Science 2 ~ Ch. 9 Waves Study Guide ~ **Test: Tuesday 10/4/16 and Wednesday 10/5/16**

1. What is a wave?	A Wave is a disturbance that transfers energy without transferring matter.
2. Distinguish between a Mechanical Wave and an Electromagnetic Wave	Mechanical Waves have to have a medium (matter) to travel through. Electromagnetic Waves do not.
3. In what direction do particles move in a Transverse Wave versus a Longitudinal Wave?	Transverse Wave – Perpendicular to the direction of the wave. Longitudinal Wave – Parallel to the direction of the wave.
4. What are the highest point and lowest point of a Transverse Wave called?	Highest point is a Crest. Lowest point is a Trough.
5. What are the areas of Compression and Rarefaction in a Longitudinal Wave?	Compression – Area where particles of matter are the closest together in a longitudinal wave. Rarefaction – Area where particles of matter are the farthest apart in a longitudinal wave.
6. How is wavelength measured?	Distance from one point on a wave to the same point on the next wave.
7. How is the frequency of a wave determined?	The number of wavelengths that pass by a point each second. Measured in Hertz (Hz)
8. If amplitude increases, then the _____ of the wave _____.	Energy ; Increases
9. What formula is used to calculate the speed of a wave?	Speed = Frequency x Wavelength
10. In what 6 ways do waves interact with matter and each other?	Absorption, Transmission, Reflection, Refraction, Diffraction, Interference
11. What are the 3 different types of wave interference?	Constructive, Destructive, Standing Waves
12. What does the Law of Reflection state?	Angle of Incidence = Angle of Reflection
Matching	
Match each item with the correct statement below. a. amplitude b. electromagnetic wave c. diffraction d. reflection e. refraction 1. does not require a medium to travel through 2. why light shines off a mirror 3. related to the energy of a wave 4. the changing of the speed of a wave 5. the spreading out of waves around a barrier	1. b 2. d 3. a 4. e 5. c