

# UNIT 5. INTERACTION AND HEALTH



**PRIMARY 4 / Natural Science**

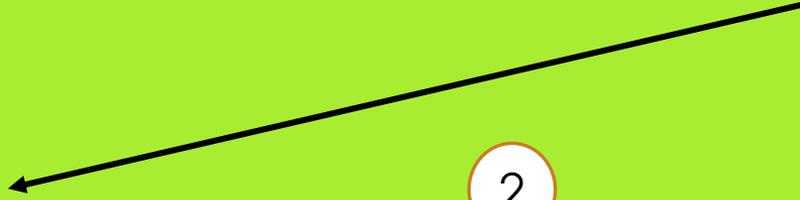
**Pedro Antonio López Hernández**

# INTERACTION



It is a vital function of living things. Human beings have **five senses**: sight, hearing, smell, taste and touch.

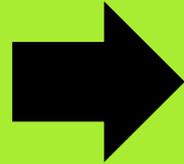
We use our senses to detect stimulus around us and send messages to the brain.



1

Our sense organs receive information from our **SURROUNDINGS**. This is called **STIMULUS**.

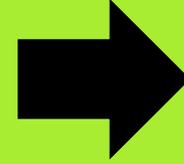
For example:  
It is raining



2

The **NERVOUS SYSTEM** interprets this information and decides how to respond.

For example:  
The decision in to open an umbrella.



3

The **MUSCULOSKELETAL SYSTEM** allows us to carry out those responses.

For example:  
Open the umbrella



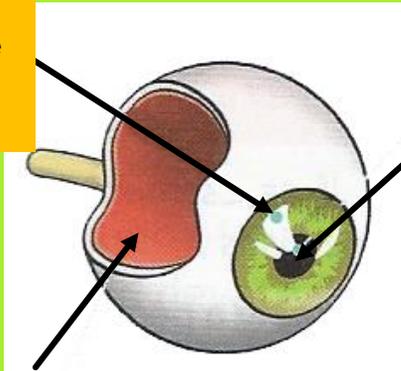


**SIGHT** → Our **EYES** are sense organs that take in light and give us sight.

**The eyeball**

- It is the main part of the eye.
- It is a round-shaped organ made up of these parts:

**2.** The **IRIS** is the coloured circle at the front of the eye. It can be green, brown and blue.

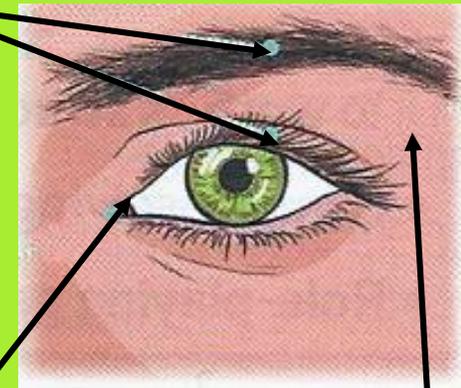


**1.** The **PUPIL** is the black circle in the middle of the **IRIS**. It lets light into the eye.

**3.** The **RETINA** is a layer of cells inside the eye. It turns the light that enters the eye into **NERVE SIGNALS** so the brain can understand what the eye is seeing.

