

# NATURAL SCIENCE

CEIP Ginés Morata - Almería



## 6TH GRADE

# SOCIAL STUDIES







CEIP Ginés Morata

# Natural Science



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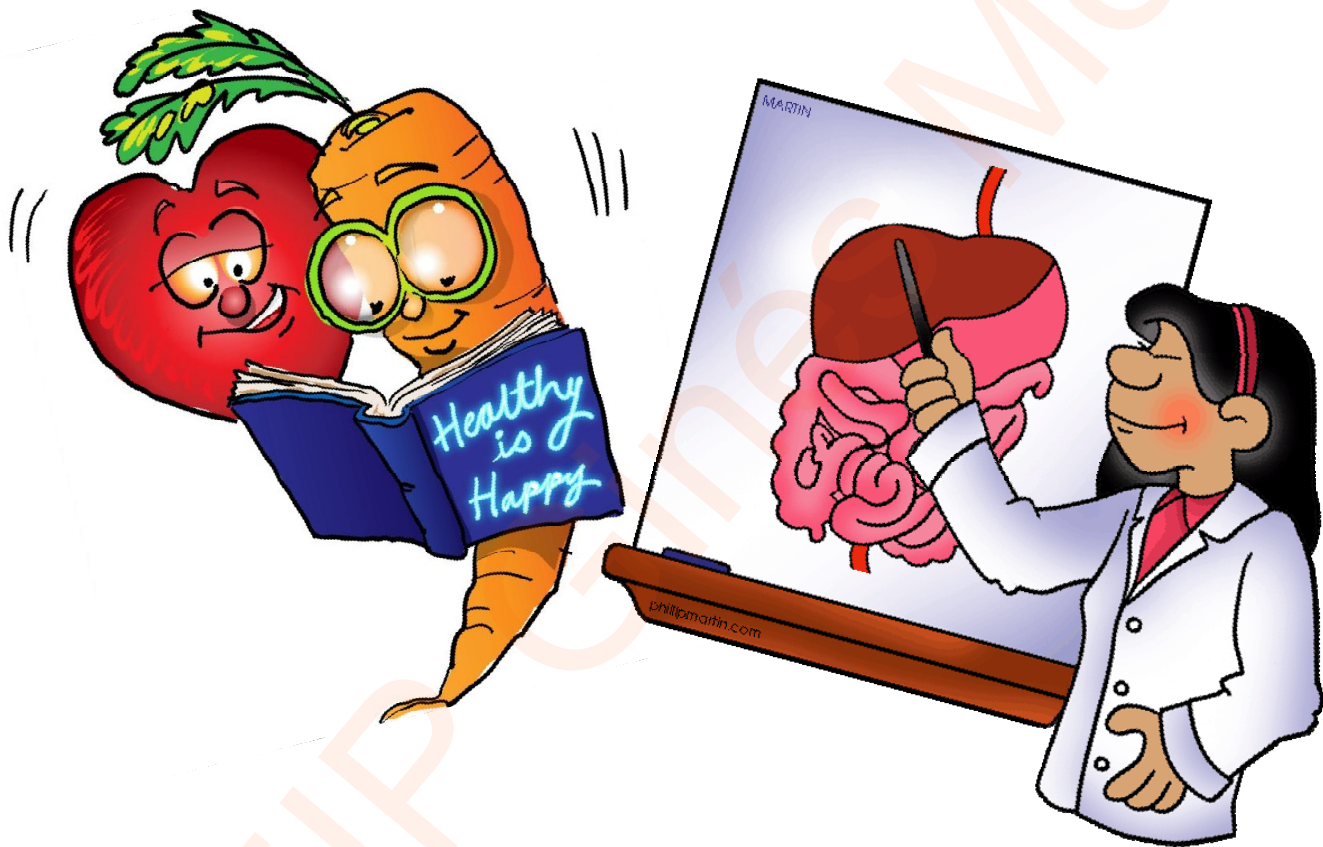
2015





