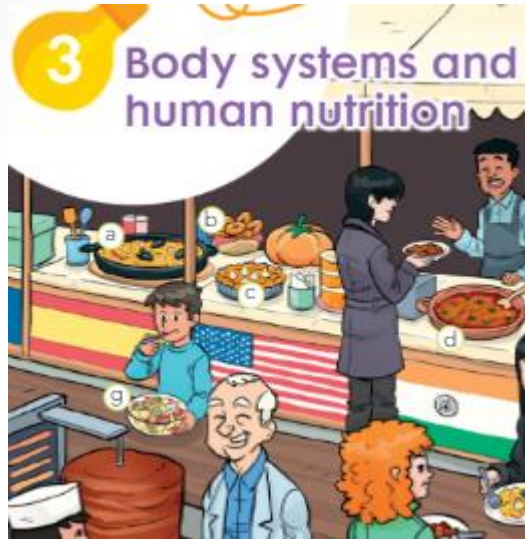


4º



# Natural Science

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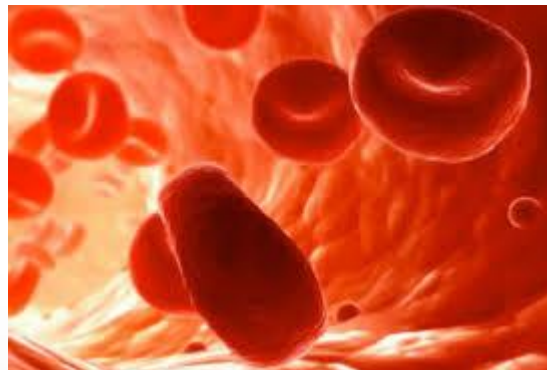
UNIT 3 and 4  
Body Systems and human nutrition.  
Interaction

# 1. Human nutrition

**Nutrition: The body gets the water and nutrients that it needs.**

Different body systems work together in nutrition:

