

Key Skills	Key enquiry questions
<p data-bbox="120 229 349 261">Year 4 / Year 5</p> <p data-bbox="120 354 573 386">Pupils should be taught to:</p> <ul data-bbox="165 520 1173 1442" style="list-style-type: none"><li data-bbox="165 520 1173 600">• identify how sounds are made, associating some of them with something vibrating<li data-bbox="165 727 1173 807">• find patterns between the volume of a sound and the strength of the vibrations that produced it<li data-bbox="165 935 1173 1015">• recognise that vibrations from sounds travel through a medium to the ear<li data-bbox="165 1142 1173 1222">• recognise that sounds get fainter as the distance from the sound source increases<li data-bbox="165 1350 1173 1442">• Describe in detail how sound travels and how it can be changed.	<p data-bbox="1196 507 1469 539">What is sound?</p> <p data-bbox="1196 561 2136 593">I can identify and describe sound sources around school.</p> <p data-bbox="1196 616 2047 695">I can explain how sources of sound vibrate, creating sound.</p> <p data-bbox="1196 935 1630 967">How does sound travel?</p> <p data-bbox="1196 989 1935 1021">I can describe how vibrations make sounds.</p> <p data-bbox="1196 1043 2114 1123">I can explain how vibrations change when a sound gets louder.</p> <p data-bbox="1196 1145 2069 1225">I can explain how loud and quiet sounds travel to our ears.</p>

- Find patterns between the pitch of a sound and features of the object that produced it.
- Find patterns between the volume of a sound and the strength of the vibrations that produce it.

Why does the pitch of a sound change?

I can identify and describe high and low sounds.

I can observe and describe patterns between the pitch of a sound and

features of the object that made the sound.

I can explore ways to change the pitch of a sound.

How does sound change over distance?

I can identify how sounds change over distance.

I can identify sounds at a distance.

I can create a string telephone and explain how sound travels through it.

Key Vocabulary	
vibration	A quick movement back and forth.
sound wave	Vibrations travelling from a sound source.
volume	The loudness of a sound.
amplitude	The size of a vibration . A larger amplitude = a louder sound.
pitch	How low or high a sound is.

Key Vocabulary	
ear	An organ used for hearing.
particles	Solids, liquids and gases are made of particles . They are so small we are unable to see them.
distance	A measurement of length between two points.
soundproof	To prevent sound from passing through.
absorb sound	To take in sound energy. Absorbent materials have the effect of muffling sound.
vacuum	A space where there is nothing. There are no particles in a vacuum .
eardrum	A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. It separates the outer ear from the middle and inner ear . Sound waves make the eardrum vibrate .

What is sound?

Key Knowledge

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



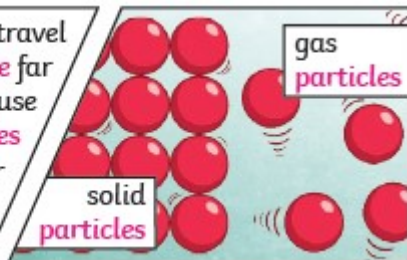
How do we hear sounds?

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 happens to sound over distance?

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.



How does sound travel?

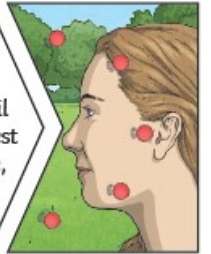
Key Knowledge

Sound can travel through solids, liquids and gases. Sound travels as a **wave**, **vibrating** the **particles** in the medium it is travelling in. Sound cannot travel through a vacuum.

When you hit the drum, the drum skin **vibrates**. This makes the air **particles** closest to the drum start to **vibrate** as well.

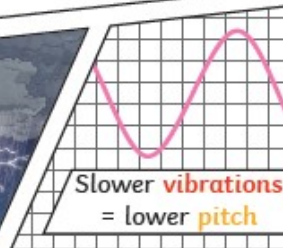
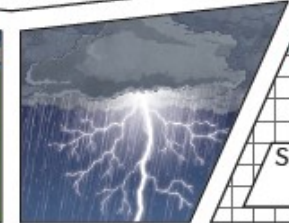
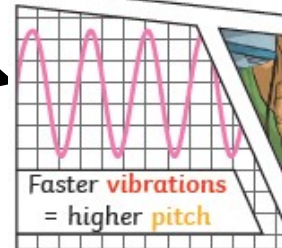


The **vibrations** then pass to the next air **particle**, then the next, then the next. This carries on until the air **particles** closest to your ear **vibrate**, passing the **vibrations** into your **ear**.



What is pitch?

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.



You can change the **pitch** of a sound in different ways depending on the type of instrument you are playing.

For example, if you are playing a xylophone, striking the smaller bars with the beater causes faster **vibrations** and so a higher **pitched** note. Striking the larger bars causes slower **vibrations** and produces a lower note.

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

