Year 4 — Sound

Explaining Science

Remember science words I have used before	Remember & use science words correctly	Begin to use complex words correctly
Begin to use science models to describe	Use science models to describe	Use science models to describe & begin to explain
Add science labels & information to diagrams	Annotate diagrams to help describe & explain	Begin to create & annotate my own diagrams

Designing Experiments

Predict cause & effect (science prediction)	Predict a trend (relationship prediction)	Use K&U to explain my relationship prediction
Identify cause & effect in an investigation	Plan a fair test by selecting variables	Plan a fair test & ensure other variables are kept same
Suggest a suitable data range for the	Suggest a data range & interval for the cause variable	Suggest a range, interval & sufficient readings are taken

Key Knowledge

- Identify how sounds are made (sound energy, vibrations)
- Sound energy/vibrations travel from a source, through a medium (solid, liquid or gas), to your ear.
- The volume of a sound is linked to the strength of vibrations (sound energy) that produces it.
- The pitch of a sound is linked to the frequency of vibrations (sound energy) that produces it.

Science Enquiry

Types of Enquiry you may use are:

- Researching
- Finding patterns
- Comparative and fair testing

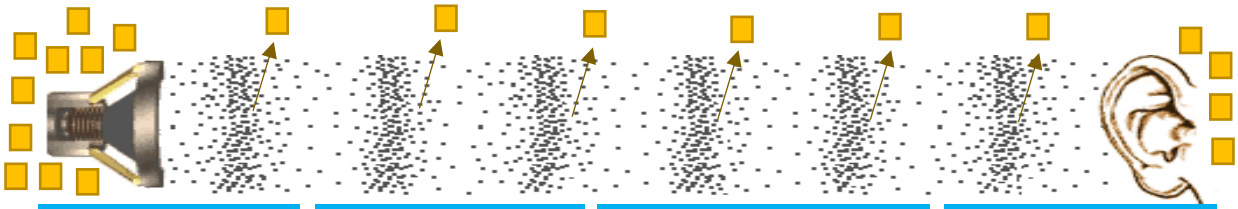
In this topic you will investigate, observe, measure and predict how sound volume and pitch can be changed. You will describe how sound energy travels through vibrating particles and begin to explain how the medium, material and distance affect this.

Key Vocabulary

Sound, energy, transfer, source, ear, particles, solid, liquid, gas, vibration, volume, decibels, frequency, pitch, Hertz, reflected, transmitted, absorbed, fainter / louder, lower / higher, variable, cause, effect, prediction, comparative test, fair test, pattern, method, relationship, trend, data range, data interval.

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