



## Year 4 - Sound

### **Element 1 – Closed Test on Sound**

#### **What is sound?**

Sound is a type of energy and sounds are created by vibrations. The louder the sound, the bigger the vibration.

#### **What sounds do you think are being made here?**



#### **Amplitude and Pitch:**

**Amplitude:** The size of the vibration is called the amplitude. Louder sounds have a larger amplitude and quieter sounds have a smaller amplitude.

**Pitch:** Pitch is a measure of how high or low a sound is. A whistle being blown creates a high-pitched sound. A rumble of thunder is an example of a low-pitched sound.

You can change the pitch of a sound in different ways depending on the type of instrument you are playing.

For example, if you are playing a xylophone, striking the smaller bars with the beater causes faster vibrations and so a higher pitched note. Striking the larger bars causes slower vibrations and produces a lower note.





## How does sound travel?

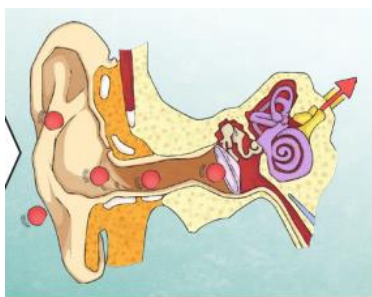
Sound can travel through solids, liquids and gases. Sound travels as a wave, vibrating the particles in the medium it is travelling in. Sound cannot travel through a vacuum.

### Examples:

When you hit a drum, the drum skin vibrates. This makes the air particles closest to the drum start to vibrate as well. The vibrations then pass to the next air particle, then the next, then the next. This carries on until the air particles closest to your ear vibrate, passing the vibrations into your ear.

## What happens in your ear?

Inside your ear, the vibrations hit the eardrum and are passed to the middle and then the inner ear. They are then changed into electrical signals and sent to your brain. Your brain tells you that you are hearing a sound.



## Key Vocabulary

Key Vocabulary	
ear	An organ used for hearing.
particles	Solids, liquids and gases are made of particles. They are so small we are unable to see them.
distance	A measurement of length between two points.
soundproof	To prevent sound from passing through.
absorb sound	To take in sound energy. Absorbent materials have the effect of muffling sound.
vacuum	A space where there is nothing. There are no particles in a vacuum.
eardrum	A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. It separates the outer ear from the middle and inner ear. Sound waves make the eardrum vibrate.



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### **Element 1 – Closed Test**

- 1) What is the difference between amplitude and pitch?
- 2) What can sounds travel through?
- 3) What part of your ear do the vibrations hit first?
- 4) What does soundproof mean?
- 5) Complete the sentence: The louder the sound, the bigger the \_\_\_\_\_?

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### **Element 2**

Follow the web link below to a website on how to make your own musical instruments.

[5 instruments kids can make - BBC Good Food](#)

When you have made your instrument/s, can you use them to make louder/quieter or higher/lower sounds?

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