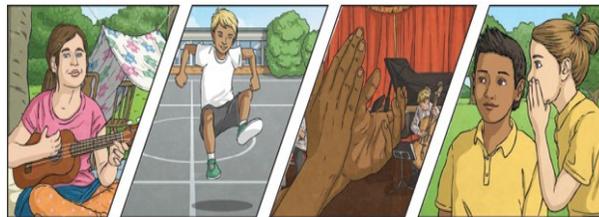




# Sound

# Year 4 Ingenious Inventors

Sound is a type of energy. Sounds are created by **vibrations**. The louder the sound, the bigger the vibration.



Key Vocabulary	
Word	Definition
<b>sound waves</b>	invisible waves that move through the air, water and solid objects as vibrations
<b>decibel</b>	a measure of the strength of a sound wave
<b>volume</b>	how loud or quiet a sound is
<b>pitch</b>	how high or low a sound it
<b>frequency</b>	a measure of how many times per second the sound waves travel
<b>amplitude</b>	a measure of the strength of a sound wave
<b>transmit</b>	to pass from one place or person to another



Alexander Graham Bell (1847 – 1922) was an inventor who studied how vibrating objects make sound. He devised a way of sending and receiving the range of sounds in the human voice. The result was the telephone.

If you throw a stone in a pond, it will produce ripples. As the ripples spread out across the pond, they become smaller. When sound vibrations spread out over a distance, the sound becomes quieter just like the ripples in a pond.



## How do sounds travel?

**Sound waves** can travel through different states of matter (solids, liquids and gases).



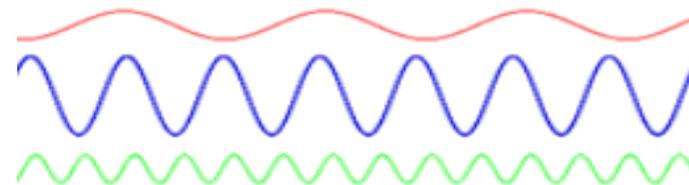
When you hit a drum, the drum skin vibrates. This makes the air particles closest to the drum start to vibrate as well. The vibrations **transmit** to the next air particles, then to the next and the next.



This carries on until the air particles closest to your ear vibrate.

Pitch:

· **High pitch** sounds are created by short sound waves.



· **Low pitch** sounds are created by long sound waves.

Inside your ear, the vibrations hit the eardrum and are then passed to the middle and then the inner ear. They are then changed into electrical signals and sent to your brain. Your brain tells you that you are hearing a sound.

