

 PARK LANE PRIMARY SCHOOL	YEAR 4 SOUND			SCIENCE
PRIOR KNOWLEDGE Builds on previous KS1 learning: • Talk about what they see, using a wide vocabulary. • Explore how things work.		COMMON MISCONCEPTIONS • Sound travels instantaneously: Children may think that sound travels instantaneously from the source to the listener. This unit may be their introduction to the concept that sound waves propagate through a medium, such as air or water, at a finite speed and take time to reach the ears. • Sound needs air to travel: Children might believe that sound can only travel through the air and cannot propagate in other mediums. Investigations will demonstrate that sound can travel through various materials, including solids (such as walls or floors) and liquids (such as water).		
Lesson Intention	National Curriculum Reference	Scientific Enquiry	Rocket Words	Resources
Identify how sounds are made	Identify how sounds are made, associating some of them with something vibrating	Answering Questions through Collecting, Analysing & Presenting Data (Problem-Solving) Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusion	Vibration Medium Waves Eardrum signals	Resources for children to create their presentations, either on paper or digitally
Explore how vibrations from sounds travel through a medium to the ear	Recognise that vibrations from sounds travel through a medium to the ear	Pattern Seeking Identifying differences, similarities or changes related to simple scientific ideas and processes	Source Energy Particles Echo vacuum	Sugar grains, cling film, bowl, speaker string, wire coat hanger, tank of water, two rocks, 2l plastic bottle (bottom cut off) and an inflated balloon
Explore sound insulation	Recognise that vibrations from sounds travel through a medium to the ear	Comparative & Fair Testing Setting up simple practical enquiries, comparative and fair tests	Materials Reflect Absorb insulate defenders	Card, sticky tape and a range of resources to explore, such as foil, cotton wool, bubble wrap, fabric, scrap paper or shredded newspaper and foam
Explore volume	Find patterns between the volume of a sound and the strength of the vibrations that produced it	Answering Questions through Collecting, Analysing & Presenting Data (Problem-Solving) Making systematic and careful observations and, where appropriate, taking accurate measurements using	Volume Decibels decibel metre amplitude power	A range of weights, a ruler, a decibel metre (you can download an app via a phone or tablet), pencils, graph paper and a drum

		standard units, using a range of equipment, including thermometers and data loggers Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions		
Explore pitch	Find patterns between the pitch of a sound and features of the object that produced it	Pattern Seeking Identifying differences, similarities or changes related to simple scientific ideas and processes	➤ Galileo Galilei Pitch high pitch low pitch instruments orchestra	Resources for making musical instruments, such as boxes, kitchen rolls, elastic bands of different thickness, a selection of storage boxes, rice, lentils or beans, card, scissors, glue, tape, string, glass tubes/bottles or drinking glasses of different sizes, spoons and pencils
Explore sounds from near and from far	Recognise that sounds get fainter as the distance from the sound source increases	Answering Questions through Collecting, Analysing & Presenting Data (Problem-Solving) Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	Energy Particles Travel sound source fade	Music through a speaker, tape measure, a decibel metre (you can download an app via a phone or tablet), pencils and graph paper
Investigate the life of an inventor	Research the life of Alexander Graham Bell and the invention of the telephone. Recognise the impact an invention has had on society	Researching Using Secondary Sources	➤ Alexander Graham Bell Inventor Telephone	