

Changing Sound

Volume

The closer we are to the sound source, the louder the sound will appear to us. The further away we are from the sound source, the quieter the sound will appear.

The more energy in the initial vibration, the louder the sound will be. For example, if you tap a hammer on a desk, the sound will be quiet, but if you smash a hammer on a desk it will be much louder because of the greater force being applied.

Pitch

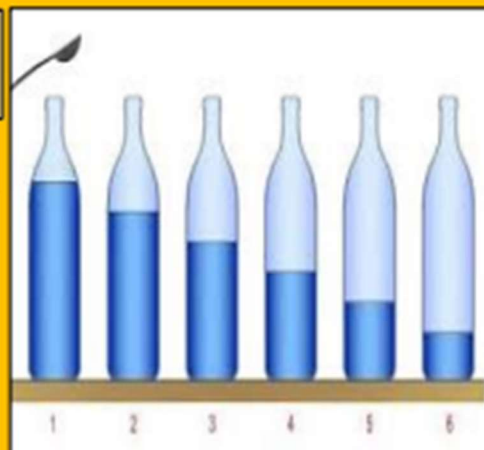
The pitch is how high or low a sound is.

The shorter the vibrating object or column of air, the higher the pitch of the sound.

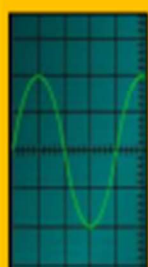
The longer the vibrating object or column of air, the lower the pitch of the sound.

With string instruments, the tighter the string, the higher the pitch of the sound.

highest pitch



lowest pitch



What We Need To Know

What is a sound?

A noise that can be heard.

How is a sound made?

A sound happens when something vibrates.
This can be obvious:
Like when a drill is hitting the ground repeatedly which causes a loud noise.
This can be less obvious:
Like when blowing air into a bottle, the bottle vibrates to produce the noise.

How do sounds travel?

Sounds can travel in two ways:
Through the air - like from a TV speaker across the room to your ears.
Through an object/material - like stone, brick, water and glass. If someone moves furniture upstairs, the sound can travel through the floor to you.

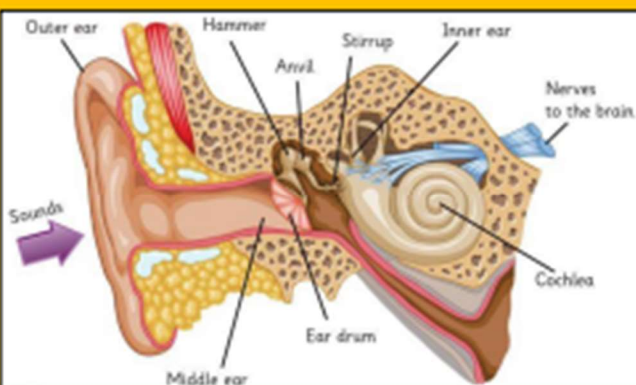
Key Vocabulary and Phrases

Vibrates	Move continuously very quickly back and forth
Volume	The volume of sound is how loud or quiet the sound is
Pitch	
Sounds	Are vibrations that travel through the air.

How do we hear vibrations?

The vibrating air hits our ear drums and makes them vibrate too.

The vibration is picked up by our brains and converted to sounds we recognise.



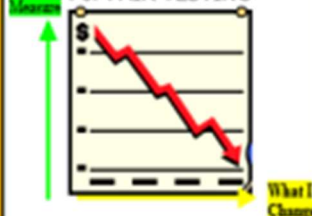
Key Vocabulary and Phrases

ask questions	Use the question words What, where, when why, how
compare and contrast	Look at two or more objects and describe similarities (what is the same) and differences (what is different)
Diagram/ model	A labelled picture / a 3D representation of the real item
record data	Drawings, scientific diagrams, photos, classification keys, tables, bar graphs and line graph, writing and numbers are ways to show what I have found out.
reporting and presenting findings	Giving reasons, explaining causes and relationships, explaining results and trusting its accuracy

How I could record my findings

Pictures
For EXPLORING

Use this if you want to tell the story of what you did or what you observed, e.g. bread going mouldy

Line Graph
For FAIR TESTING

Use this if you have continuous (numerical) data for both axes e.g. mass on an elastic band & how long it is or are measuring over time

Carroll Diagram
For CLASSIFYING/GROUPING

	Red	Blue
Square		
Triangle		

Use this when you want to put objects into categories for having a property or not, e.g. prime/not prime numbers against even/not even (odd) numbers

What I could investigate

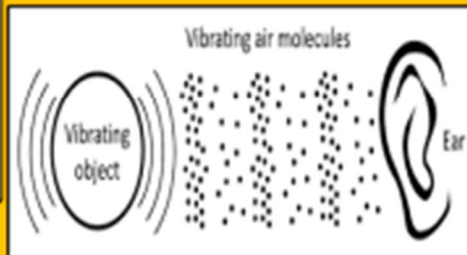
Does the size of pinna affect how we hear sounds?



What material creates the best ear defenders?



How are sounds made?



Equipment I could use

A variety of different materials to test sound absorption



Instruments



Paper to create pinna



A camera, pencil and paper to record findings.

