



YEAR 4

Friday 9th January

Homework Tasks (Year 4):

- **Reading Comprehension:** Please complete and mark the 'How the Ear Works' tasks on the next page of this document and record your responses in your homework jotter book

*Please place your homework books in the homework box by **Wednesday 14th January***

- **Spelling:** A spelling test, on **Spring Term 1 -Week 1 Red words** will take place on **Thursday** (see the separate spelling sheet for this term – it is split into weeks and you will be instructed which week we are currently learning). Don't forget you have access to spelling shed to help you practice too!
- **Times Tables:** Please complete - and mark- Spring Term: Workout 1 p26-27 of your CGP 10-minute weekly workout book and your weekly test on the **5x, 7x and 10x** table will be on **Friday**
- **Reading:** Please read for 45mins throughout the week.

How The Ear Works

The ear is the organ responsible for detecting sounds in the environment and channelling to the brain where they are processed. In mammals like humans, ears also help with balance. Each ear has three main parts: the outer ear, the middle ear and the inner ear.

The Outer Ear

The outer ear is made up of the auricle which is also called the pinna. This is the part of the ear that you see from the outside. It is made of cartilage which is a firm but flexible tissue. The auricle is shaped to channel sounds into the ear canal which leads to an eardrum. This is a thin membrane and when the sound wave hits it, it vibrates.

The Middle Ear

Beyond the eardrum is the middle ear. It is a small space filled with air and inside are three tiny bones called the ossicles. These are the smallest bones in the entire body. When the eardrum vibrates, the vibration is transmitted to the ossicles which also start vibrating. The vibration is then passed onwards to

The Inner Ear

In the inner ear is an organ called the cochlea. It is shaped like a spiral or the shell of a snail and is filled with a fluid. The vibration of the ossicles causes waves in the liquid. Inside the cochlea are tiny cells which look like hairs. As the liquid moves, it causes these hairs to wave to and fro. This movement is turned into an electrical message which travels along a nerve and to the brain. The brain then makes sense of the signal and interprets it as sound.

Caring for your ears

Ears are amazing. The complex chain of events which allows us to hear happens quickly and without us giving it any thought. It's only fair that we take care of our ears in return. Here are some tips for making sure your ears serve you well for years to come.

- Our ears can cope with lots of different noises but if sounds become very loud, especially if they last a long time, they can harm the sensitive inner ear. That's why it's not a good idea to listen to very loud music, TV or games. If you have to shout to be heard, it's probably too loud.
- If you know you are going to be around very loud noise, wear ear defenders to protect your ears.



- Don't poke anything inside your ear canal, even cotton buds, as this can damage the canal or the eardrum. The ear canal is actually self-cleaning! If you are having problems with your ears feeling blocked and you are having trouble hearing or are experiencing pain or discomfort, see a GP.
- Make sure you get your ears checked if you are struggling to hear. It can unfortunately be difficult to notice changes in your hearing. However, if you have to ask people to repeat themselves or struggle to follow what's being said in class, it's worth getting your hearing checked.

RETRIEVAL FOCUS

1. What two functions do ears play in humans?
2. What is the auricle made from?
3. What membrane separates the outer and middle ear?
4. Which part of the ear looks like a snail's shell?
5. Which part of the ear can be harmed by loud noises?

VIPERS QUESTIONS

V

What word in the first paragraph means *handled or dealt with*?

V

What is meant by describing hearing as a *complex chain of events*.

I

What evidence is there to suggest that the eardrum is delicate or fragile?

S

Put these steps in order:

Tiny hair cells start to move.

The eardrum vibrates.

The vibration is converted to an electrical signal.

The auricle channels sound into the ear canal.

The ossicles vibrate.

I

Tick one box in each row to show whether these statements are fact or opinion:

	Fact	Opinion
Sound is caused by objects vibrating.		
These are the smallest bones in the entire body.		
The vibration of the ossicles causes waves in the liquid.		
Ears are amazing.		

1. Hearing and balance
2. Cartilage
3. The eardrum
4. The cochlea
5. The inner ear

V: Processed

V: It has a lot of steps which happen in order and are complicated.

I: It is described as thin and the reader is warned that it can be damaged by poking inside the ear.

S:

Tiny hair cells start to move. 4

The eardrum vibrates. 2

The vibration is converted to an electrical signal. 5

The auricle channels sound into the ear canal. 1

The ossicles vibrate. 3

I:

	Fact	Opinion
Sound is caused by objects vibrating.	✓	
These are the smallest bones in the entire body.	✓	
The vibration of the ossicles causes waves in the liquid.	✓	
Ears are amazing.		✓