# UNIT 1

# NUTRITION

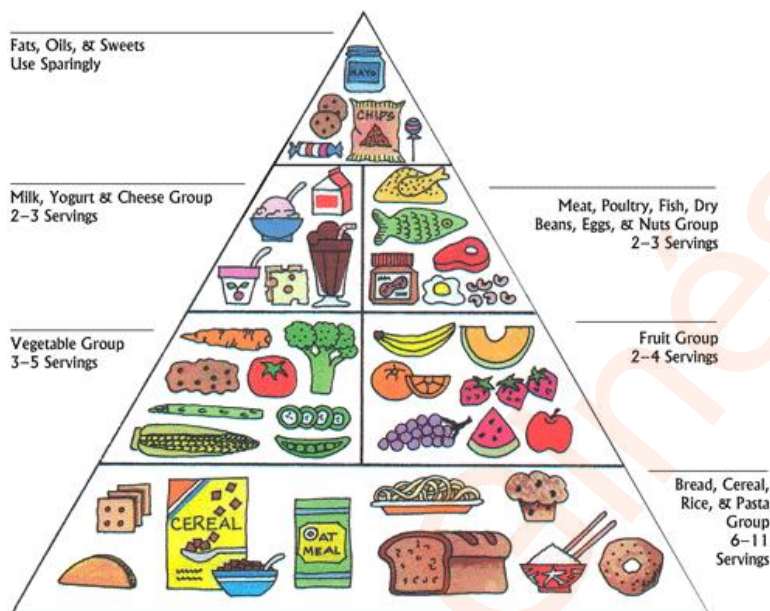


# 1. NUTRITIVE SUBSTANCES

## 1.1. NUTRIENTS

**Nutrients** are the substances which our body needs to survive, grow and repair itself. Nutrients also give us energy.

- **Carbohydrates** give us energy. There are two types of carbohydrates. Sugars are in foods which taste sweet. Starches are in bread, potatoes and legumes.
- **Fats** also give us energy. We get some fats, such as butter, from animals. We get other fats, such as olive oil, from plants.
- **Proteins** help our body to grow and repair itself. Meat, fish and legumes are good sources of protein.



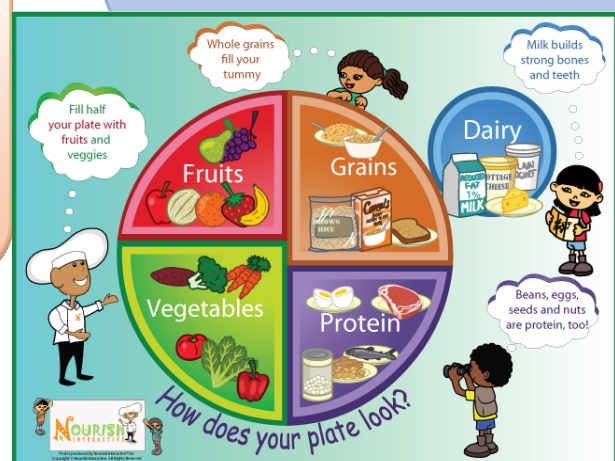
## 1.3. Diet

The food which someone normally eats over a period of time is called their **diet**. For good, healthy nutrition, our diet must be complete and balanced.

- A **complete** diet includes nutrients from all the food groups.
- A **balanced** diet includes the right amount of each nutrient.

## 1.2. Other nutritive substances

- **Vitamins and minerals** are essential for our bodies to function well. Fruits and vegetables are good sources, but minerals and vitamins are also found in other foods. Milk gives us calcium for our bones.
- **Water**. Most of our body is made up of water, so it is essential. We drink water, and our body also obtains water from food.
- **Fibre** helps food to move through the digestive system. It is found in fruits, vegetables and whole-grains.



