WAVES - Introductory Notes

_____-a disturbance that transmits energy through space

- Most waves require a _____ (matter through which a wave travels like water or air)

Two Types of Waves

- Transverse wave-particles of the medium vibrate _____ to the

  direction of the wave. Examples: wave in water, light wave

  o _____-highest point of wave

  o _____-lowest point of wave

  o _____-distance from rest

    position to crest or trough; amount of energy in a wave

  o _____(λ)-distance between any two successive identical

    parts of a wave
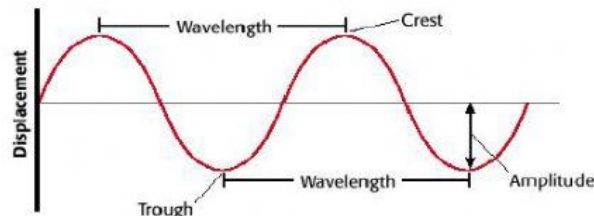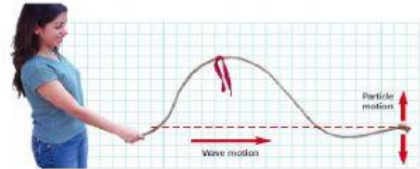
- Longitudinal wave-particles of the medium vibrate _____ to the direction

  of the wave. Examples: slinky, sound wave

  o _____-part of wave where the coils/particles are pressed together

  o _____-part of wave where the coils/particles are spread apart

  o _____ - distance from compression to compression

  o _____ - distance from the rest position to the greatest

    compression or rarefaction
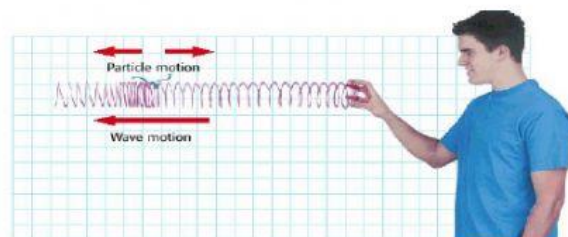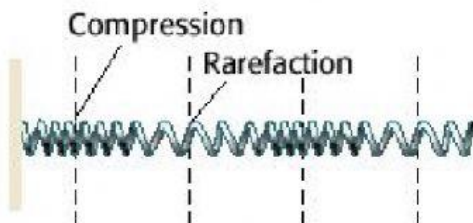
Wave Speed and Frequency

- _____ - the movement of the energy pulse in a wave
- _____ - the rate at which a wave is propagated, the rate at which the pulse of energy in a wave moves from one place to another
- The speed of light waves is _____
- The speed of sound in air is about _____ depending on the temperature and humidity of the air
- _____ - the number of complete waves that pass by a certain point in an amount of time.
    - o When frequency is measured in waves per second, the unit is called a _____ (_____)
    - o TV screens cycle at 50 or 60 Hz, meaning that they refresh their contents 50 or 60 times every second
    - o Musicians tune their instruments, often to a concert A. This note has a pitch or frequency of _____. Middle C on a piano has a frequency of _____.

Universal Wave Equation

The frequency, wavelength, and speed of waves are related by the equation $v = f * \lambda$