

Name: _____

Waves

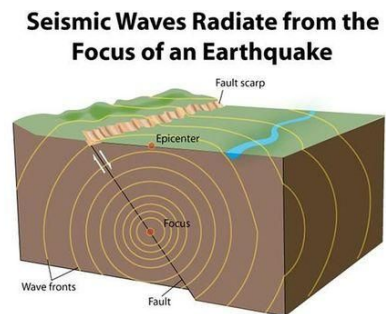
Wave - a disturbance that transfers **energy** from one place to another,
A wave transfers energy, not matter!

Medium - any substance that a wave moves through

Rope Wave Demo - Draw a picture of the demonstration. Label the direction of the force and the wave itself. Then identify the medium of the wave.

Water Wave Demo - Draw a picture of the demonstration. Label the direction of the force and the wave itself. Then identify the medium of the wave.

Earthquake Wave - An earthquake occurs when forces cause rock to break away and move, energy is transferred as a wave through the ground as seismic waves. Then identify the medium of the wave.



_____ are waves that transfer energy through matter.

Example) Earthquake transfers _____ miles away from the origin of the wave

Transverse Waves - the direction the wave moves is perpendicular to the direction of the disturbance. Ex) light waves

Longitudinal Waves - the wave travels in the same direction as the disturbance. Ex) sound waves

Notes

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Slinky and spring Demonstration - Draw a picture of how you created a transverse and longitudinal wave with the slinky and spring. In each drawing, label the direction of the disturbance and the direction of the wave.

Transverse Slinky Model

Longitudinal Slinky Model

Crest - the highest point of a wave

Trough - the lowest point of a wave

Amplitude - the bigger the amplitude, the more energy the wave has!

- a.) Transverse - distance between a line through the middle of a wave and a crest or trough
- b.) Longitudinal - how compressed the medium gets

Wavelength -

- a.) Transverse - the distance from one wave crest to the very next crest
- b.) Longitudinal - distance of one compression to the next

Frequency - number of waves passing a fixed point in a certain amount of time, measured in Hertz - one hertz is one wavelength per second

As frequency _____, wavelength _____.

Pitch - the highness or lowness of a sound

As frequency _____, wavelength _____, and pitch _____.

As frequency _____, wavelength _____, and pitch _____.

All graphs of waves look similar. Transverse waves look like their graphs! Longitudinal waves look different from their graphs. Draw a slinky longitudinal and transverse wave and label their components and properties.

Notes