## ACTIVITIES

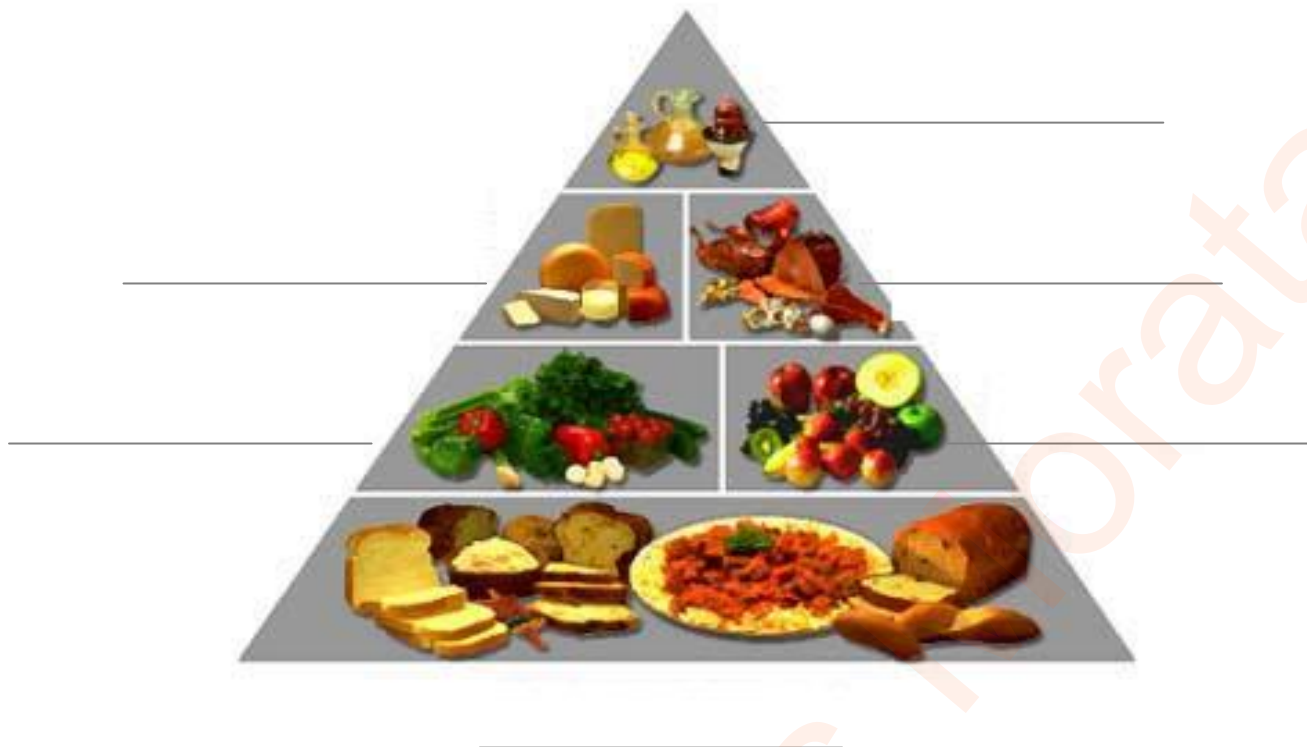


1. Look at the food labels. Answer the questions.



- Which food provides the most energy?
- Which food would you recommend to someone who wants to lose weight?
- Which food contains the most water? How do you know?
- Which food do you think is best to eat every day for a snack?
- Do you think the information on these labels is sufficient?
- Would you like some other information?

2.- Complete the food pyramid with the recommended servings for each group



3. Name the five different nutrients and a food that contains at least one of them.

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## 2. THE DIGESTIVE SYSTEM

### 2.1. THE DIGESTIVE SYSTEM

We need to eat. Food gives us the energy which we require for our daily activities. It also gives us the substances which we need to grow.