It is surrounded by other **protective parts** that keep it safe

**1. EYEBROWS** and **EYELASHES** help keep dust and sweat out of the eyes.



**2. LACRIMAL GLANDS** produce tears that keep the eye clean and moist.

**3. EYELID** stops excess light from coming in and damaging the eye.



# HEARING

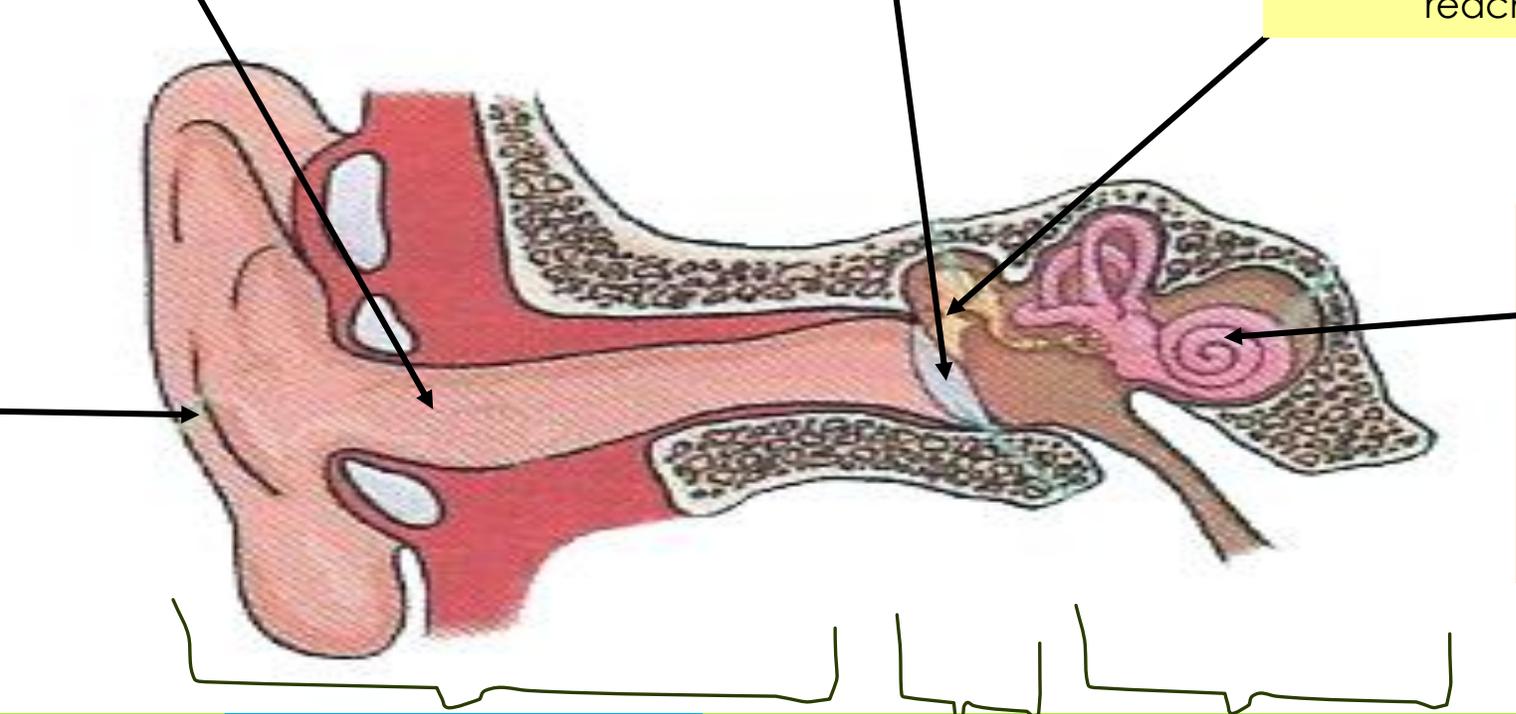
The **EAR** is the sense organ that we use to hear sounds. It has three parts:

1. Sound enters through **EAR FLAP** or **PINNA**.

2. **EAR CANAL**: the sound travels to the eardrum.

3. **EARDRUM** is a thin piece of skin. When the sound is here, it begins to vibrate.

4. **OSSICLES BONES**: They are three tiny bones. The vibration of the Eardrum move along this until they reach the **COCHLEA**.



5. **COCHLEA** is a small, spiral shaped cavity. Tiny hairs in the cochlea send signals along the **AUDITORY NERVE** to the brain, which is interprets as sound.

