

Review: The Harmonic Waveform

$$y(x,t) = A \cos\left(\frac{2\pi}{\lambda}(x - vt)\right) \equiv A \cos(kx - 2\pi ft) \equiv A \cos(kx - \omega t)$$

y is the displacement from equilibrium.

$v \equiv$ speed

$A \equiv$ amplitude (defined to be positive)

$\lambda \equiv$ wavelength

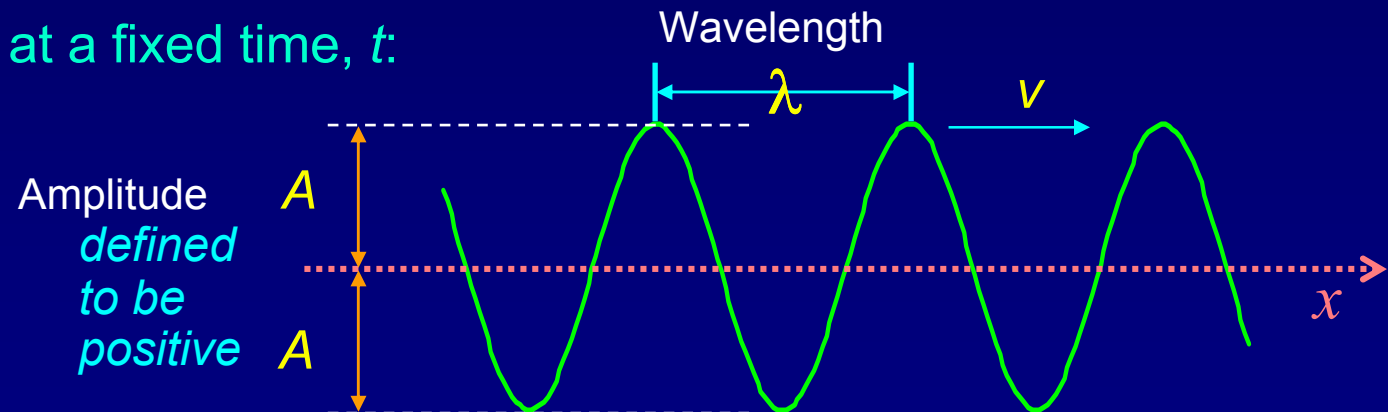
$k \equiv \frac{2\pi}{\lambda} \equiv$ wavenumber

$f \equiv$ frequency

$\omega \equiv 2\pi f \equiv$ angular frequency

A function of
two variables:
 x and t .

A snapshot of $y(x)$ at a fixed time, t :



This is review from Physics 211/212.

For more detail see Lectures 26 and 27 on the 211 website.