**Chapter 12 - Waves**

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| **Basic Waves:**     | Symbols and units:λ - Wavelength (m)f - Frequency (Hz)v - Wave speed (m/s)T - Period (s) |
| **Standing Waves** 4Antinodes = 1 λ 4Antinodes or 4Antinodes  | Symbols and units:*L* - Length of standing wave (m)λ - Wavelength (m)n - Number of quarter wavelengths |
| **Doppler:**Moving Source: Moving Observer:  | Symbols and units:f' - Shifted Frequency (Hz)f - Original Frequency (Hz)v - Speed of sound (m/s) us - Speed of source (m/s)uo - Speed of observer (m/s) |