UNIT 4 - Waves:

Vibration: Repeated oscillation about some equilibrium point.

Pulse: A pulse is a single traveling disturbance caused by a vibrating source. A wave c
be thought of as a series of repeated pulses.

Ex:

Wave: A transfer of energy in the form of a traveling vibration.
Some waves require a medium in which to travel (sound, water waves) while others do not. (radio waves, x-rays).
For example, in a water wave the waves carry energy because of the disturbance o
the medium which is water.

Frequency: The number of complete waves which pass a point in a given time.
Frequency, f, is usually measured in cycles per second, or Hertz, Hz.

$$f = \frac{\#cycles}{t}$$

Period: The amount of time for one complete wave to pass.
Period, T, is measured in seconds.

$$T = \frac{t}{\#cycles}$$

Notice that period and frequency are *reciprocals* of each other.

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

Ex: A pendulum completes 30 cycles in 15 seconds. What is its period and frequency?

Amplitude: The displacement of the particle from the rest position is its amplitude, A, measured in meters. Generally, when we say amplitude we are referring maximum amplitude.

Ex:

In-Phase: Two particles can be said to be in phase if they are at the same amplitude and moving in the same direction

Ex:

Wavelength: The length of one full wave. λ

Ex:

Cycle: A cycle is one complete wave. The length of a complete cycle is the wavelength (λ) while the time for one complete cycle is the period (T)

http://id.mind.net/~zona/mstm/physics/waves/partsOfAWave/waveParts.htm#frequency

Assign p. 389 #1-3 for hmwk

http://id.mind.net/~zona/mstm/physics/waves/partsOfAWave/waveParts.htm