

So how do we describe waves?

What happens to the velocity of a wave as it travels?

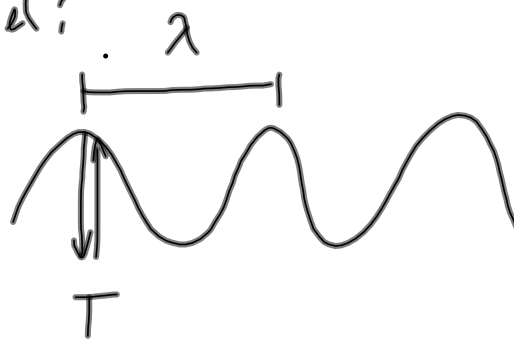
How fast does a wave travel?

$$v = \frac{\Delta d}{\Delta t}$$

$$v = \frac{\lambda}{T}$$

$$v = \lambda \left( \frac{1}{T} \right)$$

$v = \lambda f$  ← The universal wave equation



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24 times

36s

Period: the time for 1 vibration.

$$T = \frac{36s}{24 \text{ vibrations}}$$

$$T = 1.5 \text{ s/vibration}$$

Frequency:  
how vibrations  
in 1s

$$f = \frac{1}{T}$$

$$f = \frac{1}{1.5 \text{ s/vib}}$$

$$f = 0.67 \text{ vib/s}$$

or Hz

$$f = \frac{24 \text{ vibrations}}{36s}$$

$$f = 0.67 \text{ vib/s}$$

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$$f = 2.8 \text{ Hz}$$

$$\lambda = 0.36 \text{ m}$$

$$v = ??$$

Universal wave equation:

$$v = \lambda f$$

$$v = (0.36 \text{ m})(2.8 \text{ s}^{-1})$$

$$v = 1.0 \text{ m/s}$$