**The outer ear**  
(Ear flap and ear canal)

**The middle ear**  
(Eardrum and ossicles bones)

**The Inner ear**  
(Cochlea and auditory nerve)



# SMELL

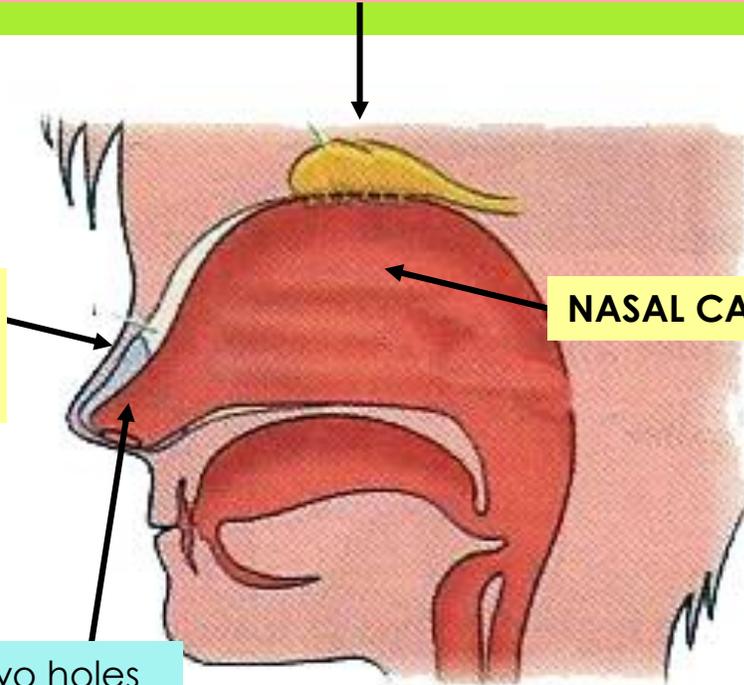
We use our **NOSE** to smell things. "We can distinguish the fragrance or odour of things".

**OLFACTORY BULB** identifies different smells and sends this information to the brain.

The **NASAL SEPTUM** divides the nasal cavity into two parts.

**NASAL CAVITY**

**NOSTRIL** has two holes at the end of the nose where air comes in and goes out.





# TASTE



We can experience different flavours.

