

# Interaction function



how we react to **changes**

in our body

in our environment

stimuli

**Internal**

**external**

feeling  
hungry,  
cold...

hot  
weather,  
noise...

Our body generates a response

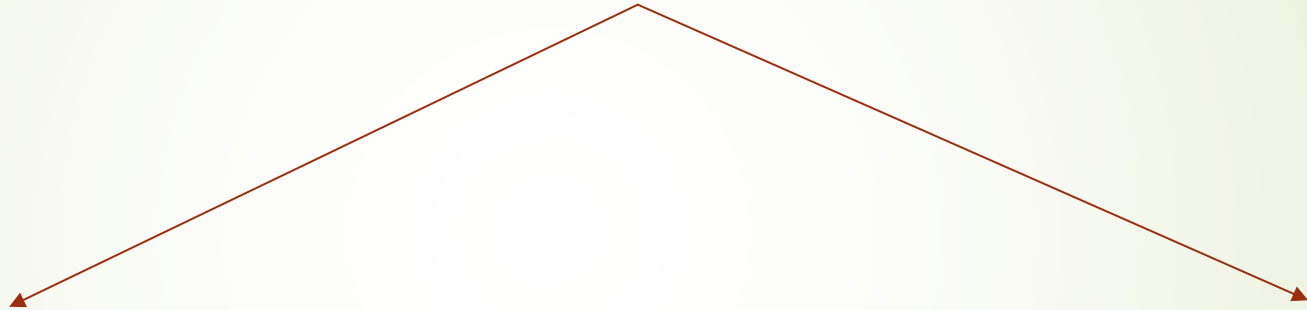
**Motor responses** involve muscle movements, for example, raising our arms to catch a ball.

**Glandular responses** involve the production of a substance. For example, when our body gets really hot, our sweat glands produce sweat.

# SENSE ORGANS



eyes, ears, nose, skin and tongue



detect external stimuli and send the information to the brain through the **nerves**

have **receptors** that respond differently to stimuli based on their function

# THE FIVE SENSES



HEARING



VISION



TOUCH



SMELL



TASTE

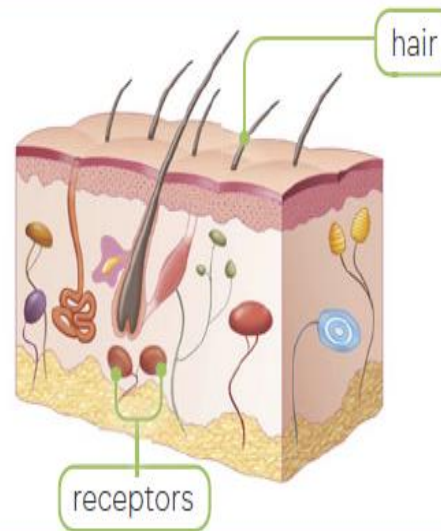
## How they work?



The **olfactory receptors** are in an area of the nose called the pituitary gland.



The **taste buds** of the tongue detect different flavours.



The **touch receptors** are distributed throughout the skin and our body uses them to detect cold, heat, pain, pressure and textures.

## Eyes and ears:

1. Light enters the eye through the pupil.

2. Then, it crosses the lens and reaches the retina.

3. The retina is the layer where the image is formed.

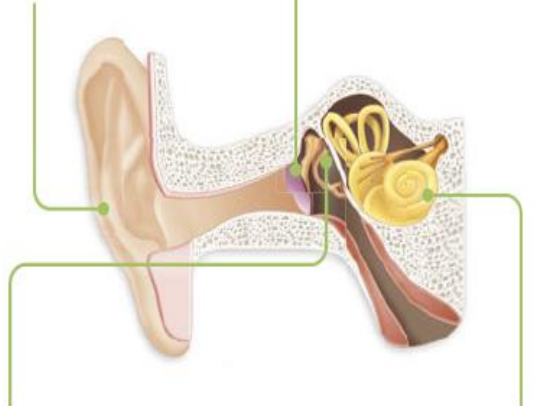
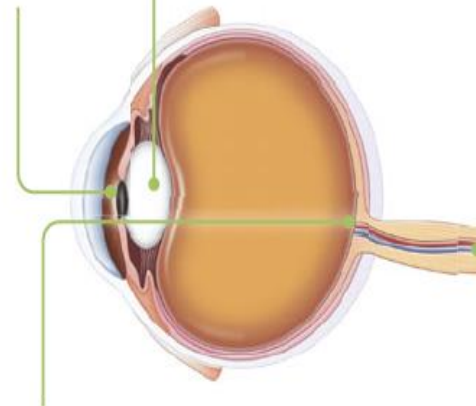
4. Finally, the optic nerve transmits the information from the retina to the brain.