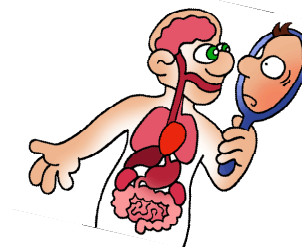
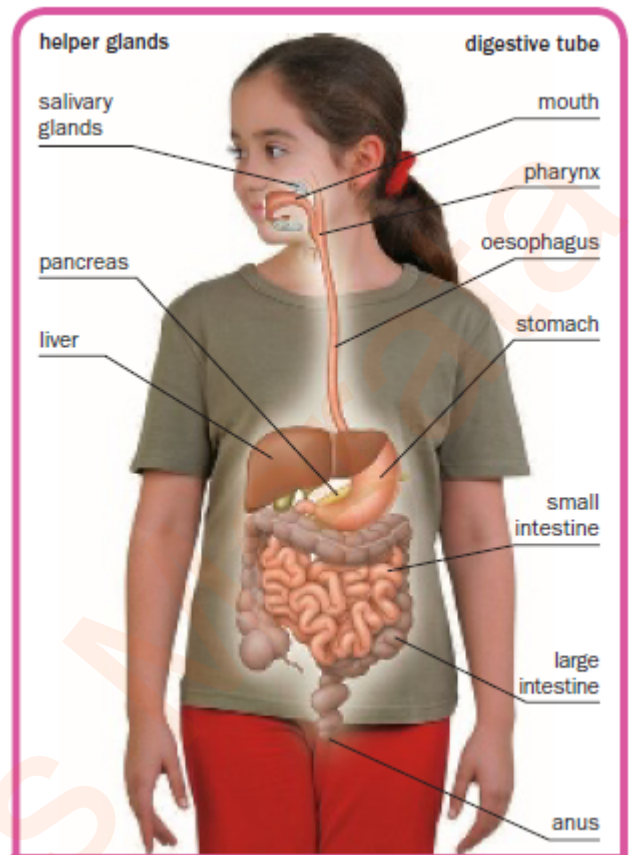
The **digestive system** converts the food we eat into nutrients which our body can absorb. It carries out three important functions:

**digestion, absorption and the elimination of waste.**



## 2.2. DIGESTION

- First, food is chewed in the **mouth**, and mixed with saliva produced by the **salivary glands**. Gradually, a mass of chewed, soft food is formed.
- Then, this food moves down the **pharynx** and the **oesophagus**, and passes into the **stomach**.
- Next, it mixes with gastric juices in the stomach. This produces a thick liquid called **chyme**.
- Finally, the chyme leaves the stomach and reaches the **small intestine**. It mixes with juices from the intestine, the **pancreas** and the **liver**. All the substances which we require have now been separated.



## 2.3. ABSORPTION

In the small intestine, the substances which we need are **absorbed** into the blood.

## 2.4. ELIMINATION OF WASTE

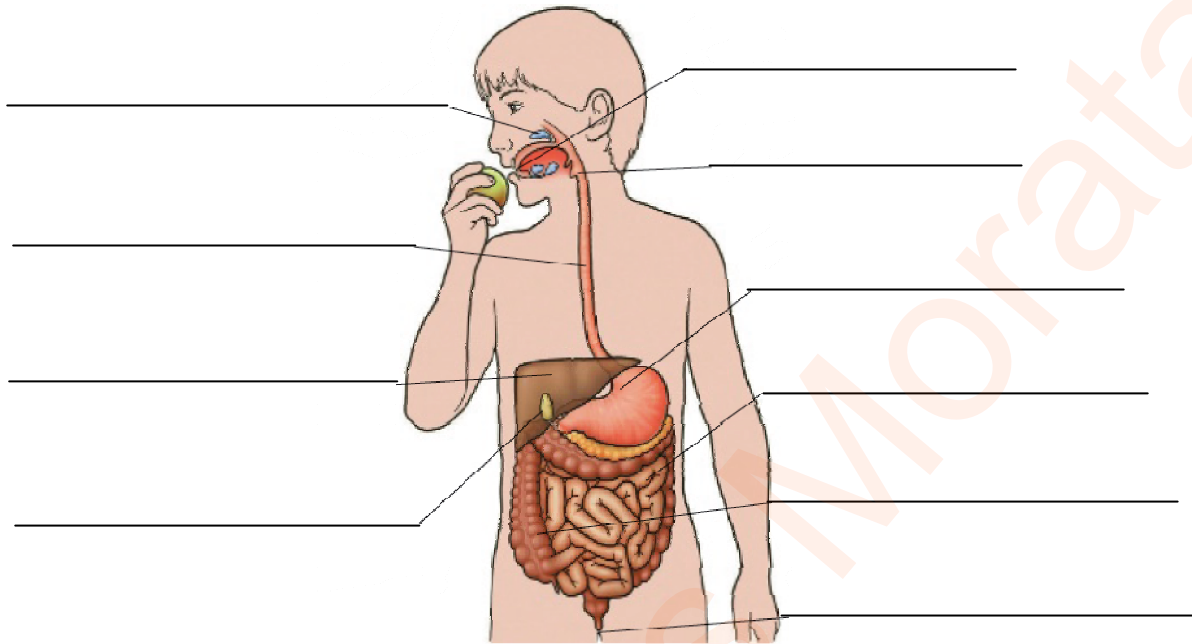
The **chyle** loses its nutritional value as it passes through the small intestine. Only undigested substances, like fibre, remain and move to the **large intestine**. The large intestine removes water from these substances, and forms solid waste called **faeces**.