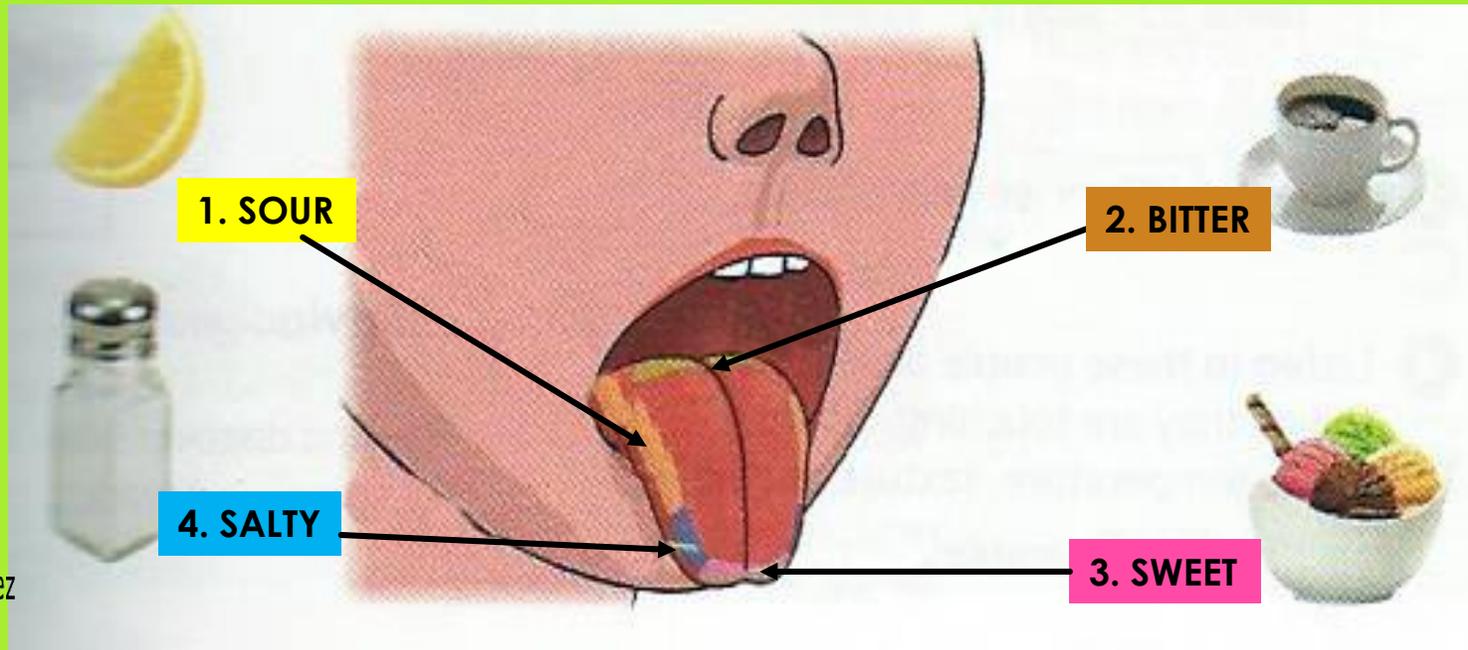


## The tongue



It is the sense organ that **allows us to taste things**. In order to taste the flavours of food, the tongue needs to mix food with **SALIVA**.

It is covered in **tiny BUMPS** called **TASTE BUDS** that help us to identify four basic tastes:





# TOUCH

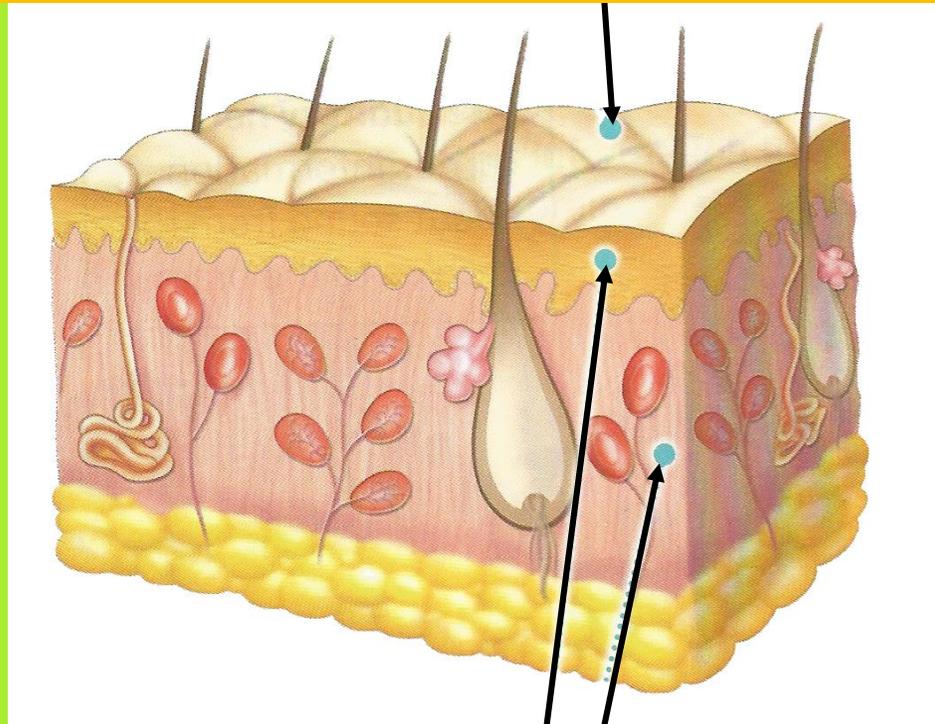


It allows us to experience hot and cold temperatures, pain and the texture of an object. Through touch, we collect this information and send it to the brain.



**“SKIN** is the sense organ for touch”. It allows us to feel the texture of an object is rough or smooth

1. Skin covers the whole body and protects the organs inside.



2. Skin is made up of several layers and is constantly renewed.

# THE NERVOUS SYSTEM



It is the body's control centre where messages come in, decisions are made and orders are given to the rest of the body on how to react. Memory, intelligence, feelings and emotions also come from our nervous system.

Parts of the nervous system

**The brain**

It is situated inside the **SKULL**.

It receives information sent by the sense organs and gives orders about how the body should respond.

**Nerves**

They are tiny tubes that run throughout the body.

