

# sound amazing

<http://www.acoustics.salford.ac.uk/schools>

## TEACHERS LESSON PLAN: Lesson One – Sound Waves

This lesson plan accompanies the WHITEBOARD version of the site, and can perhaps be used as a 'script' to accompany the lesson. The guide script is shown in italics.

### 1) SOUND WAVES

*In this lesson you will learn about sound and waves. You will find out exactly how waves work. And you will be able to identify and label the following properties of sound...*

### 2) KEYWORDS

*The keywords we will cover in this lesson are:*

- *Speed = distance travelled in unit time (m/s)*
- *Frequency = number of complete waves in one second (Hz)*
- *Wavelength = distance between matching points on the wave (m)*
- *Longitudinal = vibration parallel to direction of travel*
- *Transverse = vibration at right angle to direction of travel*

At the beginning of the class, you could write the AIM and the KEYWORDS on the board.

*3) This is a Mexican wave. A group of people jump up and sit back down. People nearby see them and do the same, then some people further away do the same. The wave is the disturbance (people jumping up and sitting back down), and it travels across the crowd. None of the people in the crowd travel with the wave, they all remain in their seats.*

Assuming the class have no prior knowledge, you could spend 5 minutes asking open questions, such as 'what is a wave?' and 'what travels in waves'. You could either do this with the whole class, or for larger classes, split into groups of 3 or 4. If splitting the class into groups, you will probably need another 5 minutes to get feedback from the questions.

After this, you could collate the correct answers, and then write the definition on the board and ask them to write it down in their book.

### 4) WAVE TYPES

*Waves carry energy from one place to another. Sound, light and radio signals all travel in the form of waves. There are two main types of wave. Who wants to come up and click on a type of wave to see an example of how it 'behaves'?*

Next, you could show the class the animation/video of ripple tank, and also a slinky (use a real one for this – ideally a few). Ask two people to hold it; one person sends a wave down it.

