



Year 4 Science

Sound

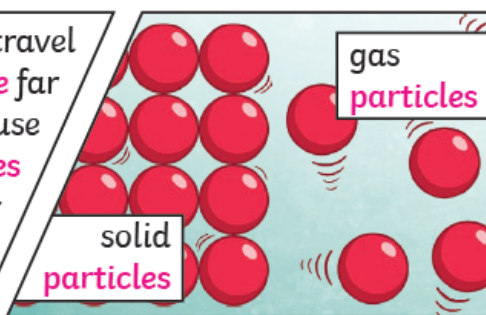
Things you should already know:

- Sound can be made by different objects, humans and other animals.
- Musical instruments from around the world create different sounds.
- Volume = how loud or quiet a sound is.
- Pitch = How high or low a sound is.

Key Knowledge

- Sound travels through solids, liquids and gases.
- Sound travel can be blocked.
- Sound spreads out as it travels.
- Changing the shape, size and material of an object will change the sound it produces.
- Sound is produced when an object vibrates.
- Changing the way an object vibrates changes its sound.
- Sound moves through all materials by making them vibrate.
- Bigger vibrations produce louder sounds and smaller vibrations produce quieter sounds.

Sound energy can travel from **particle to particle** far easier in a solid because the **vibrating particles** are closer together than in other states of matter.



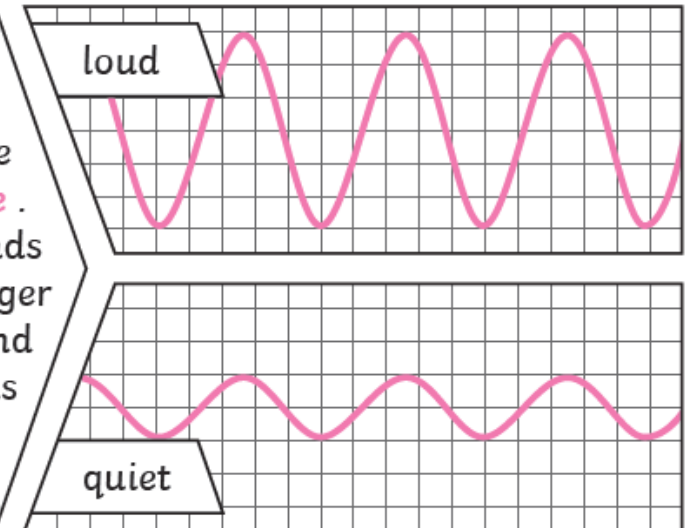
If you throw a stone in a pond, it will produce ripples. As the ripples spread out across the pond, they become smaller. When sound **vibrations** spread out over a **distance**, the sound becomes quieter, just like ripples in a pond.



New Learning for Year 4.

- To identify how sounds are made, associating some of them with something vibrating.
- To recognise that vibrations from sounds travel through a medium to the ear.
- To find patterns between the pitch of a sound and the features of the object that produced it.
- To find patterns between the volume of a sound and the strength of the vibrations that produced it.
- To recognise that sounds get fainter as the distance from the sound source increases.

The size of the **vibration** is called the **amplitude**. Louder sounds have a larger **amplitude**, and quieter sounds have a smaller **amplitude**.



Pitch is a measure of how high or low a sound is. A whistle being blown creates a high-**pitched** sound. A rumble of thunder is an example of a low-**pitched** sound.





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Key Vocabulary

Sound	A noise created by vibrations that travel through the air or another medium and can be heard when they reach a person's or animal's ear .
Source	The place person or thing that the sound comes from.
Vibrate/vibration	A wave of sound that is what creates the noise.
Travel	Going from one place to another—sound waves travel from one material to another through solids, liquids and gases.
Pitch (high or low)	How high or low a sound it.
Volume (quiet or loud)	How quiet or loud a sound it.
Insulation	The action of muffling a sound so it becomes quieter.



Sticky Learning.

Can you answer any of these questions in your book?

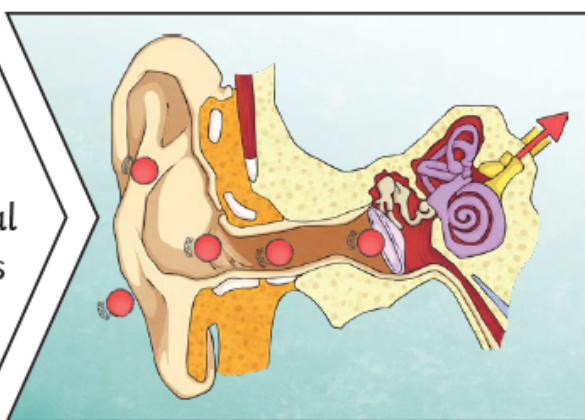
Scan to complete a quiz about sound.

Follow the QR code to learn more about how we hear. Watch the videos, complete the tasks and the quiz questions.

How do musicians create sounds of different pitches on a violin?



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.



- What is this construction worker wearing to keep themselves safe?
- Why do they need to wear ear defenders?
- What are they made of?