They carry information from the sense organs to the brain and from the brain to the rest of the organs.

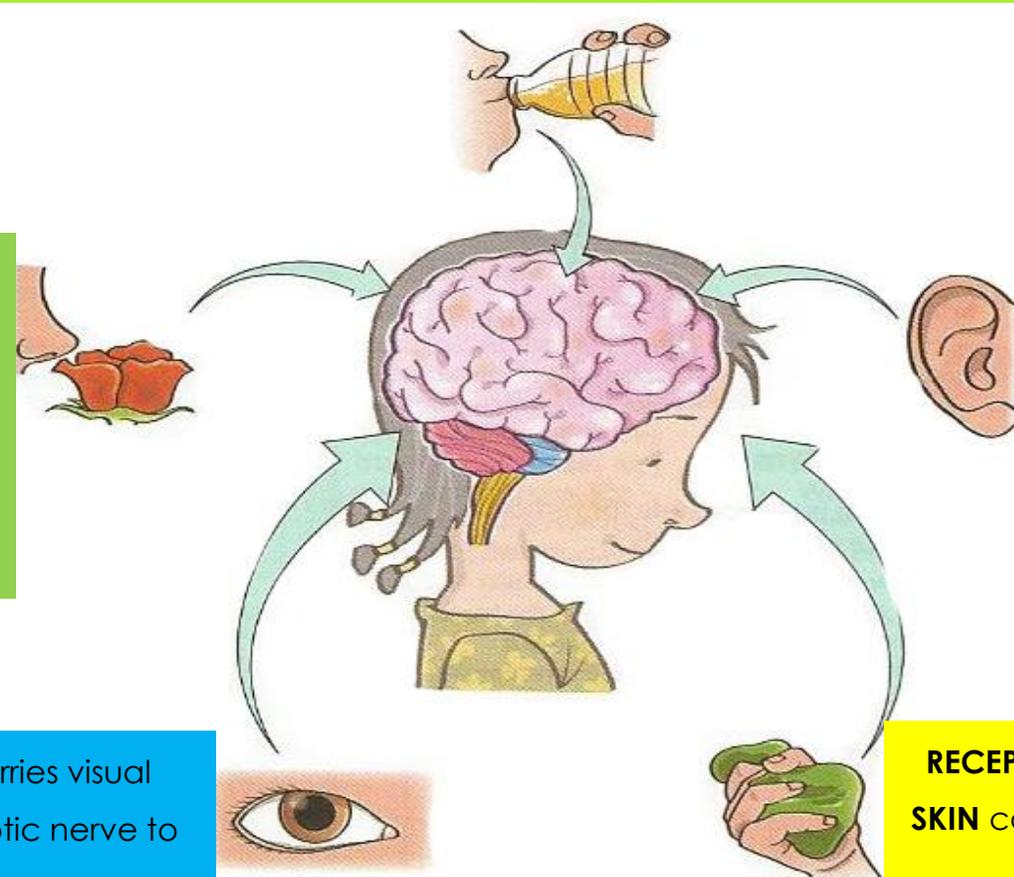
Our **OLFACTORY NERVE** carries information about smell from the olfactory bulb to the brain.