5. The outer ear is the part that receives the sound.

6. Next, the sound crosses the ear canal, up to the eardrum.

7. Then, the small bones transmit the sound to the cochlea.

8. The cochlea is connected to the brain through the auditory nerve.



# TONGUE TASTE MAP



BITTER



SOUR



UMAMI




SALTY



SWEET

## NERVOUS SYSTEM AND EFFECTOR ORGANS



receives and processes information about stimuli before sending it to the corresponding **effector organ**

produce a response to the stimuli

# Nervous system

central nervous system

peripheral nervous system

Cerebrum

spinal cord

nerves

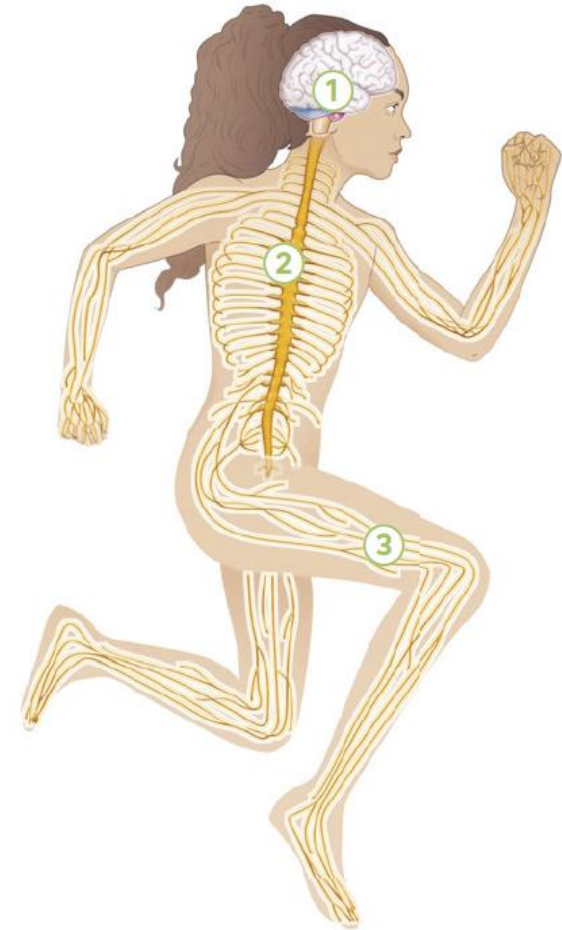
•  
•  
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Neuron


<https://www.youtube.com/watch?v=hGDyvUNU-cw>

1. The brain receives and processes information. It controls thinking, memory and the functioning of vital organs, such as the heart.