- Circulatory system
- Digestive system
- Excretory system
- Respiratory system

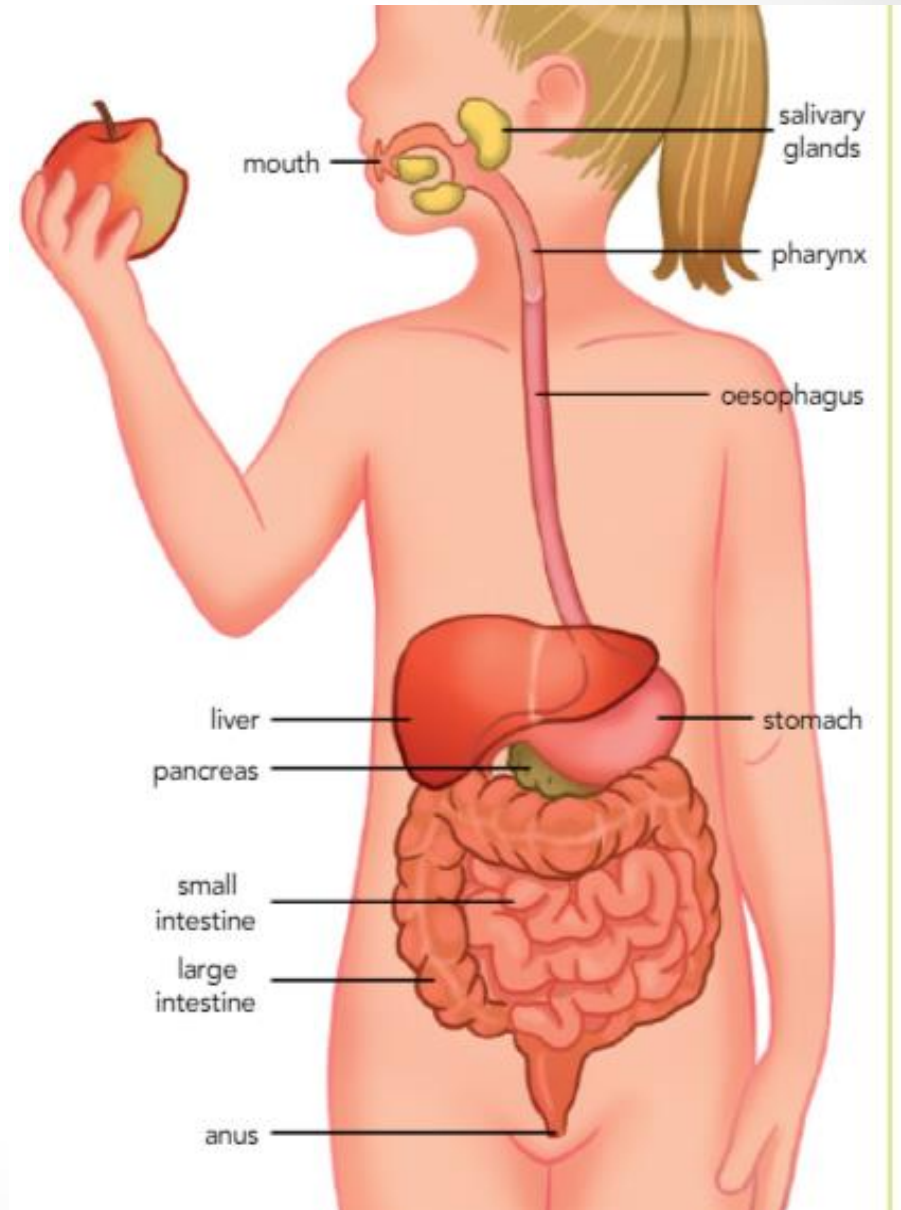


## 2. The digestive system

**D.System: nutrients and water are absorbed into the body**

### 2.1) How we digest food?

- 1- Digestion starts in the mouth
- 2- The tongue mixes the food with saliva
- 3- Food pass down into the stomach and intestine.
- 4- Nutrients are absorbed by the small intestine.
- 5- Faces are produced in the large intestine and are expeled.



# 3. The respiratory system

**R.System:** Oxygen enters and carbon dioxide leaves the body.

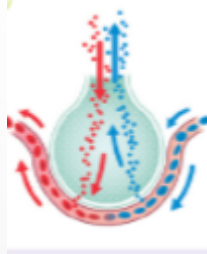
## 3.1) What happens when we breathe?

### 1- INHALATION

Air enters the body.