This is expelled through the **anus**.

# ACTIVITIES

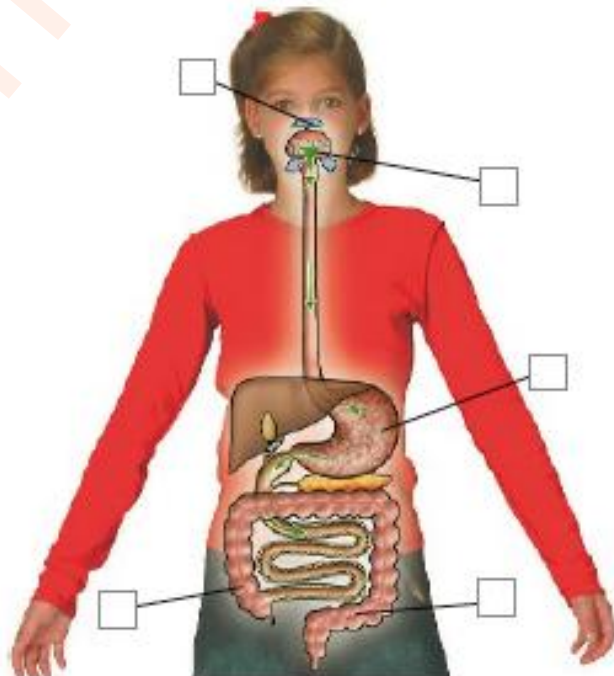


## 4.- Label the digestive system



## 5.- Read the texts about the process of nutrition. Label the diagram to show the process of nutrition.

- A We eat food, which contains nutrients.
- B Our cells carry out chemical reactions.
- C The body eliminates any waste products.
- D Oxygen and nutrients are carried to different parts of the body.
- E We breathe in and consume oxygen.



# 3. Breathing. The respiratory system

## 3.1. RESPIRATORY SYSTEM AND BREATHING

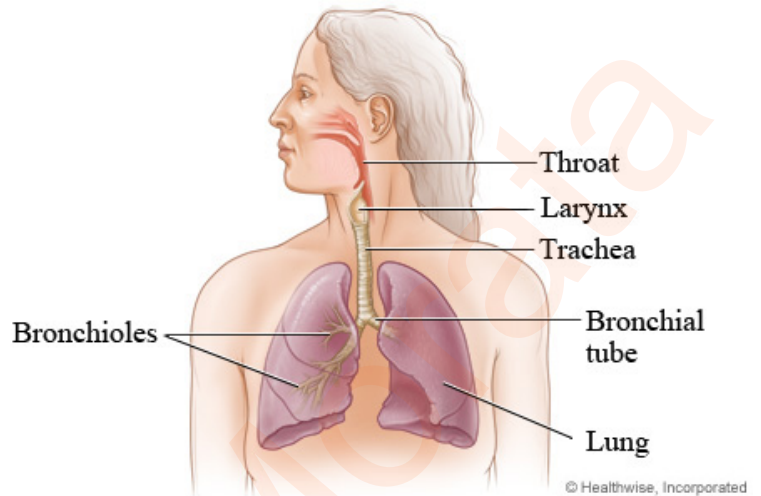
Breathing is part of the nutrition function.

