

INTRODUCING SOUND

Using oscilloscope software to teach sound

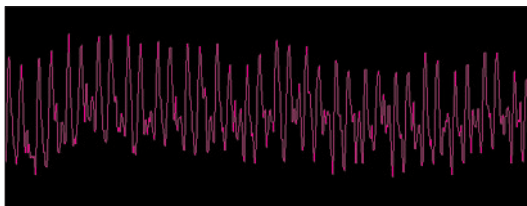


Figure 1. Part of ‘Love Me Do’ by The Beatles.

Using oscilloscope software to consolidate the idea of frequency can be powerful. Many virtual oscilloscope programs are available that can produce a clear and colourful display that can be projected onto a screen or interactive whiteboard without loss of clarity.

‘Love Me Do’ by The Beatles (figure 1) is a great track to use to demonstrate differences in frequency between a bass guitar, John Lennon’s voice and a harmonica. My Year 7 pupils were given the task to identify these sounds and then to simplify the waveforms by drawing them on an interactive whiteboard. They came up with figure 2.

The waves can be easily merged together to give the impression of a complete trace (figure 3) although take care to explain that this is an oversimplification of what really happens on the oscilloscope screen.

After the demonstration I was convinced that all

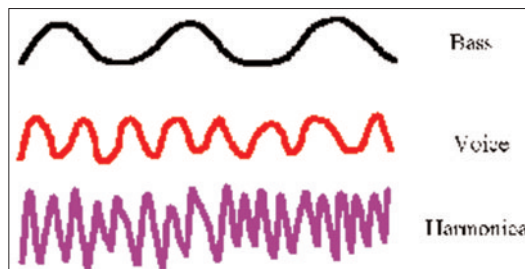


Figure 2. Pupils’ analysis of the component waveforms.

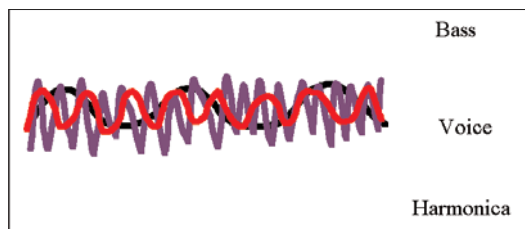


Figure 3. Merging the waveforms into a single trace.

the pupils had an excellent command of the term *frequency* and could recognize high and low pitched sounds from oscilloscope traces.

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