Physics P1.2 Sound

Section 1: Features of a Wave	
1 Amplitude	The distance from the middle to the top or bottom of a wave
2 Frequency:	the number of waves that go past a fixed point per second. Measured in Hertz (Hz)
3 Wavelength:	the distance from peak to peak
4 Wave:	An oscillation or vibration that transfers energy or information

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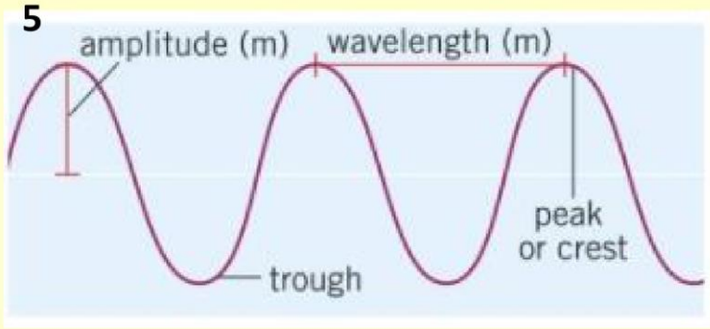
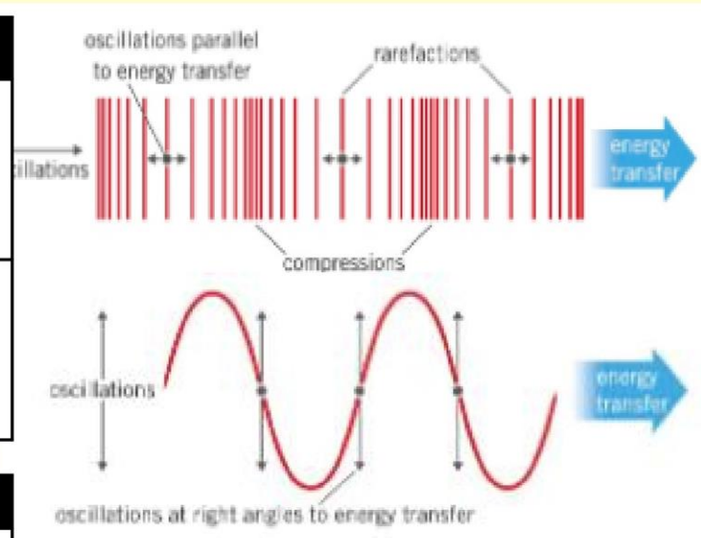
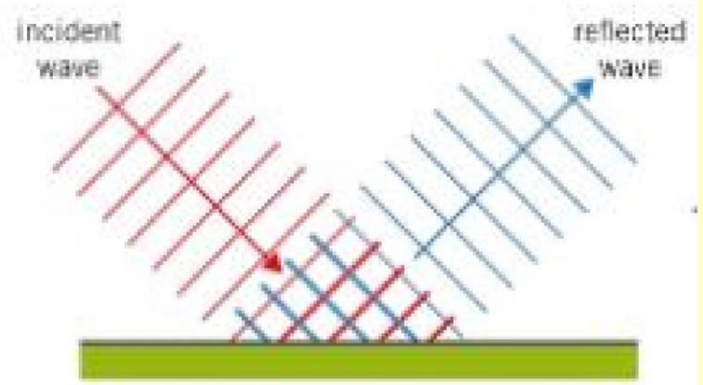
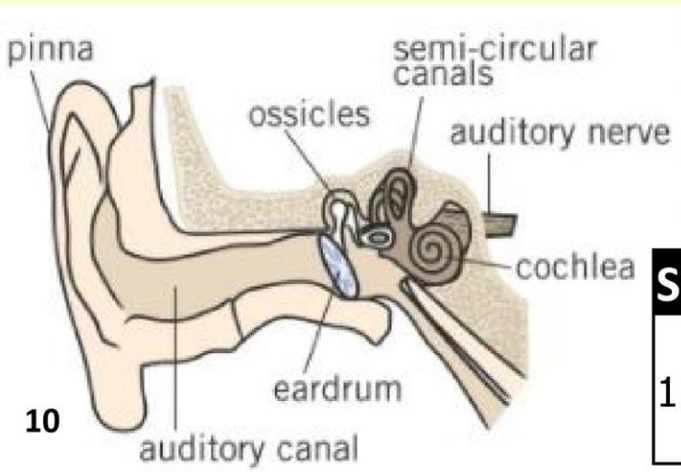


Section 2: Transverse or longitudinal?	
6 longitudinal wave	the oscillation is parallel to the direction of the wave
7 transverse wave	oscillation is at 90 degrees to the direction of travel



Section 3: Waves can be reflected	
8	The **incident wave** goes into the barrier
9	The **reflected wave** comes off from the barrier





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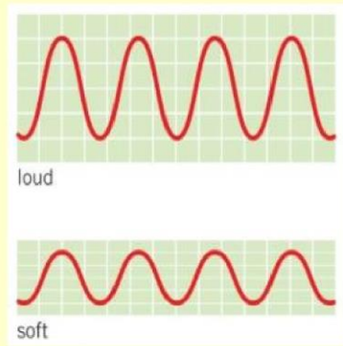
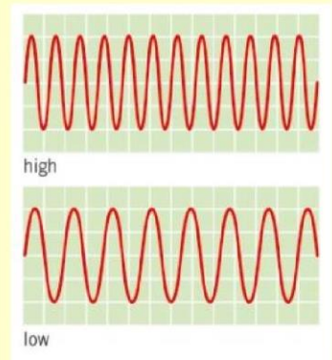
Section 4: The ear	
11	**Vibrations** travel from your **eardrum** to the hairs in your **cochlea**. This produces a **signal** which is sent to your **brain**.

Section 5: Sound and waves	
12 Loudness	A loud sound has a bigger **amplitude** than a quiet sound. Measured in **decibels** (dB)
13 Pitch	A higher frequency results in a higher pitched noise. Measured in Hertz (Hz)





Section 6: Loudness and pitch	
14 Audible range:	20 – 20, 000 Hz in humans
15 Infrasound:	Below 20 Hz
16 Ultrasound:	Above 20, 000 Hz
17 Ultrasound	is used for seeing inside soft structures in the body and for ships to detect the depth of the ocean.
18 SONAR:	stands for SOund NAvigation and Ranging
19 Transmitter:	Sends out a beam of ultrasound, which is reflected off an object.
20 Receiver:	Detects the reflection and uses the time taken to calculate the distance.

Section 7: How fast does sound travel?	
21 Sound	travels at 340m/s in air, at 1, 500m/s in liquids and 5,000 m/s in metals.
22 Light	Travels at 300, 000, 000 m/s. Sound cannot travel in a vacuum
23 Sound	Cannot travel in a vacuum

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