By breathing we obtain the oxygen our cells need to work.

We also excrete the carbon dioxide our cells produce as a residue.

We breathe with our respiratory system, which includes the airways (nasal passages, the pharynx, the larynx, the trachea, and the bronchial tubes) and the lungs.

Breathing has two phases: inhalation and exhalation.



### ACTIVITIES



6. Underline the words related to breathing.

Inhalation	exhalation	intestine	expiration	liver
kidney	trachea	bronch	lungs	oxygen

7. Match the columns.

- |   |   |
|---|---|
| a. We breathe <input type="radio"/>                     | <input type="radio"/> 1. and passes through the pharynx.      |
| b. Air enters through the nose <input type="radio"/>    | <input type="radio"/> 2. and into each lung.                  |
| c. From the pharynx, the air <input type="radio"/>      | <input type="radio"/> 3. the bronchi divide into bronchioles. |
| d. Next, it goes to the bronchi <input type="radio"/>   | <input type="radio"/> 4. are the alveoli.                     |
| e. In the lungs, <input type="radio"/>                  | <input type="radio"/> 5. to obtain oxygen from the air.       |
| f. At the end of the bronchioles, <input type="radio"/> | <input type="radio"/> 6. goes to the larynx and the trachea.  |

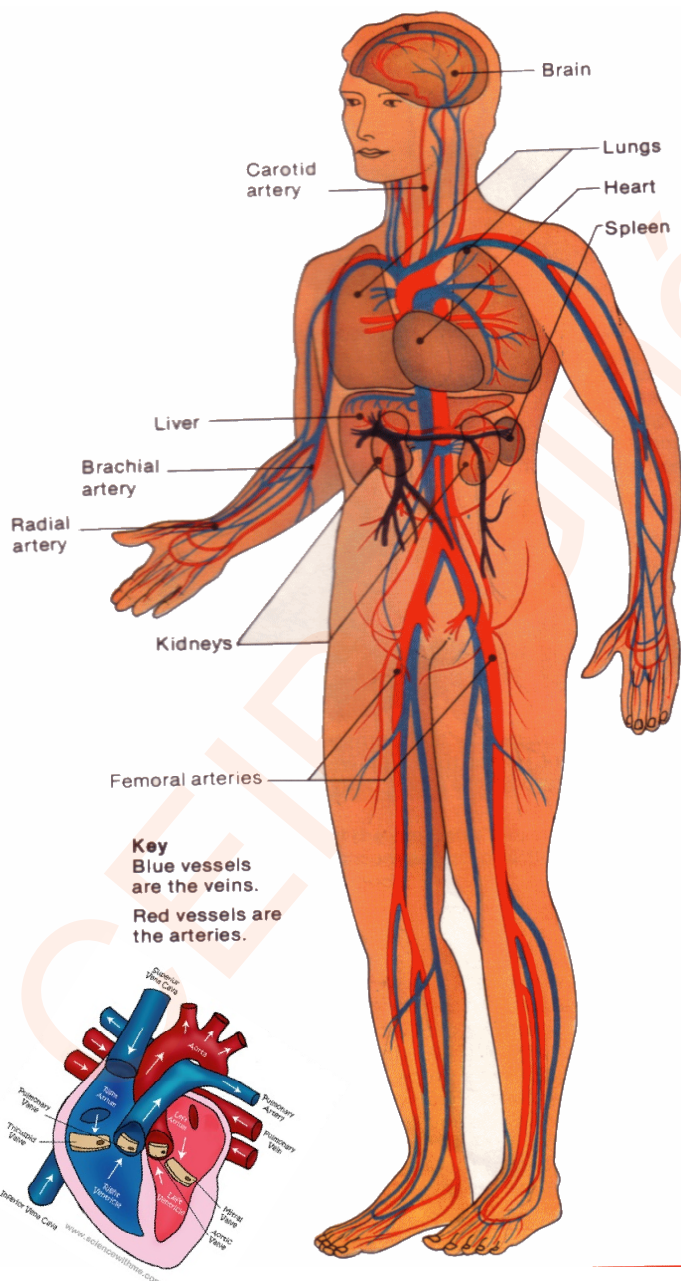
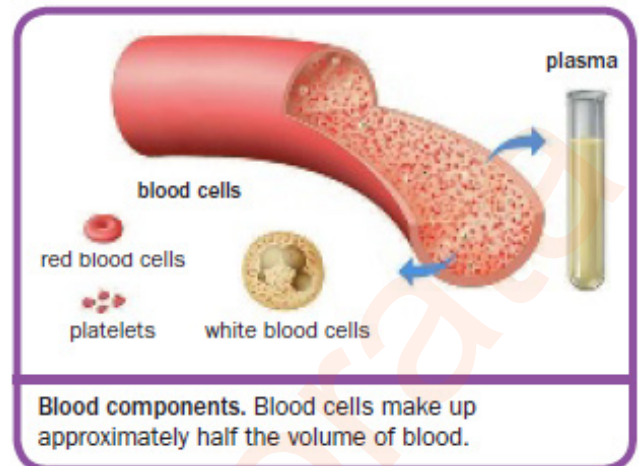


