changes in atoms and nuclei produce EM waves | BOE15 LE10 | |
| State that gamma rays come from changes in the nucleus | BOE15 LE10 | |
| State that ultraviolet, X-rays and gamma rays can be harmful | BOE15 LE10 | |
| Define the term 'ionising' in terms of radiation | BOE15 LE10 | |
| Describe risks of short-term exposure | BOE15 LE10 | |
| Describe risks of long-term exposure | BOE15 LE10 | |
| Define radiation dose (measured in sieverts, Sv) | BOE15 LE10 | |
| Convert between millisieverts and sieverts | BOE15 LE10 | |
| Interpret data about radiation risk | BOE15 LE10 | |
| Draw conclusions from data about exposure consequences | BOE15 LE10 | |