2. The spinal cord receives and interprets the stimuli and produces quick and automatic responses.

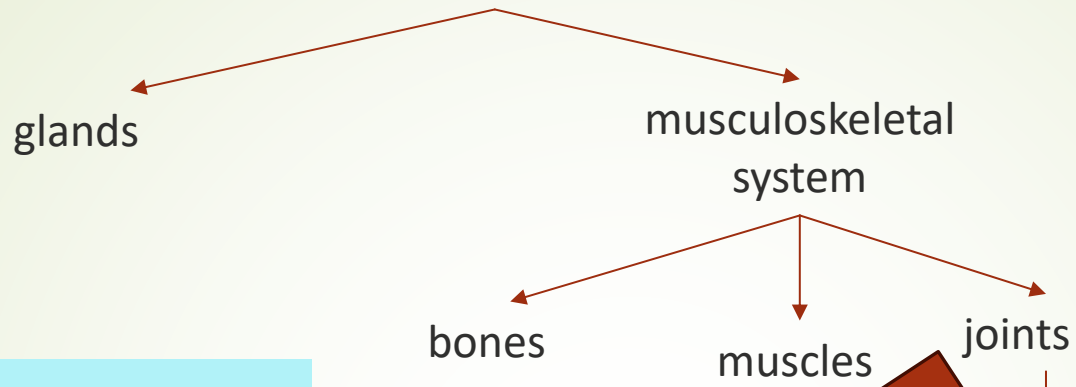
3. The peripheral nervous system is made up of all the nerves that run through the body. The nerves are responsible for transmitting information.



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- The **brain** controls many important functions in the body. The brain receives and processes information. It controls thinking, memory and the functioning of vital organs like heart.
  - The **spinal cord** connects the brain to nerves throughout most of the body. This allows the brain to send messages to the rest of the body, interpreting the stimuli and producing a quick and automatic response.



