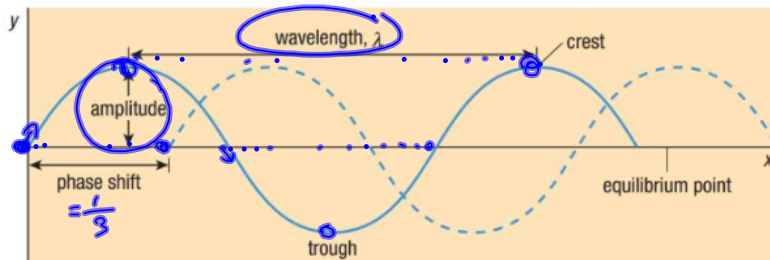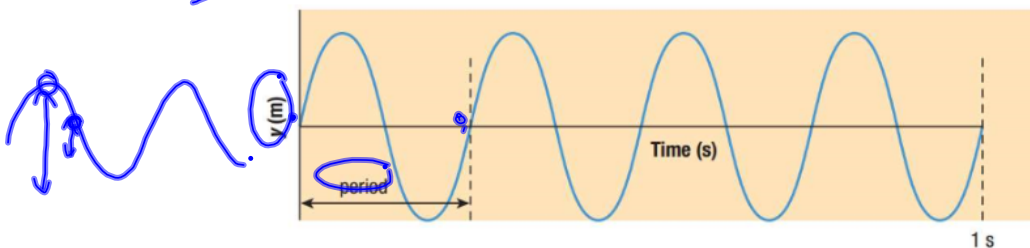## SPH3U 8.3 Wave Characteristics

1. Geometric wave characteristics (Freeze time - look at one single instant).

Amplitude:	max distance from equilibrium. $A = \dfrac{max - min}{2}$.
λ Wavelength:	distance between 2 similar points in 2 cycles. (Units: m).
Phase:	x-coordinate of a unique point. (Units: m or proportion)
Phase shift:	a shift in the x-axis relative to another value. (Units: m or proportion)

Time-based.

2. Geometric wave characteristics (one specific location over time)

Period: T	the time for a vibrating particle to complete 1 cycle (s).
Frequency: f	the number of cycles per second.
equation	$f = \dfrac{1}{T}$ Units: Hz $\left(\dfrac{1}{s}\right)$ $T = \dfrac{1}{f}$ Units: s.
Wave speed:	$v = \dfrac{\lambda}{T}$ Units: m/s. $v = f\lambda$
equation	how fast a wave travels through a medium.
Simple harmonic motion (SHM):	any motion that repeats itself at regular intervals.

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