Name _____ Date _____ Period_____

Study Guide: Sound and Light

1. A _____ is any disturbance that transmits energy through matter or space. The maximum distance a wave _____ from its rest position is called _____. The distance between _____ or _____ in a wave is called _____. The number of waves produced in a second is called the _____: 1 Hertz = 1 wave per _____.

- vibrates
- troughs
- wave
- second
- crests
- wavelength
- frequency
- amplitude

2. Sound is created by _____ that move through air or water. The range of _____ is between 20 Hz and 20,000 Hz. Sounds below 20 Hz are called _____ while sounds above 20,000 Hz are called _____. Sound is measured in _____ or dB.

- infrasonic
- human hearing
- decibels
- vibrations
- ultrasonic

3. When a wave bounces back after hitting a surface, it is called _____ or an _____ if it is a sound wave. _____ occurs when a light wave is bent. Starlight traveling near the Sun is an example of this. When an object _____ at or near the same _____ as another object it is called _____. The _____ occurs when a sound changes frequency as a sound moves away or toward the listener.

- echo
- vibrates
- refraction
- reflection
- Doppler Effect
- resonance
- frequency

4. Light is an _____ wave made of changing electric and magnetic fields. _____ are produced by the _____ of an electrically charged particle. A _____ is tiny piece of energy released when an _____ changes energy levels.

- EM waves
- vibration
- electromagnetic
- photon
- electron

5. If light passes through a substance easily it is _____ while if the light _____ it is _____. If no light passes through, the substance is _____. We see _____ when part of the light _____ is reflected back to the eye while others are _____.

- colors
- opaque
- absorbed
- spectrum
- translucent
- transparent
- scatters