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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 costs  Year 8 Course - Light  Future Learning  Year 8 Course – Contact forces, Pressure, Magnetism, Wave effects, electromagnetism  Enquiry Processes  Identify variables, Collect data, Present data, Analyse Patterns, Draw conclusions, Justify opinions and conclusions | **Key Words:**  Radio  Microwave  Wavelength  Vacuum  Analysis  Transmitted  Vibrations  Particle  Longitudinal  Transverse  Frequency  Pitch  Amplitude  Electromagnetic  Matter  Peak  Trough  Pitch |
| **What will we learn?**  To explain that radio waves and microwaves may have longer wavelengths and why sound cannot travel in a vacuum  How to design an experiment that measures the speed of sound  How sounds are transmitted from an object to our ear and brain, referencing the vibrations of the ear drum  The differences between a longitudinal and a transverse wave and how changes in frequency and amplitude result in changes in loudness or pitch  That 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 reduced  To explain why a sound travels through solids more easily than through air, with reference to the particle model  That electromagnetic waves have differing wavelengths with examples of long and short  To 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 source  Sound is a store of energy  You can hear in space  Sound 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 mixing  STE(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** | |