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| **What will we be learning?****Sound Medium with solid fill****Sound** | **Why this? Why now?**Previous Learning Key stage 2 Science Year 7 Course - Speed, Gravity, Current, Voltage and Resistance, Energy transfers and Energy costsYear 8 Course - LightFuture Learning Year 8 Course – Contact forces, Pressure, Magnetism, Wave effects, electromagnetismEnquiry ProcessesIdentify variables, Collect data, Present data, Analyse Patterns, Draw conclusions, Justify opinions and conclusions | **Key Words:**RadioMicrowaveWavelengthVacuumAnalysisTransmittedVibrationsParticleLongitudinalTransverseFrequencyPitchAmplitudeElectromagneticMatterPeakTroughPitch |
| **What will we learn?**To explain that radio waves and microwaves may have longer wavelengths and why sound cannot travel in a vacuumHow to design an experiment that measures the speed of soundHow sounds are transmitted from an object to our ear and brain, referencing the vibrations of the ear drumThe differences between a longitudinal and a transverse wave and how changes in frequency and amplitude result in changes in loudness or pitchThat waves transfer energy and not matter and to label parts of a wave – including wavelength, amplitude, peak and trough.How to consider errors in an experiment and to explain how these can be reducedTo explain why a sound travels through solids more easily than through air, with reference to the particle modelThat electromagnetic waves have differing wavelengths with examples of long and shortTo describe that people can hear different ranges of pitch and that some animals detect sounds that humans cannot hear**Misconceptions in this topic**Air particles move away from the sound sourceSound is a store of energyYou can hear in spaceSound is slower in solids than liquids or gases |
| **What opportunities are there for wider study?**Careers – Ultrasound operative, Geophysics, Physiotherapy, Engineering, Sound technology, Audiology, Acoustic engineering, Sound mixingSTE(A)M – For details of courses and opportunities look at:<https://highcliffe.sharepoint.com/sites/LearnSTEM> |
| **How will I be assessed?****End of topic assessment** |