

The Sight of Sound!

Teacher notes

Introduction

Sight of Sound is an interactive program that allows pupils to adjust the parameters of a simple sine wave. Key words are explained and simple self-marking quizzes included to check pupils' understanding. A pupil sheet to guide them through the activity accompanies the Excel file.

Running the activity

The Excel file will need to be loaded onto the computer(s) or saved onto a public area of the network. It could be used as a class activity or as a demonstration using a projector or interactive white board.

A good starting activity would be to introduce the different ways in which sound can be changed, i.e. volume and pitch. This would lead into the first activity of seeing the wave change shape as the sliders are moved and checking out the definitions.

This can then be reinforced with the quizzes of the second activity. During the third activity pupils hum the changing waves as they create them on screen. So, for example, they could increase the amplitude and their hum would get louder, or reduce the frequency and their hum would become lower pitched.

The concept of showing sound waves in a visible form can be difficult. One way to aid their understanding is to dip a tuning fork in a transparent bowl of water sitting on an OHT.

Safety

Not applicable

More ideas

- ☞ Choose more variations of waves to produce.
- ☞ Research other wavelengths / frequencies of both sound waves produced by animals and radio waves from radio stations or the electromagnetic spectrum.
- ☞ Number lines could then be created from the different sound wave data.

Learning outcomes

- ☞ There is a relationship between the loudness of a sound and the amplitude of the vibration causing it.
- ☞ There is a relationship between the pitch of a sound and the frequency of the vibration causing it.

Prior learning

None

Where the activity fits in

QCA SoW Unit 8L
Sound and hearing

NC PoS 4.3g, 3h, 3i, 3j, 3k.