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| Wave equation | $y(x,t) = A \cos(\omega t \pm k x), \quad k = 2\pi / \lambda$ $y(x,t) = A \cos\left(2\pi f t \pm \frac{2\pi}{\lambda} x\right)$ $y(x,t) = A \cos\left[2\pi\left(f t \pm \frac{1}{\lambda} x\right)\right]$ |
| Vibration speed of material particles | $V_v(x,t) = -A \omega \sin(\omega t \pm k x)$ $V_{v,MAX} = \pm A \omega$ |
| Others | $T = \frac{1}{f}; \quad \omega = 2\pi f; \quad v = \lambda f$ |

| Symbol | Magnitude | S.I. unit |
|-----------|---------------------------------------|-----------|
| y | Wave state | |
| x | x coordinate | m |
| t | Time | s |
| A | Amplitude | |
| ω | Angular frequency | rad/s |
| k | Wavenumber | rad/m |
| T | Period | s |
| v | Phase speed | m/s |
| V_v | Vibration speed of material particles | m/s |
| λ | Wavelength | m |
| f | Wave frequency | Hz |