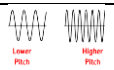
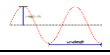
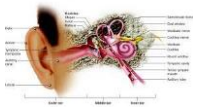
Year 4 – Spring 2 – Sound – Could we have a moon disco?

Key Vocabulary

Vibration 	A quick movement back and forth.
Sound wave 	Vibrations travelling from a sound source.
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.
Vacuum	A space where there is nothing. There are no particles in a vacuum.
Absorb sound	To take in sound energy. Absorbent materials have the effect of muffling sound.
Pitch 	How low or high a sound is.
Amplitude 	The size of a vibration. A larger amplitude = a louder sound
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

Prior knowledge

In year 1 we:

- Identified and explored our senses and how we use them.

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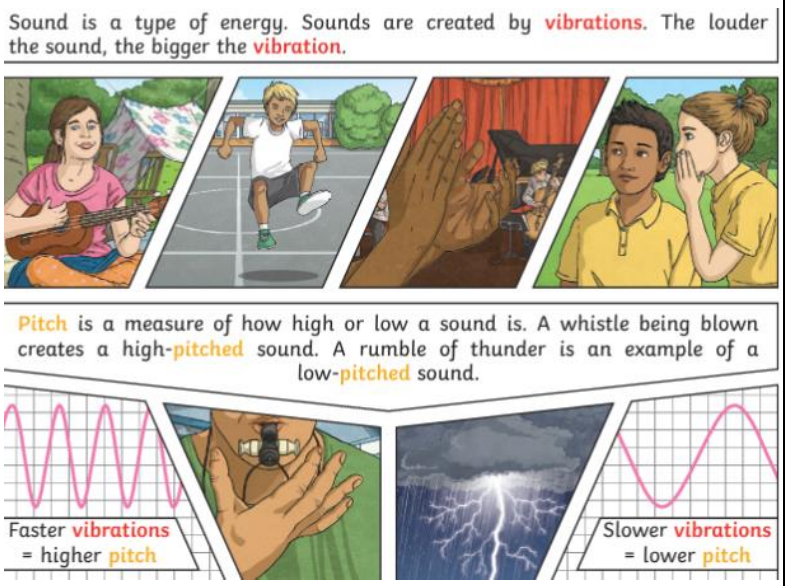
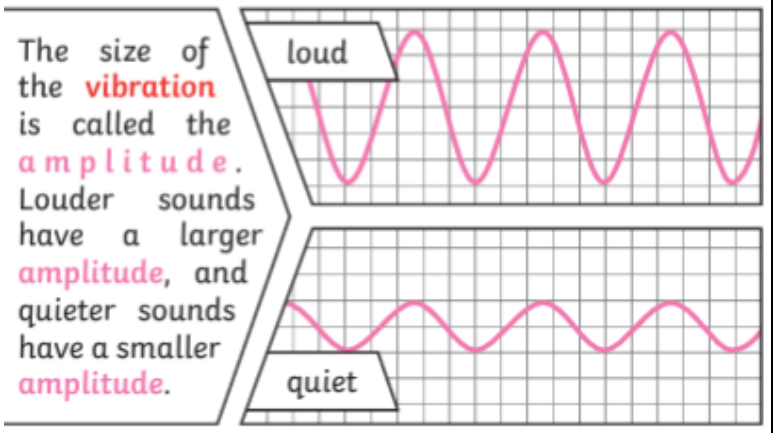
Knowledge and Assessment:

- Identify how sounds are made, associating some of them with something vibrating
- Recognise that vibrations from sounds travel through a medium to the ear
- 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 produced it
- Recognise that sounds get fainter as the distance from the sound source increases

Sticky Knowledge



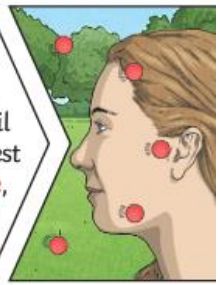


More sticky knowledge

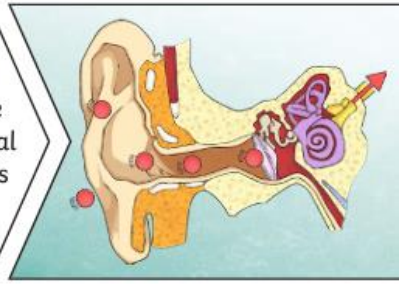
Sound can travel through solids, liquids and gases. Sound travels as a **wave**, **vibrating** the **particles** in the medium it is travelling in. Sound cannot travel through a **vacuum**.

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**.

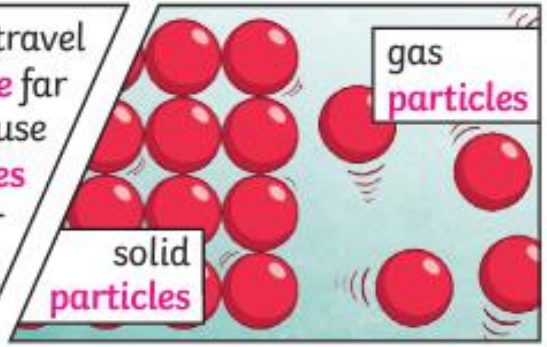


Inside your **ear**, the **vibrations** hit the **eardrum** and are then passed to the middle and then the inner **ear**. They are then changed into electrical signals and sent to your brain. Your brain tells you that you are hearing a sound.



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.

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.



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.