

# How Waves Travel Through Mediums

Name: \_\_\_\_\_

Use the [video](#) to help answer the questions below.

## Sound Waves

Sound is a form of \_\_\_\_\_. Sound needs a \_\_\_\_\_ for its propagation (to be heard). Sound waves can travel in three basic mediums. \_\_\_\_\_ such as air, \_\_\_\_\_ such as water, or \_\_\_\_\_ like wood or metal. During a thunderstorm, a person will see the lightning before they hear the thunder. This happens because \_\_\_\_\_ travels faster in air.

### Sound Through Liquids



Sound travels **faster in water**.

Explain in your own words why sound travels faster in water than air.

### Sound Through Solids

Sound waves travel even \_\_\_\_\_ or faster through solid things like wood or metal. Since the particles in a solid are \_\_\_\_\_ packed, sound waves travel the \_\_\_\_\_ in this medium.

During the sound experiment, the sound waves traveled better through the solid \_\_\_\_\_ that the student placed his ear on. This proved that sound waves travel faster in \_\_\_\_\_ objects than through \_\_\_\_\_ such as air.

Sound cannot travel in space because there is no \_\_\_\_\_ such as air or any other matter. The term \_\_\_\_\_ is used to describe a situation where no medium is present.

Fill In the Chart

Medium	States of Matter	Speed (m/s)

### How Light Waves Travel

Refraction is when light \_\_\_\_\_ when it travels from one \_\_\_\_\_ to another. Refraction is caused by a \_\_\_\_\_ in speed from one medium to another. When light hits a more dense medium the light will have a \_\_\_\_\_ speed. Light travels \_\_\_\_\_ in less dense materials.

Explain in your own words why the pencil looks bent when it is in water

