Year 4 Science Knowledge Organiser - Sound

Key Information

Sounds are quieter the further you get from the sound source because sound loses energy.
The longer the object the lower the pitch.
The shorter the object the higher the pitch.
Sound energy travels from the source, through a medium (solid, liquid, gas) and then into your ear.
Sounds over 70 decibels can damage hearing over time.
Sounds travel fastest through solids because the particles are close together
Sounds travel slowest through air because the particles are further apart
Soft materials with air pockets are the best for absorbing sound.

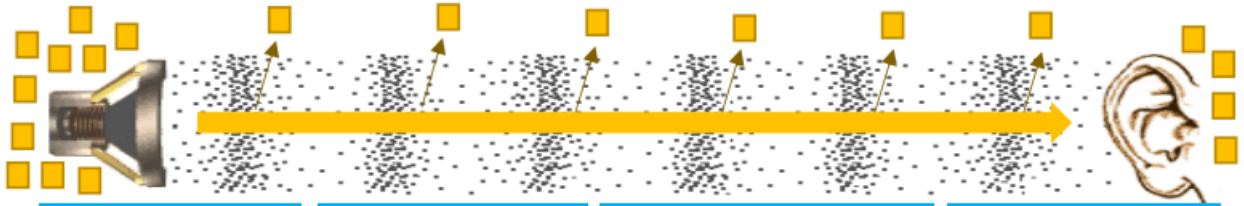
Vocabulary

volume	how loud or quiet a sound is.
pitch	low or high sounds. Measured in Hertz. (Hz)
decibels	Unit used to measure sound energy. (dB)
absorb	soak up or take in
sound source	This is where the sound energy comes from
Sound frequency	The rate the sound vibrations are travelling.

Misconceptions

Some people think that sound can't travel through solids and liquids, but it can.
Some people think that volume and pitch are the same but you can have a loud high pitch and a quiet high pitch.

Energy Transfer Model (Particle Model) Make sure you can describe how sound travels from a **source** using **energy transfer**. Try to explain changes in **volume** and **pitch** using this model.



Sound **source** gives **energy** to the **particles**

Energy makes the particles **vibrate** and move faster

Vibrating particles **collide** into others **transferring** energy on

Energy reaches our ears and we sense it as **sound**

Sound energy transferred by the vibration of particles