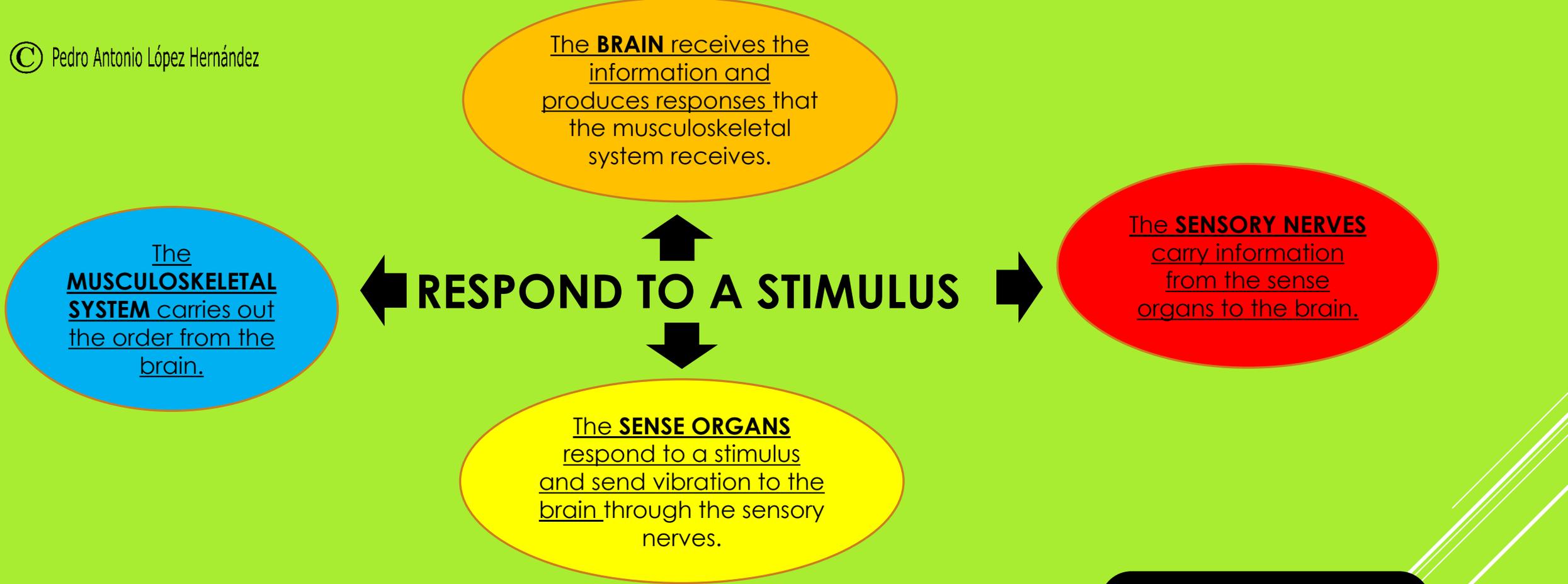
The **OPTIC NERVE** carries visual messages from the optic nerve to the brain.

Our **TASTE BUDS** carry messages from the tongue to the brain.

The **AUDITORY NERVE** carries information about sound from the cochlea to the brain.

**RECEPTORS FROM THE SKIN** carry messages to the brain.

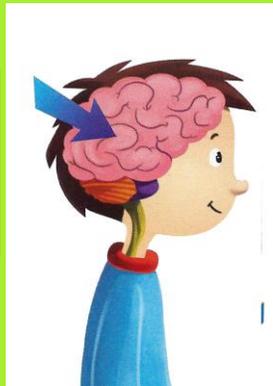




For example:



A cat meows and the sound travels to Daniel's ear



Sound vibrations reach his auditory nerve, which sends this information to the brain



The brain receives the information and understands that the cat is hungry. It sends out a command to feed the cat.



The musculoskeletal system carries out the order and Daniel stands up to feed the cat.