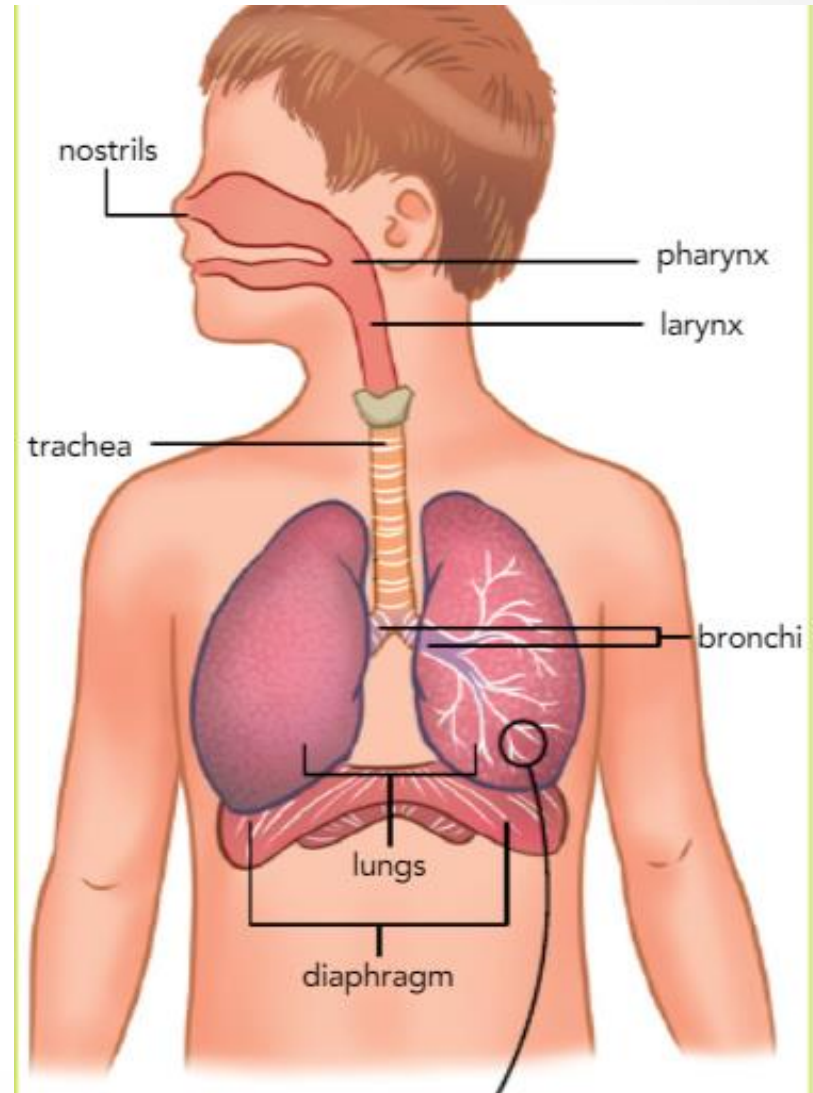
### 2- EXCHANGE OF GASES

Oxygen pass into the blood and carbon dioxide pass into the alveoli



### 3-EXHALATION

Air is pushed out the lungs





# 4. The circulatory system

**C.System:** the heart pumps blood around the body through blood vessels.

## 4.1) Types of blood vessels

### 1- ARTERIES

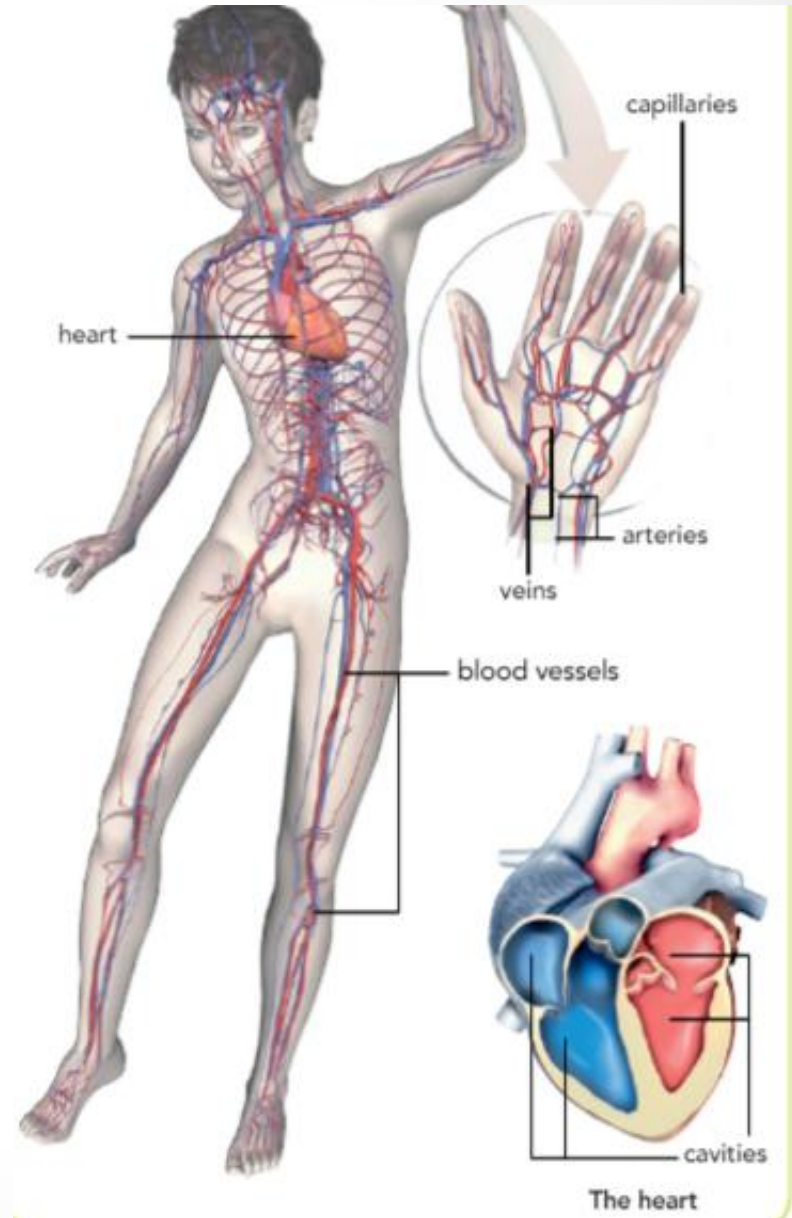
Take blood from the heart to the rest of the body

