SP4a Describing waves

Word	Pronunciation	Meaning
amplitude		The size of vibrations or the maximum distance a particle moves away from its resting position when a wave passes.
electromagnetic waves		A group of waves that all travel at the same speed in a vacuum, and are all transverse.
frequency	***free****-kwen-see*	The number of vibrations (or the number of waves) per second.
hertz (Hz)	***hurts***	The unit for frequency. One hertz is one wave per second.
longitudinal wave	*long-it-****tyewd****-in-al*	A wave where the particles vibrate in the same direction as the wave is travelling.
medium		Any substance through which something travels.
period		The time taken for one complete wave to pass a point. It is measured in seconds.
seismic waves		Vibrations in the rocks of the Earth caused by earthquakes or explosions. There are transverse and longitudinal seismic waves.
sound waves		Vibrations in the particles of a solid, liquid or gas, which are detected by our ears and 'heard' as sounds. Sound waves are longitudinal waves.
transverse wave		A wave where the vibrations are at right angles to the direction the wave is travelling.
velocity		The speed of an object in a particular direction. Usually measured in metres per second (m/s).
wave		A way of transferring energy or information. Many waves travel when particles pass on vibrations.
wavelength		The distance between a point on one wave and the same point on the next wave.

SP4c Refraction

Word	Pronunciation	Meaning
interface		The boundary between two materials.
normal		An imaginary line at right angles to a surface where a ray of light hits it.
refraction		The change in direction when waves go from one medium to another.

SP4d Waves crossing boundaries

Word	Pronunciation	Meaning
absorb		When a wave disappears as the energy it is carrying transfers to the medium through which it is travelling.
transmit		When a wave passes through a material and is not absorbed or reflected.

SP4e Ears and hearing

Word	Pronunciation	Meaning
amplify		To make bigger.
auditory nerve	***ord***-*it-ory*	The nerve that carries impulses from an ear to the brain.
cochlea	***cok***-*lee-a*	The part of the ear that changes vibrations into electrical impulses.
ear canal		The tube in the head that leads to the eardrum.
eardrum		A thin membrane inside the ear that vibrates when sound reaches it.
impulse		An electrical signal that travels in the nervous system.
neurone		A cell that transmits electrical impulses in the nervous system.

SP4f Ultrasound

Word	Pronunciation	Meaning
ultrasound		Sound waves with a frequency above 20 000 Hz, which is too high for the human ear to detect.
sonar		A way of finding the distance to an underwater object (such as the sea bed) by timing how long it takes for a pulse of ultrasound to be reflected.
ultrasound scan		A way of making an image of part of the body (usually a fetus) using ultrasound waves reflected from parts of the inside of the body.

SP4g Infrasound

Word	Pronunciation	Meaning
infrasound		Sound waves with a frequency below 20 Hz, which is too low for the human ear to detect.
P waves		Longitudinal seismic waves that travel through the Earth.
S waves		Transverse seismic waves that travel through the Earth.
seismic waves	***size***-*mik*	Waves produced by an explosion or earthquake and that travel through the Earth. They include P waves and S waves.
seismometer	*size*-***mom***-*eater*	An instrument that detects seismic waves.
shadow zone		A part of the Earth's surface that P waves or S waves from an earthquake do not reach because of the way they have been reflected or refracted within the Earth.