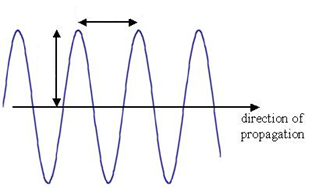
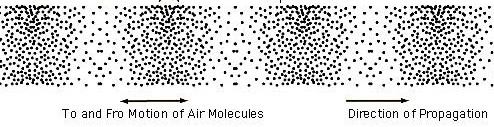
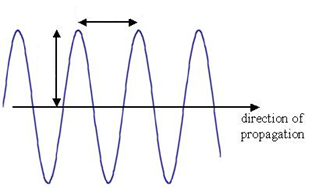
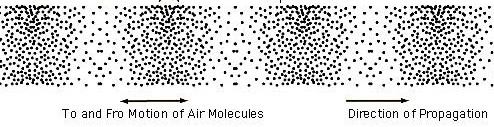
1. Define and provided examples for the following types of waves:
   1. Transverse
   2. Longitudinal
   3. Surface
2. What is the only factor that affects the speed of a mechanical wave?
3. Define and list the variables for the following terms:
   1. Frequency
   2. Period
   3. Wave Speed
   4. Amplitude
   5. Wavelength
   6. Sound Intensity
4. Sketch and label the following diagrams:
   1. Transverse Wave:
   2. Longitudinal Wave:



1. Define and sketch a diagram for each of the following wave behaviors:
   1. Constructive Interference
   2. Destructive Interference
   3. Reflection
   4. Refraction
   5. Diffraction
2. What is the superposition principle? What does it mean for mechanical waves?
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3. Define the following:
   1. Primary Waves
   2. Secondary Waves
   3. Epicenter
   4. Focus
   5. Earthquake
   6. Tsunami
4. What are the events that can cause earthquakes? Tsunamis?
5. What are the 3 types of plate boundaries we learned about? How do plates move relative to each other with these types of boundaries?
6. How do seismographs work?
7. What’s the difference between a water wave and a tsunami?
8. Why do the amplitudes of tsunamis increase as they approach the shore?
9. Define pitch; what wave property is it most closely related to?
10. Define loudness; what wave property is it most closely related to?
11. If frequency changes, what other wave properties are changed? Are they directly or indirectly related?
12. How does air temperature affect the speed of sound? List an equation to support your reasoning.
13. Explain how the following parts of your ear are related to your ability to hear:
    1. Eardrum
    2. Hammer
    3. Anvil
    4. Stirrup
    5. Cochlea
14. Define the following terms:
    1. Infrasonic frequencies
    2. Ultrasonic frequencies
    3. Subsonic speeds
    4. Supersonic speeds
15. Define the Doppler Effect. How does the apparent frequency shift for an observer based on the motion of the source?
16. A tuning fork with a frequency of 480 Hz is played in a room with a temperature of 25°C.
    1. What is the period of the sound wave?
    2. What is the velocity of the sound wave produced?
    3. What is the wavelength of the resulting sound wave?
17. The velocity of the primary waves produced by an earthquake is 8900 and that of the secondary waves is 5100 . A seismograph records the arrival of the transverse waves 74 s after the arrival of the longitudinal waves. How far away is the earthquake?
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