### 2- VEINS

Take blood to the heart.

### 3-CAPILLARIES

Are the smallest. Connect the veins and arteries.



# 5. The excretory system

**E.System:** waste substances are released from organs and cells around the body

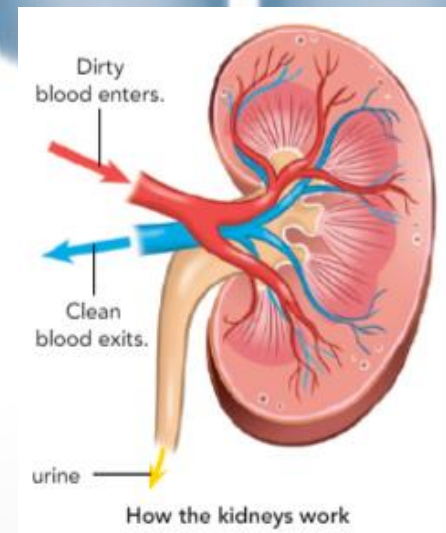
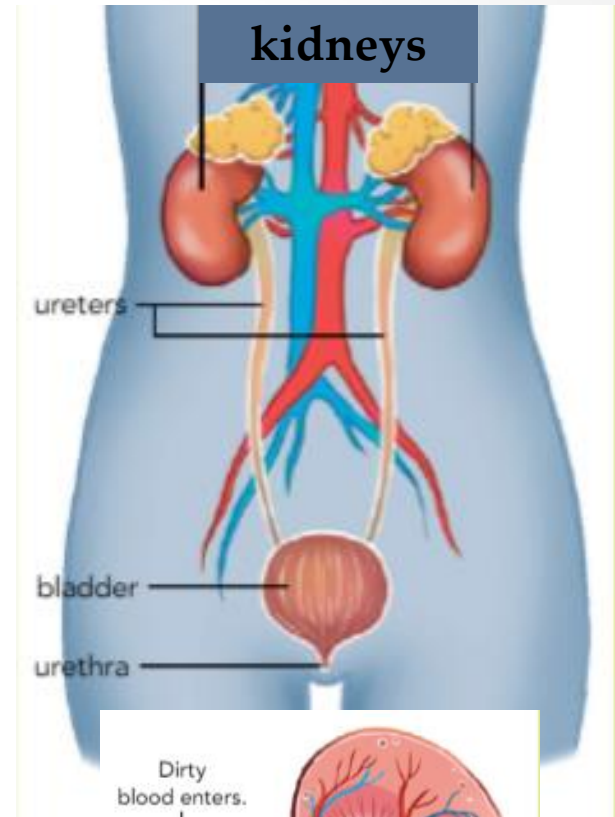
## 5.1) How does the excretory system work?

1-Blood enters the **kidneys**

2-Waste substances are **mixed with water** to produce urine.

3-Urine travels along ureters to the **bladder**.

4-Urine is **expelled through the urethra**.



# 6. How can I take care of my body?

## HEALTHY HABITS

### The digestive system

- Eat a balanced diet of five meals a day. Drink water with your meals. Do not exercise immediately after a meal.
- Wash your hands before a meal. Ensure that your food is fresh, clean and well cooked.

