**Waves- Guided Notes**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_ Core: \_\_\_\_\_

1. A wave is any type of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that carries \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	1. It may MOVE matter, but does not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ it.
	2. Waves are moving \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Waves are created when a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (force) creates a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	1. Vibrations in materials set up \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that spread AWAY from the source.
3. Wave behavior can be described in the following ways:
	1. How fast the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ spreads
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - the distance between successive peaks of the disturbance
	3. Waves move at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ speeds in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ materials.
4. There are two main types of waves:
	1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - waves that can travel through empty space (a vacuum)
		1. They do not require a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to travel
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - waves that must have matter (medium) to travel through.
		1. Examples: sound, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (seismic waves)
5. Mechanical waves
	1. Must have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, such as a solid, liquid, or gas, to travel through.
	2. Some examples are:
6. Mechanical waves: 2 types
	1. Longitudinal waves: the motion of the medium is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the motion of the wave
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are longitudinal
	3. The energy is being carried by the wave \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	4. The energy and the matter are moving in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ direction.



* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is when waves are close together.
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is when waves are far apart.



1. Transverse Waves: the motion of the medium is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the motion of the wave.
	1. The waves move \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_.
	2. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are NOT moving the same direction.
	3. The energy and matter move at a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ angle.
	4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are transverse.
2. Label the parts of the wave: (wave crest, wave length, wave height, amplitude, trough) 
3. Transverse wave parts:
	1. Crest: the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point of a wave
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: the **volume** (or height) of a wave.
		1. As weight height \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, volume \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
		2. Volume is measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	3. Trough: the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point of a wave.
	4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: the **pitch**, or “high” or “low” length of a wave
		1. As \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ increases, pitch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
		2. Measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.