Science - Year 4 – Autumn - How is a sound made and how does it travel?

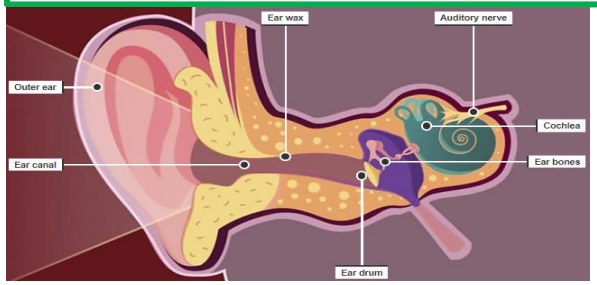
The Rivers C.of E. Academy Trust
Love Learn Live

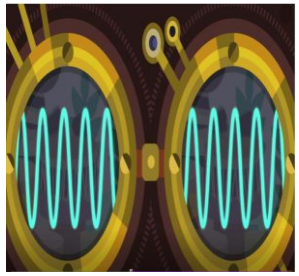
What I already know:

I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
I can describe the simple physical properties of a variety of everyday materials, using words like hard/soft, transparent/opaque
I can compare and group together a variety of everyday materials on the basis of their simple physical properties.
I can identify the properties of materials that make them suitable or unsuitable for particular purposes. For example, an umbrella needs to be made from a stretchy, waterproof material.

What I need to know:

- A sound is generated when an object vibrates.
- Different musical instruments use vibration to make sounds in different ways – by banging, plucking, blowing, shaking. They all cause vibrations.
- Vibrations from sounds travel through a medium to the ear. Sounds can travel through air, liquids and solids.
- There are different parts of the ear, which have different functions.
- To know that pitch means how high or low a sound is.
- To know that high-pitched sounds produce faster or more frequent vibrations and low-pitched sounds produce slower or less frequent vibrations.
- To know that volume means how loud or quiet a sound is.
- To know that the louder the sound, the bigger the vibration; the quieter the sound, the smaller the vibration.
- To know that materials that are better at absorbing sound waves are called sound insulators.
- To know that the volume of a sound is quieter if the listener is further away from the object.
- To know that sign language, hearing aids and cochlear implants are ways that people can overcome difficulties with hearing.







SDG Link:

This SDG calls for reducing inequalities in income as well as those based on age, sex, disability, race, ethnicity, origin, religion or economic or other status within a country.

10 REDUCED INEQUALITIES

Vocabulary Focus

Tier 1:

Sound - vibrations that travel through the air or another medium and can be heard when they reach a person's or animal's ear.
Ear – the organ used for hearing.
High – great, or greater than normal, in quantity, size, or intensity
Low – below average in amount, extent, or intensity
Fast – moving or capable of moving at high speed
Slow – moving or operating, or designed to do so, only at a low speed; not quick or fast
Bigger – of considerable size or extent
Smaller – not great in amount, number, strength, or power
Strength – the state or condition of being strong
Sign - a mark or symbol that stands for a word or thing.

Tier 2:

Vibration – a quick back-and-forth movement.
Medium - What sounds travel through, mainly solids, liquids and gases.
Generate – to produce
Ear Wax – Protects the ear by trapping dirt and fighting infections
Ear Canal- Tube that runs from the outer ear to the inner ear. Lined with cells that produce ear wax.
Outer Ear – This is the part of the ear you can see. It is shaped like a funnel to collect sound waves and send them to the inner ear
Ear Drum – Thin layer of tightly stretched skin. It vibrates when sound waves hit it
Signals– a movement or thing that gives directions, warning, or other information.
Pitch – How high or low a sound is.
Sound wave - a longitudinal pressure wave that represents the pitch of a sound.
Volume - how loud or quiet a sound is.
Communicate – to exchange ideas or information.
Adapt - to change for a particular use

Tier 3:

Hammer – One of the three tiny bones in the ear. It moves when the ear drum vibrates
Anvil - The second tiny bone in the ear. The anvil is moved by the hammer.
Cochlea Spiral tube. When the stirrup moves, fluid inside the cochlea moves.
Stirrup The third tiny bone in the ear. It is moved by the anvil..
Auditory nerve - Carries messages from the cochlea to the brain. The brain makes sense of these signals as sounds
Receptor - Hearing receptors turn the movement into signals
Decibel – The unit of measure used for the volume of a sound.
Insulator – A material that insulates.