**Year 7**

**12. Sound**

**vibrate** – movement back and forth - vibrations are sometimes referred to as oscillations

**longitudinal wave** – a wave where the vibrations are parallel to the direction of energy transfer

**decibel (dB)** – a unit of sound loudness

**amplitude** – the maximum displacement of a point on a wave from the undisturbed (equilibrium) position

**frequency** – the number of waves passing a set point, or emitted by a source, in a second – frequency is measured in hertz (Hz or /s).

**waveform** – a graph of the displacement of wave motion, at different distances along the wave

**wavelength** – the distance between two identical points on consecutive waves e.g. the distance from one crest to the next or one trough to the next

**microphone** – a device for changing sound into an electrical signal

**reflection** – when a wave, such as light, bounces off a surface

**echo** – the effect of hearing a sound twice once when it is created and the second time after the sound wave has undergone reflection before being heard.

**speed of sound** – the speed at which a sound wave

**wave speed** – the speed that a wave travels – waves speed (m/s) = wavelength (m) × frequency (Hz)

**sonar** – a technique used to measure distance by detecting reflected ultrasound waves

**particle** – a very small part of a material such as an atom or a molecule

**vacuum** – a space where there are no particles of matter

**hypothesis** – an idea that explains facts or observations and is the basis for experimentation (X depends on Y)

**reflect** – to redirect a wave such as sound or light

**absorb** – to take in energy e.g. from sound

**soundproofing** – using materials that absorb sound

**ear canal** – where sound waves enter the ear

**ear drum** – the membrane in the ear that transfers energy from sound waves to the inner ear

**ossicles** – tiny bones in the ear that amplify the vibrations of sound

**cochlea** – part of the inner ear where vibrations are changed to electrical signals

**auditory nerve** – the nerve that transmits signals from the ear to the brain

**loudness** – a measure of the energy in a sound wave recorded in decibels (dB)

**ear defenders** – protection worn for the ears to protect them from loud sounds

**hearing range** – the range of sound frequencies that an animal can hear