### The respiratory system

- Breathe through your nose. The hairs in your nostrils filter dust from the air and warm it.
- Do exercise to increase your lung capacity.
- Avoid places with polluted air. Try not to inhale toxic fumes.

### The circulatory system

- Regular exercise keeps the heart strong and healthy.
- Try not to eat food with a high salt or fat content.

### The excretory system

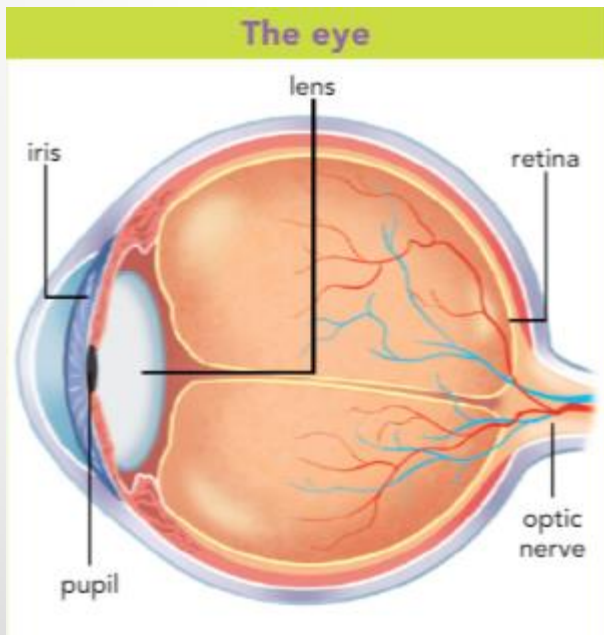
- Drink at least one litre of water a day.
- Wash every day to keep your skin clean.
- Change your clothes every day. If your clothes are dirty, they can cause bad odour\* or irritate your skin.

# 7. Sense organs and the senses

We have five sense organs that receive information

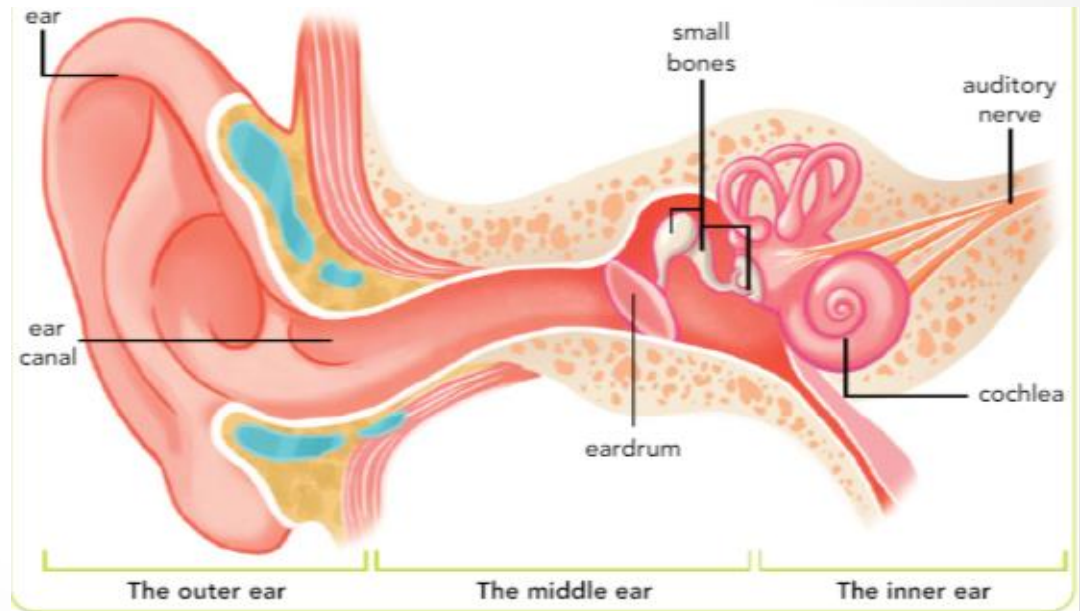
## 7.1) How do we see?

Our eyes detect **light and forms** images and sends the signals to the brain via **the optic nerve**.



