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:

Working scientifically:
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:

Sound is produced when something vibrates.
Sound waves travel into the ear canal until they reach the eardrum; the eardrum passes the vibrations through the middle ear bones into the inner ear.
Pitch is affected by the length or tightness of something: short and/or tight with produce a higher pitch. Long and/or looser produces a lower pitch.
Volume is affected by the strength of the vibration: a stronger vibration produces a louder sound.

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

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.