

# Year 4 Spring 1 Knowledge Organiser – Science

## Sound



Science study

INTRODUCE  
SOUND



Year:4

Term: Spring 1

**sound**

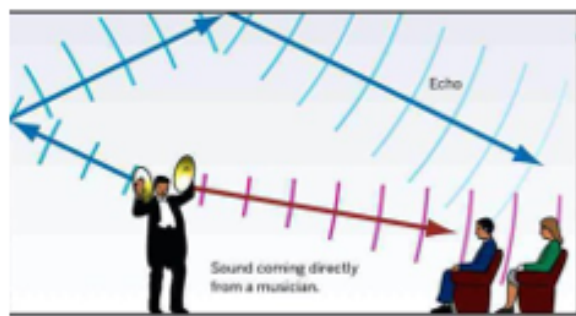
travels in waves as  
**vibrations**

sound waves can  
ONLY travel through  
a **medium**

A medium such as

- air (gas)
- water (liquid)
- wood (solid)

sound travels through  
anything with  
**particles** ✓



**properties of sound**

**sound**

is transfer of **energy**

**vibrations create sound**

regular and repeated  
movement of an object  
that moves backwards  
and forwards

sound can't  
travel in a vacuum  
(no particles) ✗

**sound travels in air**

340 metres each second

**pitch**

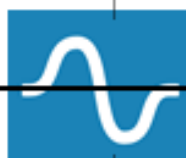
(frequency)

number of **sound** waves  
each second

sounds high or low

how frequent  
waves are

**low pitch**



**low** frequency =  
low number of waves  
each second (tuba)

**high pitch**



**high** frequency = high  
number of waves each  
second (trumpet)

3 things that affect

**pitch**

(frequency)

of the sound wave

- size
- length
- tightness

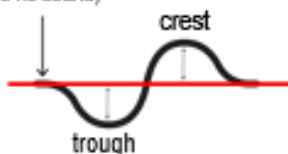
of the thing that  
is vibrating

**loudness**

size of the  
sound waves

rest point

(where there would  
be no sound)



bigger the waves

more energy

louder it sounds

**2 things that affect loudness**

amount of energy

amount of stuff vibrating  
(larger sound boxes  
can make larger sounds)



**hearing**

sounds travel through a medium (air, water,  
wood) and enter your ear canal



sounds vibrate the ear drum,  
middle ear and inner ear

vibrations send messages  
to your brain

**sound fades**

vibrations get fainter as the distance  
from the source increases

the same amount of  
energy is spread over  
a larger area



