Knowledge Organiser

Sound

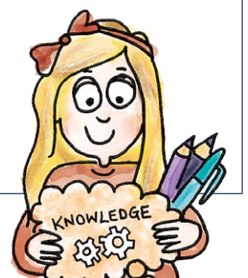
	Glossary	
1	**amplitude**	the height of a sound wave — gives the volume
2	**damage**	to hurt or have a negative effect on something
3	**distance**	the space between two points
4	**frequency**	how often something happens — gives the pitch
5	**gas**	one of the three states of matter — air is a gas.
6	**hear**	when we recognise that there is a sound
7	**inner ear**	the most internal part of the ear
8	**instrument**	a tool that is sometimes designed to make sounds
9	**liquid**	one of the three states of matter — water is a liquid
10	**middle ear**	the middle part of the ear
11	**outer ear**	the first part of the ear — mostly on the outside
12	**pitch**	how we describe how high or low a sound is
13	**protect**	to keep something safe from harm or injury
14	**solid**	one of the three states of matter — ice is a solid
15	**sound**	something that can be heard — caused by vibrations
16	**travel**	when something moves from one place to another
17	**tuning fork**	a device which vibrates to make a sound
18	**vibration**	when something is moving quickly back and forth
19	**volume**	how we describe how loud or quiet a sound is
20	**wave**	how sounds travels — not in a straight line

What is sound?

Sound is a type of energy and travels in waves of vibrating particles. We learnt about these particles in our first science unit this year — States of Matter. We know that these particles are vibrating even though we cannot see them.

Sound waves can travel through solids, liquids and gases. This is why we can hear our friends playing in the playground, why we can hear when we are underwater and why we can hear sounds that are from something in another room.

Listen carefully to what is happening around you. What sounds can you hear? Where are they coming from? What have the waves needed to travel through to get to your ears?

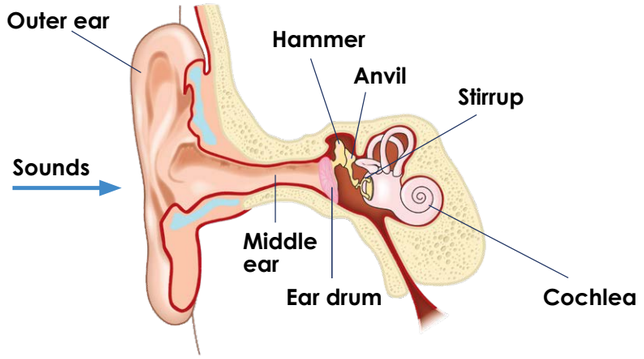


How do we hear?

Our ears are made up of three parts: the outer ear, the middle ear and the inner ear. These three parts work together carefully to turn sound waves into something we can hear.

Once the sound waves reach our outer ear, the vibrations move along the ear canal until they reach the eardrum. The eardrum then moves those vibrations to our middle ear. The middle ear is made up of three tiny bones. These three bones are called: the hammer, the anvil and the stirrup. The vibrations move through the bones to the inner ear.

Once in the inner ear, the vibrations reach the cochlea. This part of our ear is shaped like a snail and contains thousands of tiny hair cells. These hair cells turn the vibrations into electric signals and these signals are sent to the brain by the auditory nerve. The brain then lets you know that you can hear something and also what that something is.



What is pitch?

Pitch is how high or low a musical note or other sound is. If a sound wave is caused by quicker, more frequent vibrations, the pitch will be higher and if a sound wave is caused by slower, less frequent vibrations, it will have a lower sound.

Different instruments have been designed to have different pitches. For example, a xylophone has bars that are different sizes. When you play them, the longer bars will vibrate much more slowly than the shorter bars and this is why the pitch of the bars gets higher or lower as you move along.

What is volume?

Volume is how loud or quiet a sound is. If a sound wave has stronger, more intense vibrations, the sound will be louder. If a sound wave has weaker, less intense vibrations, the sound we hear will be quieter. We can change and control the volume of a sound ourselves. For example, if we hit a drum harder, the vibrations will be stronger, and the sound will be louder.