# THE MUSCULOSKELETAL SYSTEM

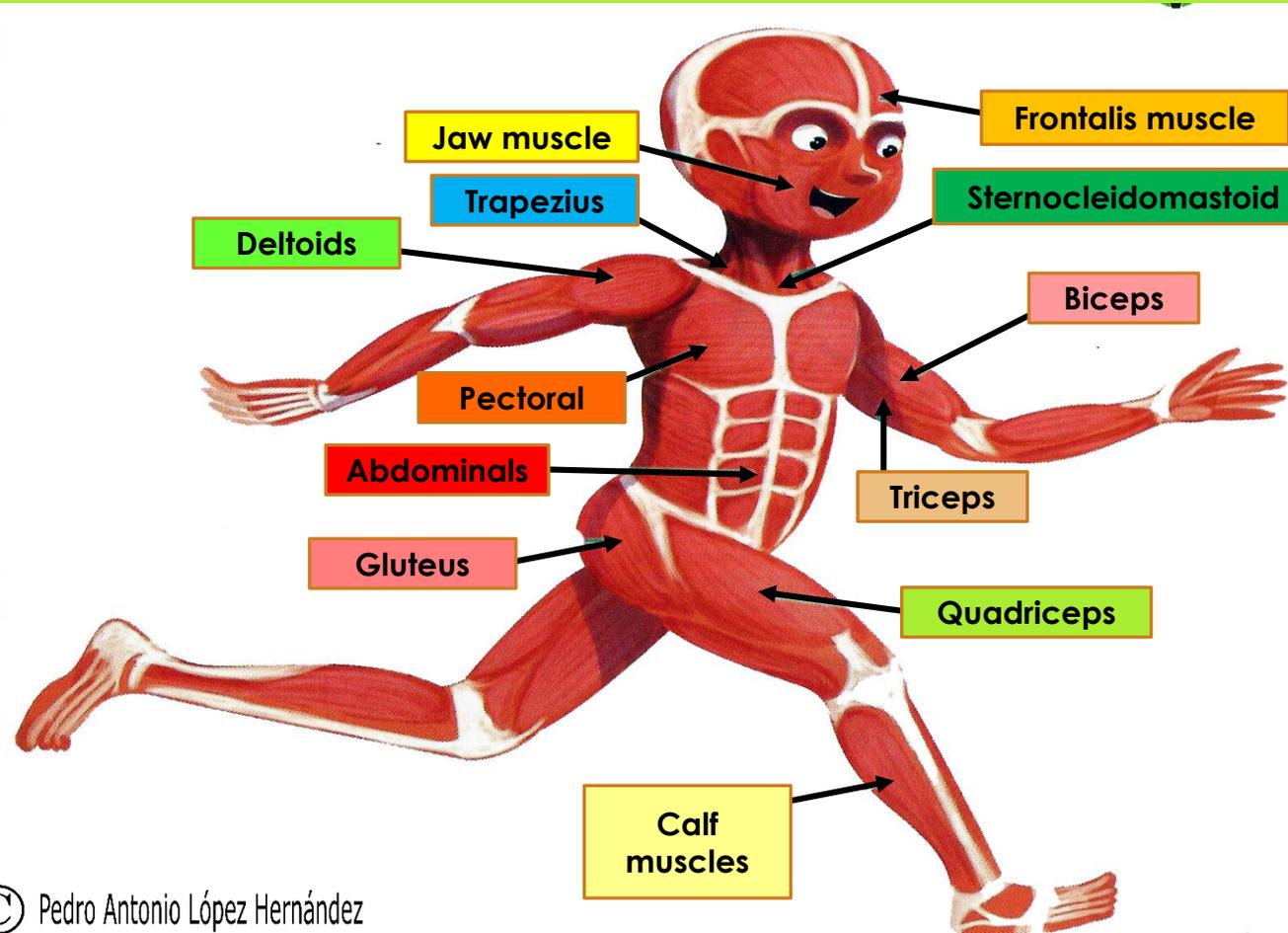
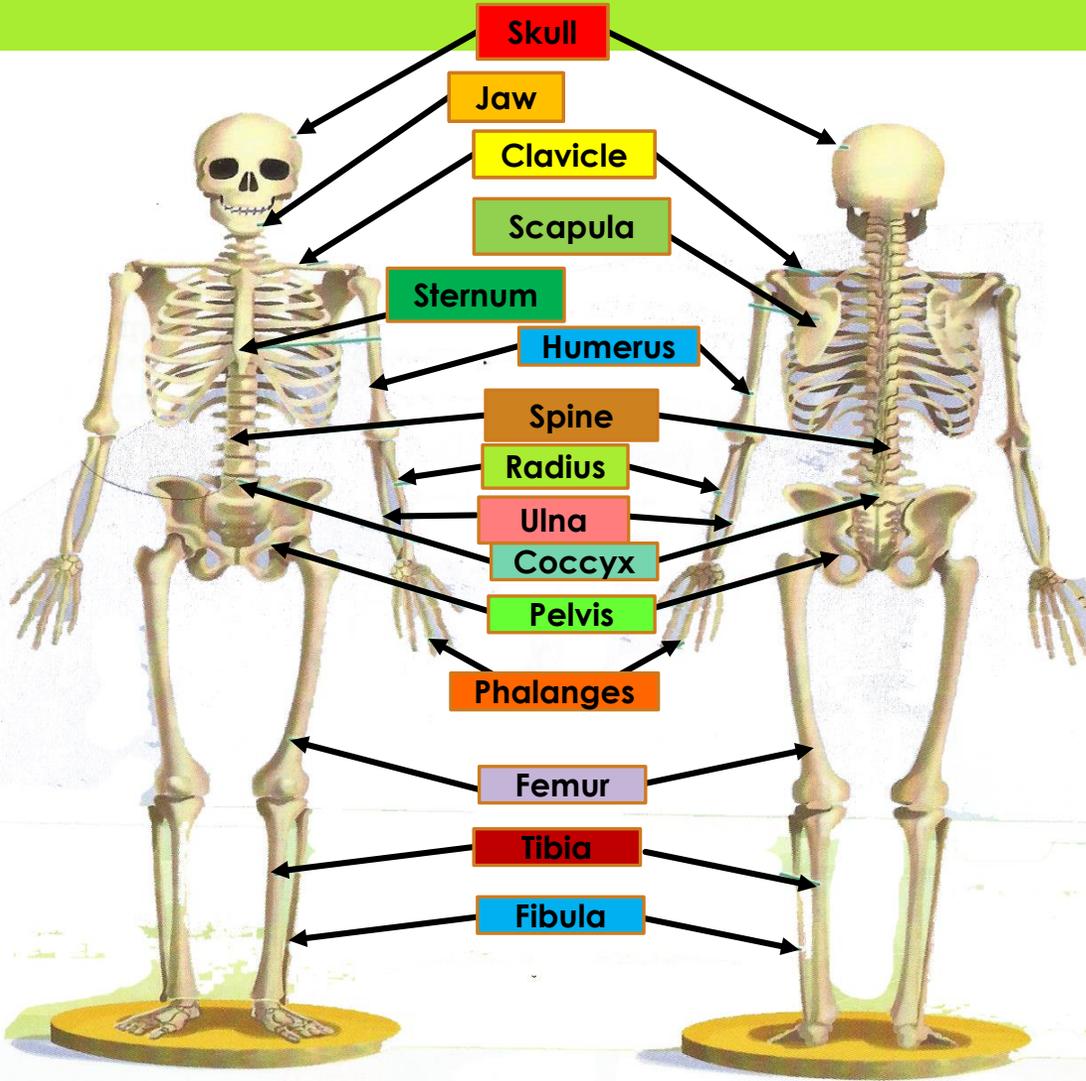
The skeleton

