λ = v/f

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| λ (lambda) | Wavelength | m |
| v | velocity | m/s |
| f | Frequency | Hz (hertz) |

v = λf

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| v | velocity | m/s |
| λ (lambda) | Wavelength | m |
| f | Frequency | Hz (hertz) |

f= v/λ

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| f | Frequency | Hz (hertz) |
| v | velocity | m/s |
| λ (lambda) | Wavelength | m |

f = 1/T

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| f | Frequency | Hz (hertz) |
| T | Period | s |

T = 1/f

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| T | Period | s |
| f | Frequency | Hz (hertz) |

$$T=2π\sqrt{L}/g$$

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| T | Period | s |
| L  | length | m |
| g | gravity | m/s2 |

F = -kx

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| F | Force | N |
| k | Spring constant | N/m |
| x | distance | m |

PEspring= ½ kx2

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| PEspring | Potential Energy (spring) | Joules (J) |
| k | Spring constant | N/m |
| x | distance | m |

I = P/4πr2

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| I  | Intensity | W/m2 |
| P  | Power | Watts |
| r | Radius/distance | m |

L = H/2 λ

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| L | Length | m |
| H | Harmonic | Just a number |
| λ | Wavelength  | m |

$$F\_{observed= \left(\genfrac{}{}{0pt}{}{v}{v-vsource}\right)}f\_{source}$$

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| fobserved | Frequency of observed object | Hz |
| v | Velocity (found through temperature formula) | m/s |
| Vsource | Velocity of the source | m/s |
| Fsource | Frequency of the source | Hz |

$$F\_{observed= \left(\genfrac{}{}{0pt}{}{v}{v+vsource}\right)}f\_{source}$$

|  |  |  |
| --- | --- | --- |
| Letters: | Meaning: | Measured in: |
| fobserved | Frequency of observed object | Hz |
| v | Velocity (found through temperature formula) | m/s |
| Vsource | Velocity of the source | m/s |
| Fsource | Frequency of the source | Hz |