

Year 4 Term 2
Is life better with electricity?

SCIENCE



National Curriculum Links:

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.

Essential Prior Learning:

Sounds are all around us.

We can make sounds in a range of ways: with our voices, our bodies or using equipment.

We can change some of the sounds we make, e.g. banging a saucepan makes a different sound to banging a plastic bowl.

Progression in Skill:

Ask relevant questions about the world around them and using different types of scientific enquiries to answer them (survey, fair test, research/secondary sources, classify, pattern seeking, modelling, investigation over time).

Set up simple practical enquiries, comparative and fair tests.

Make systematic and careful observations.

Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

Collect, gather, record, present data and report on findings from their own enquiries/observations and measurements using simple scientific language in a variety of ways to help in answering questions: including oral and written explanations, displays or presentations, drawings, labelled diagrams, bar charts and tables of results and conclusions.

Use straightforward scientific evidence to answer questions or to support their findings.

Look for naturally occurring patterns and relationships.

Use results to draw simple conclusions: e.g. The ___-er the ____, the ___-er the ____.

Read and spell simple scientific vocabulary correctly.

Long-term Memory Knowledge:

Explain how sounds are made, referencing vibrations.

Know that sound vibrations need a medium through which to travel to our ears.

Explain how the pitch of a sound varies according to the object that produces it.

Explain how the volume of a sound varies according to the strength of the vibrations that produced it.

Know that sounds get fainter, the further away we are from the source.

Use different scientific enquiries to answer questions about the world around us.

Make observations and take accurate measurements.

Record results and draw conclusions from them.

Key Vocabulary

sound	vibrations that travel through the air (or other medium) and are heard
vibration	moving back and forth or up and down of particles – like shaking
frequency	the speed of vibration
pitch	how high or low we experience the tone of a sound
sound source	where the sound originates from
medium	the material through which sound travels, e.g. air or water
volume	quiet or loud

sound waves	similar to vibrations; the way in which sound travels
vacuum	a space with nothing in it — not even air
distance	the length of space between two points
insulation	material used to insulate something, to prevent the passage of sound
energy	force that causes things to move

Progression in Resources:

Data loggers, drum, bell, slinky, air cannon, tuning forks, chimes/xylophone, piano, boom whackers

Relevance

Now	Children know how we can affect the pitch and/or volume of a sound; they understand why we hear some things in the way we do – pitch and volume.
Future	Children use knowledge of sound to understand the world around them, e.g. recognising a baked loaf of bread from the hollow sound it produces.
Aspiration	Children produce music of their own; choose a career such as a sound engineer or work with people who are hard of hearing.