# effector organs



two or more bones are connected

mobile      semi-mobile      fixed

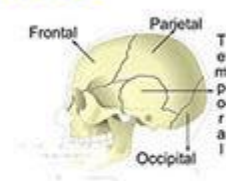
## Tipos de articulaciones



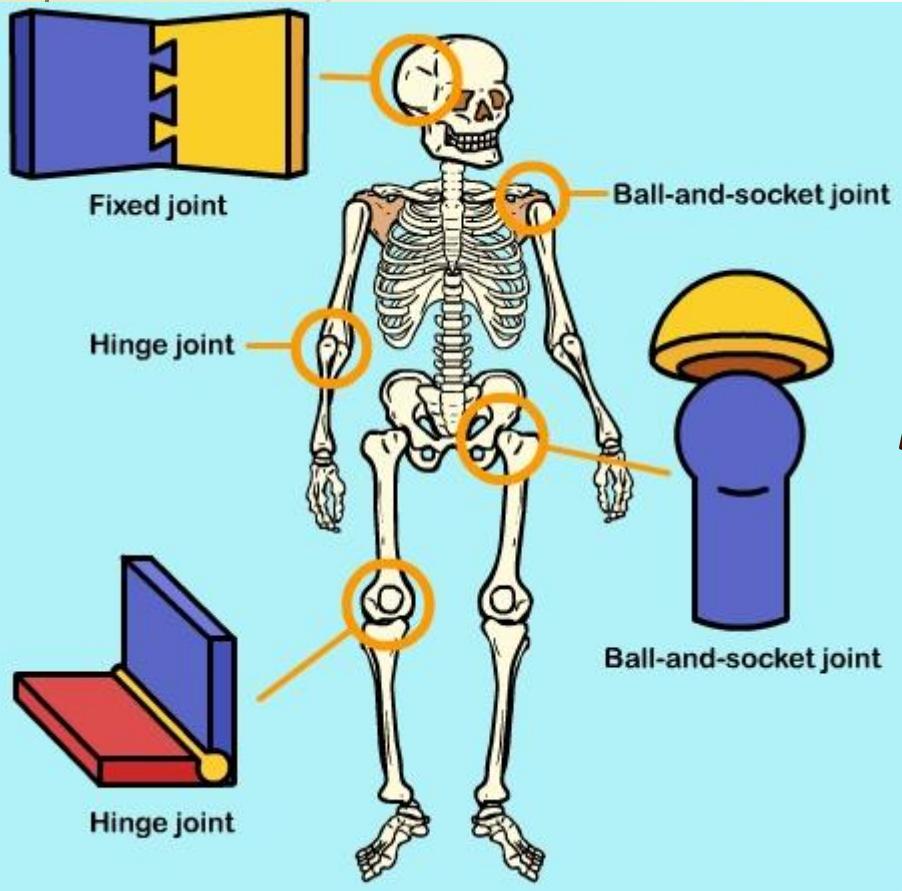
Articulación móvil

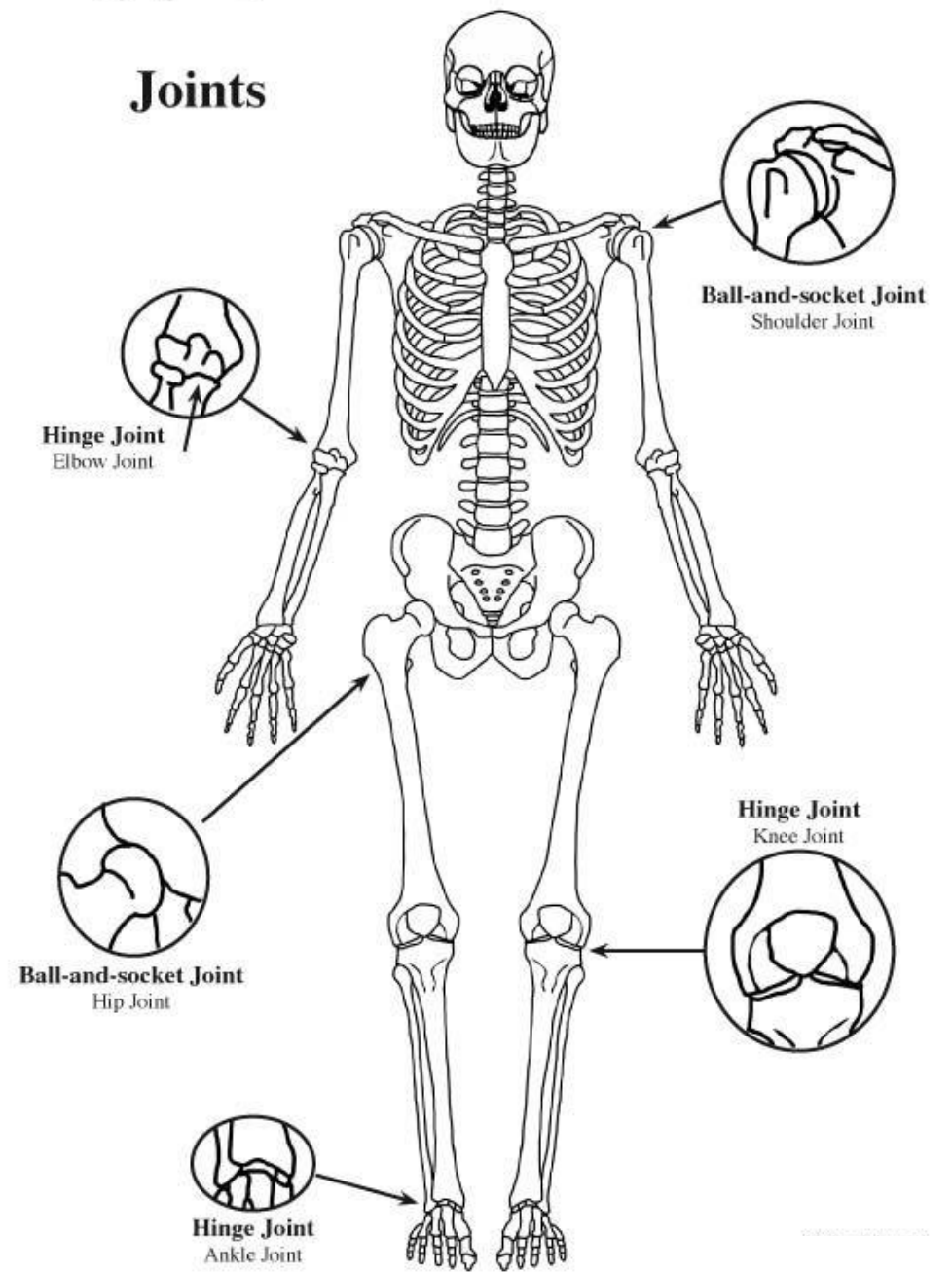
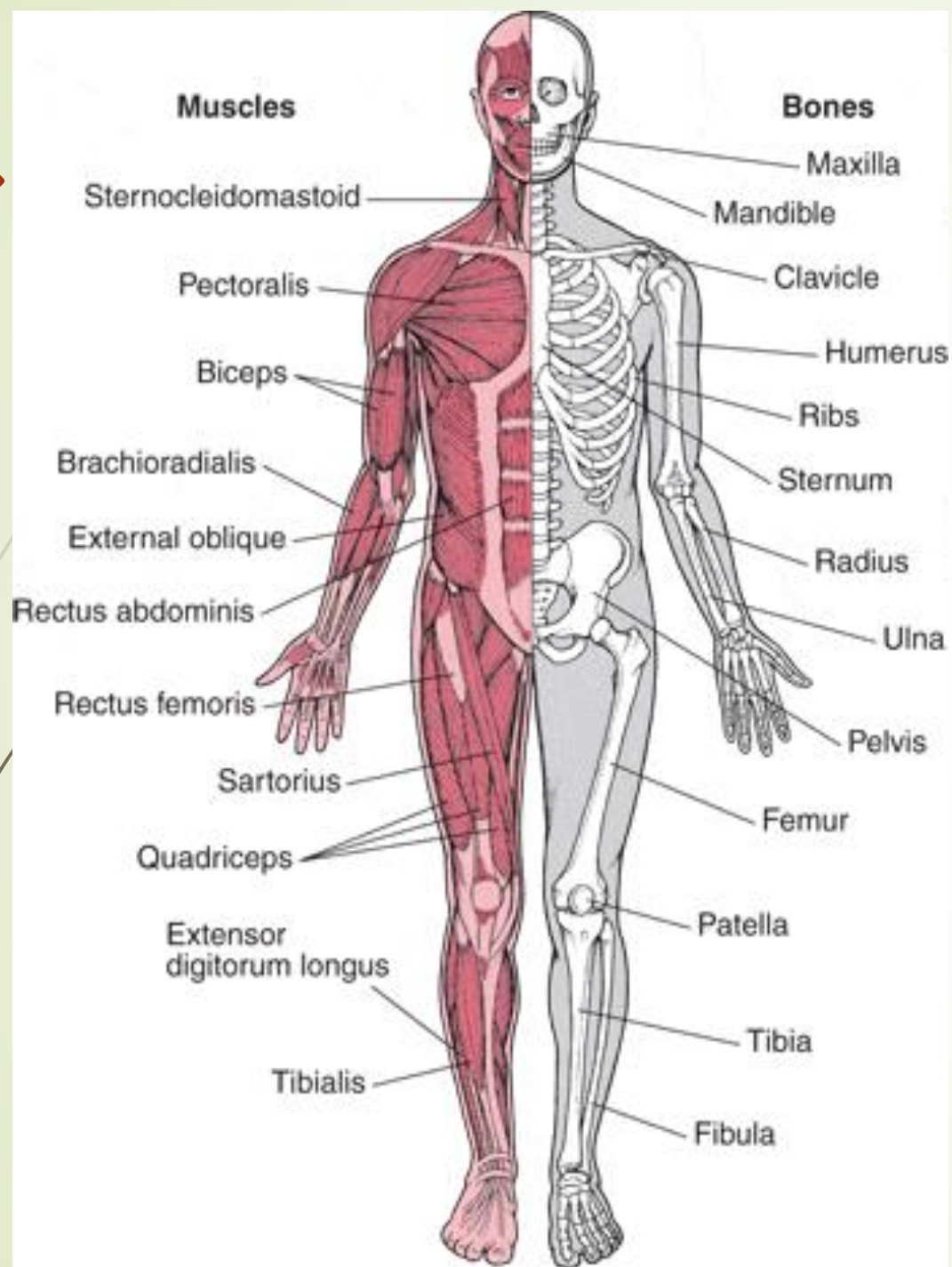