# 4 The circulatory system. Blood

## 4.1 BLOOD

Blood is a red liquid composed of: plasma and blood cells. The most important functions of blood are:

- Transport nutrients and oxygen to the cells and take away the residues to where they are eliminated.
- Defend our body from infections.



## 4.2. CIRCULATORY SYSTEM

The circulatory system is formed of the blood vessels and the heart. It transports nutrients, oxygen and residues around the body in the blood.

There are three types of blood vessels:

**Arteries**, which carry blood away from the heart to other organs. The arteries near the heart are bigger. The arteries far from the heart are smaller and have many branches.

**Veins**, which carry blood to the heart. The veins closer to the heart are thicker too.

**Capillaries**, which connect arteries to veins and circulate blood inside the organs. Capillaries are the smallest blood vessels, and have very thin walls

## ACTIVITIES



### 8. Match.

- Capillaries • • are blood vessels which carry blood away from the heart.  
 Veins • • are tiny blood vessels which connect arteries to veins.  
 Arteries • • are blood vessels which carry blood into the heart.

### 9. Use these words to complete the sentences.

systemic circulation	pulmonary circulation	blood vessels	arteries	capillaries	veins	circulation
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- a. \_\_\_\_\_ is the movement of blood through the circulatory system.  
 b. \_\_\_\_\_ are tubes which transport blood.  
 c. \_\_\_\_\_ are the blood vessels which carry blood away from the heart.  
 d. \_\_\_\_\_ are the blood vessels which carry blood into the heart.  
 e. \_\_\_\_\_ are tiny blood vessels which connect arteries to veins.  
 f. \_\_\_\_\_ is the movement of blood between the heart and the lungs.  
 g. \_\_\_\_\_ is the movement of blood to the rest of the body.

### 10. Match the two columns.

- a. Circulation... makes blood enter the heart through the veins.  
 b. Every heartbeat... is the continual movement of blood through the body.  
 c. Systole... makes blood flow to the arteries.  
 d. Diastole... involves two stages.

### 11.- According to the information in the table

<p>a. - Which type of cell is the most abundant in blood?</p> <p>b. - How many blood cells do we have in one millilitre of blood?</p>		
	Type of cell	Number of cell in 1 millilitre of blood
	Red blood cells	5 000 000
	White blood cells	8 000
	Platelets	250 000

# 5. EXCRETORY SYSTEM

## 5.1 EXCRETION

Bodily functions produce waste substances that pass into the blood. If waste accumulates, it can harm the body. Excretion is the elimination of waste substances from the blood. This process is carried out by the excretory system.

Excretion is not the same as the elimination of faeces. Substances contained in faeces have not passed into the blood.

## 5.2 EXCRETORY SYSTEM

Look at the diagram. The excretory system is made up of:

- **The kidneys.** These are in the abdomen, at both sides of the spinal column. They filter the blood and retain waste substances which make up urine.
- **The ureters.** These two tubes carry urine from the kidneys to the bladder.
- **The bladder.** This stores the urine until it is expelled from the body.
- **The urethra.** Urine is expelled through this tube.

