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| 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.   1. amplitude 2. electromagnetic wave 3. diffraction 4. reflection 5. refraction 6. does not require a medium to travel through 7. why light shines off a mirror 8. related to the energy of a wave 9. the changing of the speed of a wave 10. the spreading out of waves around a barrier | 1. b 2. d 3. a 4. e 5. c |