Articulación semimóvil



Articulación fija





# TAKING CARE OF OUR HEALTH

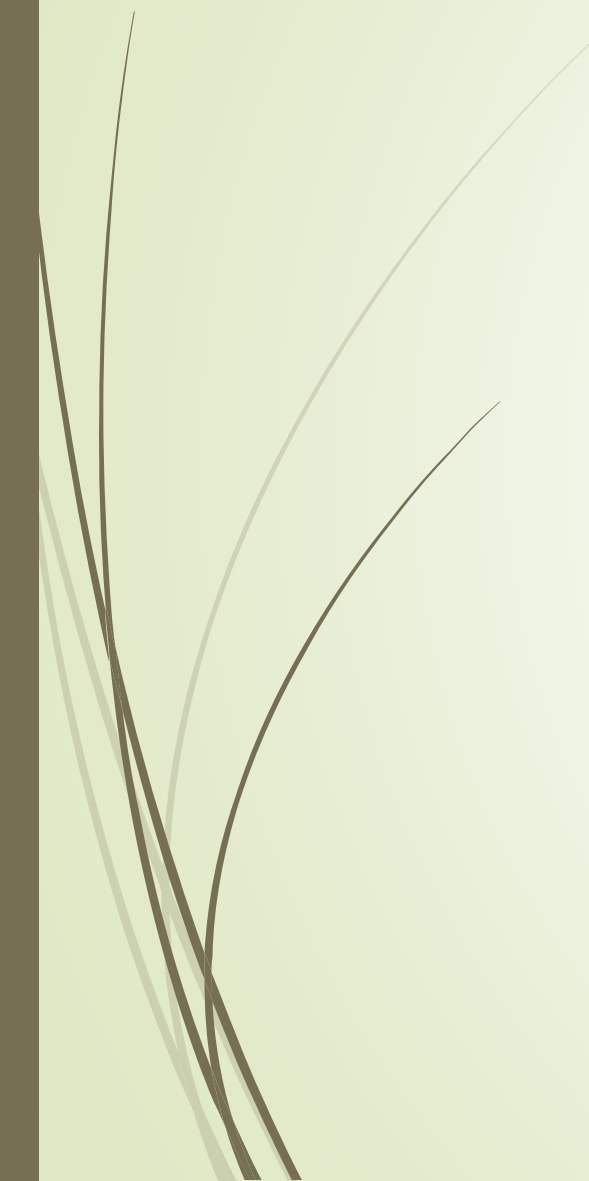


we should practice **healthy habits**

eating  
a balanced  
diet

doing  
exercise

using sunscreen  
when we go  
outside



# Healthy habits



Have friends



Avoid injuries



Practice sports



Get enough sleep



Have a balanced diet

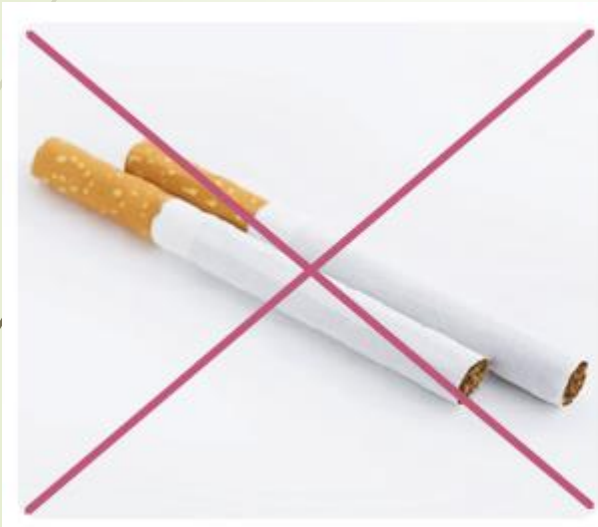


Prevent accidents

## harmful substances can damage our health



Some drugs, such as cocaine, heroin and pills, can get absorbed into the blood and affect all parts of the body.



## DIGITAL WORLD RULES



**misunderstandings** can occur