## 7.2) How do we hear?

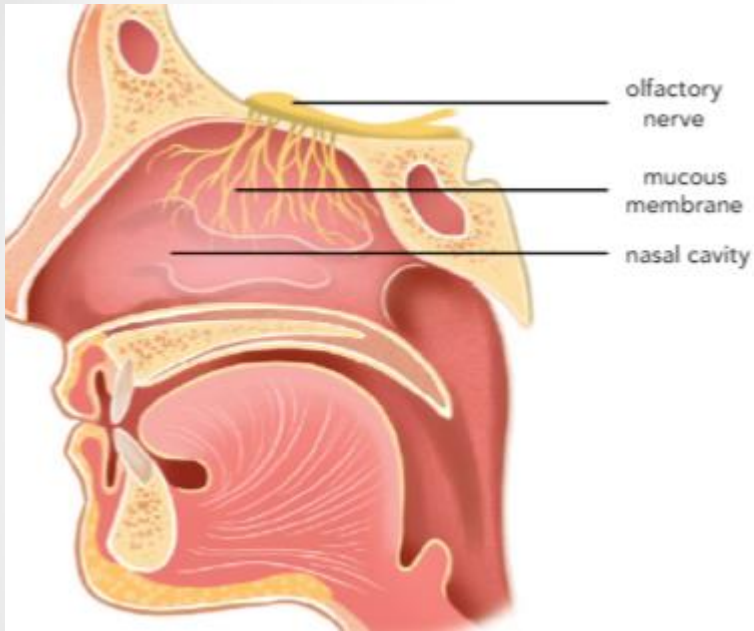
Our ear **detects vibration** that travel through the air. The signals are sent to the brain via the **auditory nerve**.





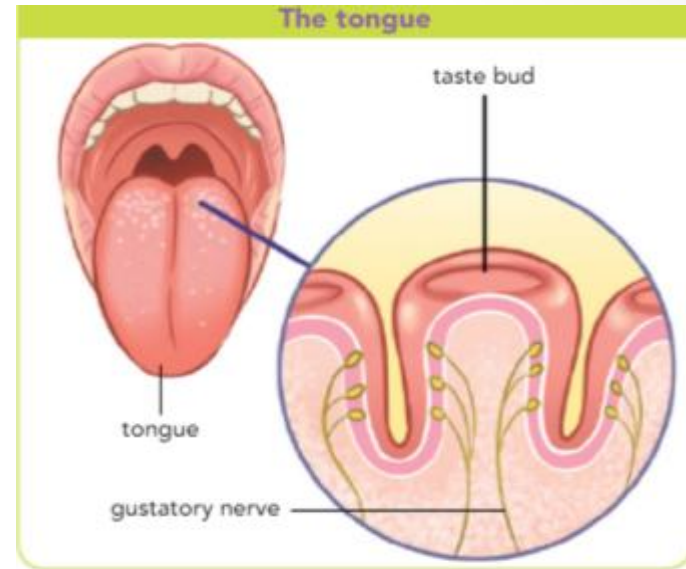
### 7.3) How do we smell?

When we **inhale** the mucous membrane sends signals to the brain via **the olfactory nerve**



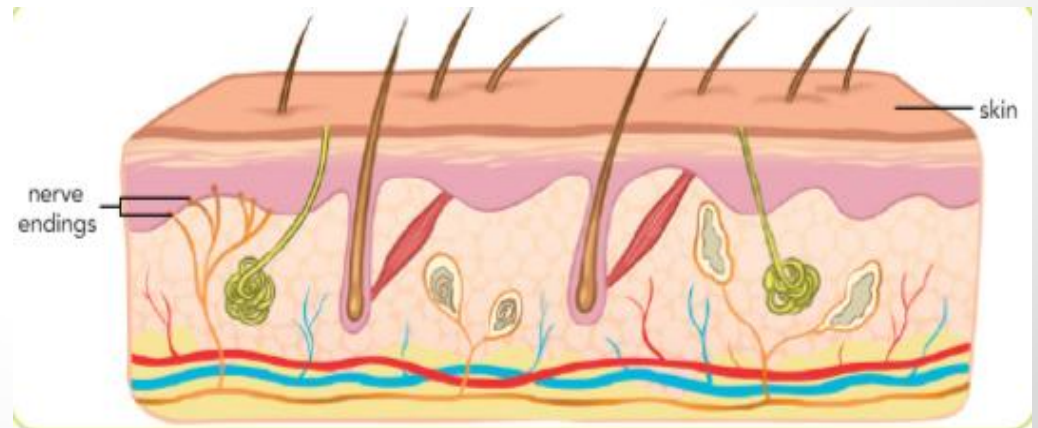
### 7.4) How do we taste?