It is an structure that connect the **BONES** in our body. They protect our **INTERNAL ORGANS**.

The muscles

They are soft and flexible and help the body to move. They carry messages to and from the brain. They give us the ability to move our body in different ways.

In some parts of the body, like the knee or elbow, bones are connected through **JOINTS**.



# HEALTHY HABITS

## Look after your senses

- Read with appropriate light.
- Avoid looking directly at the sun.
- Brush your teeth after every meal.
- Have a good hygiene everyday.
- Protect your skin from the sunlight.
- Don't put objects in your ear.

## Look after our muscles and skeleton

- Exercise every day.
- Carry your bag on your back using both shoulders.
- Be careful and avoid accidents.
- Eat healthy food
- Keep a good posture by sitting and walking up straight.

## Look after your nervous system

- Sleep nine hours a day.
- Spend time with your family and friends.
- Don't spend excessive time watching TV, playing computer games or talking on the phone.

# HEALTHY EATING



We need to take in many different types of nutrients. The best way to do this is with a **BALANCED DIET** ( Food with proteins, vitamins, minerals, carbohydrates, fats and water).

- **Eat five times a day:** breakfast, morning snack, lunch, afternoon snack and dinner. It is good a piece of fruit or a yogurt in between meals.
- **Avoid eating too much fat.**
- **Always have breakfast** because it is the most important meal of the day.
- **Don't eat less food than your body need** because through a lack of nutrients, we can get ill.