INSPIRE NURTURE BELIEVE ACHIEVE

*Working **together** to be the **best** that we can be.*

Happiness	Perserverance	Resilience	Kindness	Friendship	Respect

Science: Sound Progression of Skills and Milestones Document

Year 4
Sound

- **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.**

Notes:

A sound produces vibrations which travel through a medium from the source to our ears. Different mediums such as solids, liquids and gases can carry sound, but sound cannot travel through a vacuum (an area empty of matter). The vibrations cause parts of our body inside our ears to vibrate, allowing us to hear (sense) the sound.

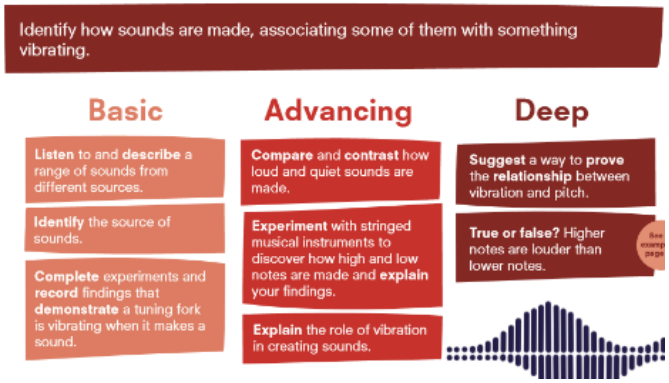
The loudness (volume) of the sound depends on the strength (size) of vibrations which decreases as they travel through the medium. Therefore, sounds decrease in volume as you move away from the source. A sound insulator is a material which blocks sound effectively.

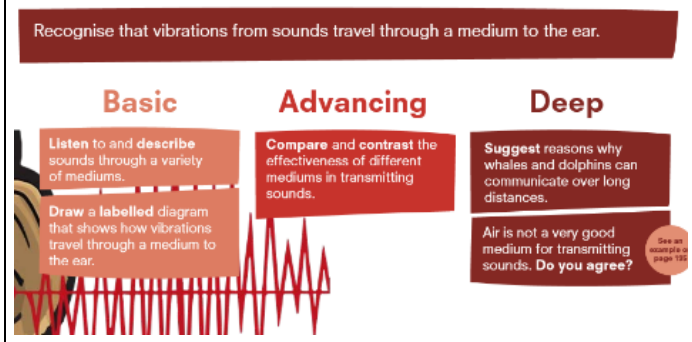
Pitch is the highness or lowness of a sound and is affected by features of objects producing the sounds. For example, smaller objects usually produce higher pitched sounds.

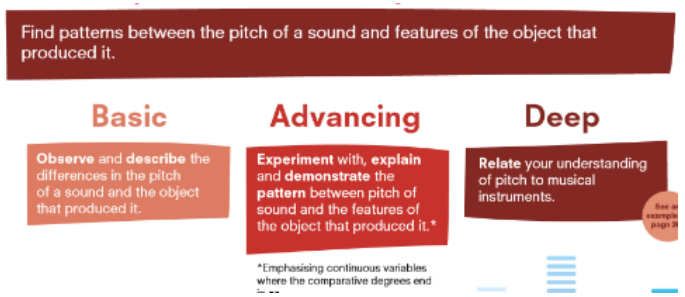
Key Vocabulary	Common Misconceptions
Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation	Some children may think: • sound is only heard by the listener • sound only travels in one direction from the source • sound can't travel through solids and liquids • high sounds are load and low sounds are quiet. Pitch and volume are frequently confused, as both can be described as high or low.
Activities	**Possible Evidence**
• Classify sound sources. • Explore making sounds with a range of objects, such as musical instruments and other household objects. • Explore how string telephones or ear gongs work. • Explore altering the pitch or volume of objects, such as the length of a guitar string, amount of water in bottles, size of tuning forks. • Measure sounds over different distances. • Measure sounds through different insulation materials. *TAPS practical assessments to be used at the end of each unit.*	• Can name sound sources and state that sounds are produced by the vibration of the object • Can state that sounds travel through different mediums such as air, water, metal • Can give examples to demonstrate how the pitch of a sound are linked to the features of the object that produced it • Can give examples of how to change the volume of a sound e.g. increase the size of vibrations by hitting or blowing harder • Can give examples to demonstrate that sounds get fainter as the distance from the sound source increases • Can explain what happens when you strike a drum or pluck a string and use a diagram to show how sounds travel from an object to the ear

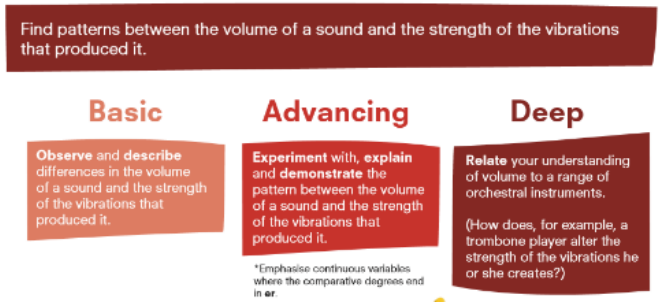
	• Can demonstrate how to increase or decrease pitch and volume using musical instruments or other objects • Can use data to identify patterns in pitch and volume • Can explain how loudness can be reduced by moving further from the sound source or by using a sound insulating medium • Can explain how loudness can be reduced by moving further from the sound source or by using a sound insulating medium *Concept Cartoons' and 'Exit Cards' to be used at the end of lessons to assess understanding.*

Y4 Proof of Progress - Working Towards (Basic), Age Related (Advancing) and Greater Depth Expectations (Deep)









End of Lower Key Stage 2 Age Related Expectations

Milestone indicator	Basic	Advancing	Deep
Find patterns between the pitch of a sound and features of the object that produced it.	**Observe** and **describe** the differences in the pitch of a sound and the object that produced it.	**Experiment** with, **explain** and **demonstrate** the **pattern** between pitch of sound and the features of the object that produced it. (emphasising continuous variables noted by the use of comparative degrees ending in **er**)	Relate your understanding of pitch to musical instruments.
Find patterns between the volume of a sound and the strength of the vibrations that produced it.	**Observe** and **describe** differences in the volume of a sound and the strength of the vibrations that produced it.	**Experiment** with, **explain** and **demonstrate** the **pattern** between the volume of a sound and the strength of the vibrations that produced it. (emphasising continuous variables noted by the use of comparative degrees ending in **er**)	**Relate** your understanding of volume to a range of orchestral instruments. (How does, for example, a trombone player alter the strength of the vibrations he or she creates?)
Recognise that sounds get fainter as the distance from the sound source increases.	**Observe** and **describe** differences in sounds that are close and far away from their sources.	**Experiment** with, **explain** and **demonstrate** the **pattern** between the volume of a sound and the distance from its source. (emphasising continuous variables noted by the use of comparative degrees ending in **er**)	Why might (**suggest, reason**) a thunderclap sound loud to some and feint to others?