When we **eat or drink** the tongue detect substances and send signals to the brain via **gustatory nerve**.



### 7.5) How does the touch work?

When we touch something the **nerve endings** detect the texture and **send signals** to our brain



# 8. Protecting your senses

## HEALTHY HABITS

### Sight

- Have your eyes tested at least once every two years.
- Protect your eyes when you are using tools or harmful substances.
- Wear sunglasses with UV protection in bright sunlight.
- Make sure your diet is rich in vitamin A (oily fish, milk and eggs).

### Hearing

- Don't listen to very loud music.
- Don't put anything into your ears, even cotton wool buds.
- Dry your ears well.

### Taste

- Brush your teeth at least twice a day.
- Be careful with hot food and liquids.
- Have a check-up with a dentist at least once a year.

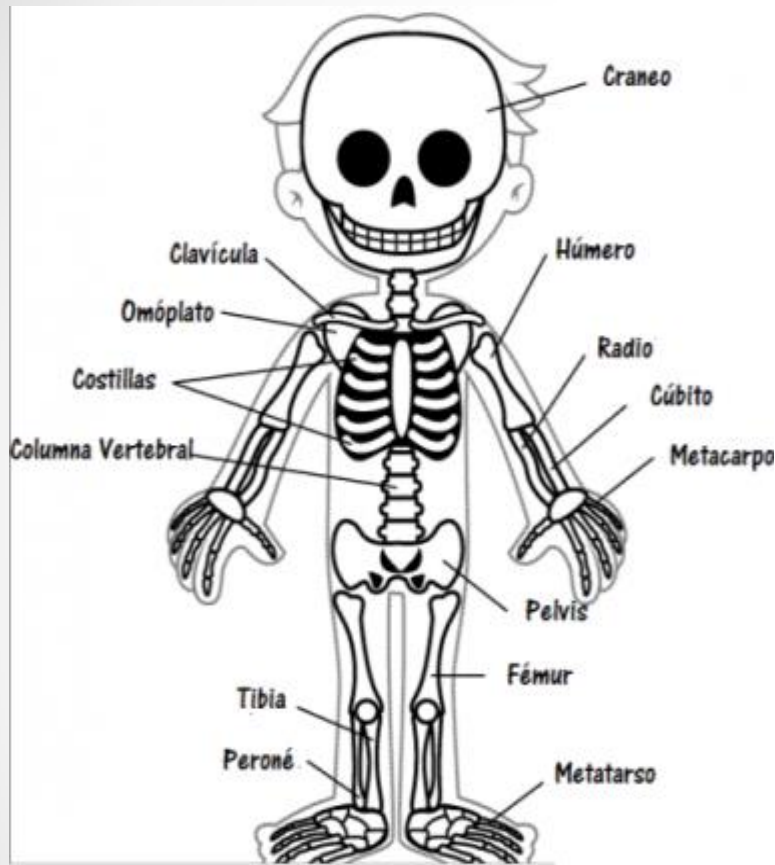
### Smell

- Blow your nose gently when you're ill.
- Don't smell dangerous substances.
- Don't put objects into your nose.

### Touch

- Protect your skin from cuts and burns.
- Use sunscreen to protect your skin.

# 9 Skeleton and the muscles.



**Skeleton** has important functions:

- **Supports** the body
- **Protect** vital organs
- **Helps** body to move



**Muscles** are organs that produce movement when they contract.