

SOUND TRAVELS

KEY IDEAS

- Sound must have a medium through which to travel
- Sound can travel through gases (eg air), liquids (eg water) and solids
- We detect sound with our ears

EXAMPLE QUESTIONS

- How can you tell that sound travels?
- What materials do you think sound can travel through?
- How can you tell that a sound is present?

SOUNDS TRAVEL OUTWARDS

- Sound vibrations travel in all direction away from the source of the sound in a manner similar to the ripples of water created when a stone is thrown into a pond.
- Sounds however, travel in all directions, not just outwards, but upwards and downwards as well.

SOUNDS TRAVEL THROUGH A MEDIUM

- Without a medium, such as air, water, or a solid material, sound cannot travel.
- Sound cannot travel through a vacuum.
- Most of the sounds that we hear travel through air.
- We can also hear sounds through water(when swimming underwater, for example).
- We can sometimes feel sound vibrations in solids, such as through our feet when deep bass (low frequency) musical notes travel through the floorboards we are standing on.

WE DETECT SOUNDS WITH OUR EARS

- Ears are complex and sensitive organs.
- Incoming sounds cause our eardrums to vibrate. The eardrum transfers these vibrations to three small bones located in the inner ear, and from there to sensitive cells that convert these vibrations into signals which travel along our nerves to the brain.
- The brain interprets these signals and makes sense of them.
- Ears can be damaged, sometimes permanently, by exposure to loud noises.

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