



# Year 7: ASK Yourself!

Subject: Science

Unit 7.5: Energy transfer and sound

|                    | Launching<br>1-2   | Developing<br>3-4   | Progressing<br>5-6  | Mastering<br>7-9  |
|--------------------|--|---|---|---|
| <b>S</b> kills     |    |   |   |   |
|                    | I need to use drawings of waves to describe how sound waves change with volume or pitch.   | I can partially describe the amplitude and frequency of a wave from a diagram or oscilloscope picture.  | I can confidently describe how the energy of an object depends on its speed, temperature, height or whether it is stretched or compressed. I can confidently explain observations where sound is reflected, transmitted or absorbed by different media. | I can expertly explain how energy is dissipated in a range of situations. I can expertly calculate the useful energy and the amount dissipated, given values of input and output energy. I can expertly suggest the effects of particular ear problems on a person's hearing. |
| <b>K</b> knowledge |    |   |   |   |
|                    | I need to know that when energy is transferred, the total is conserved, but some energy is dissipated, reducing the useful energy. I need to know that sound does not travel through a vacuum. | I partially know that sound consists of vibrations which travel as a longitudinal wave through substances. The denser the medium, the faster sound travels. | I confidently know that the greater the amplitude of the waveform, the louder the sound. I confidently know that the greater the frequency (and therefore the shorter the wavelength), the higher the pitch.  | I understand how energy is transferred between energy stores in a range of real-life examples.  |