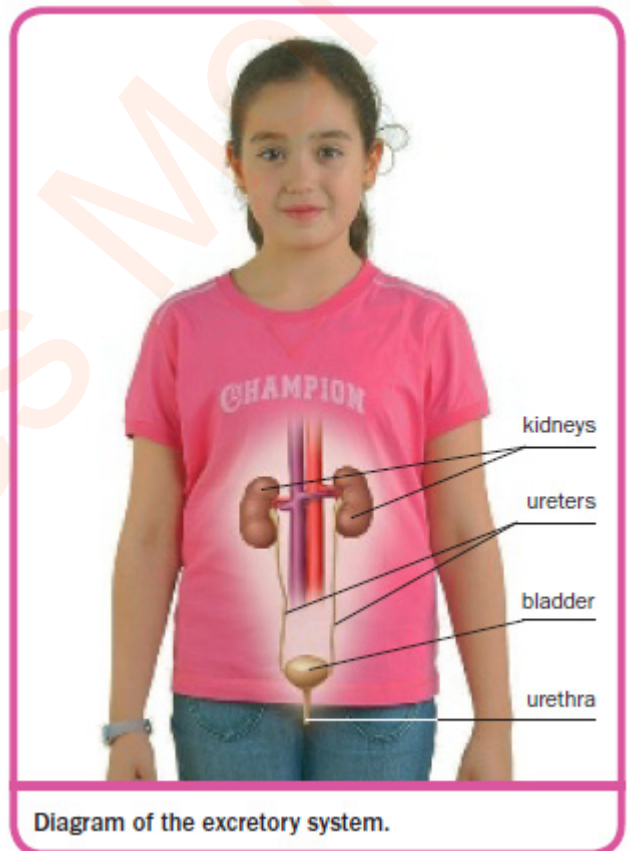
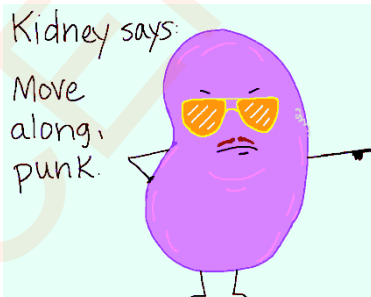
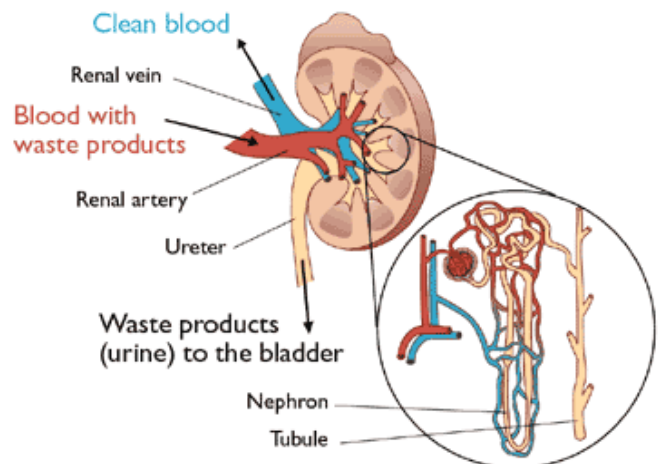


Diagram of the excretory system.

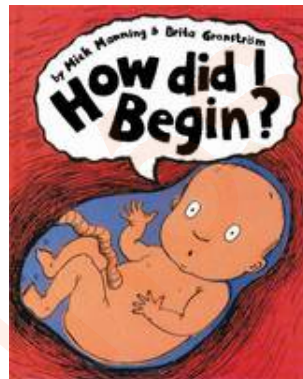


### How the kidney works



# UNIT 2

# HUMAN REPRODUCTION





# 1 Human sexual characteristics

## 1.1. HUMAN SEXUAL CHARACTERISTICS

There are two types of human sexual characteristics:

**Primary** sexual characteristics enable human beings to reproduce. We have these when we are born.

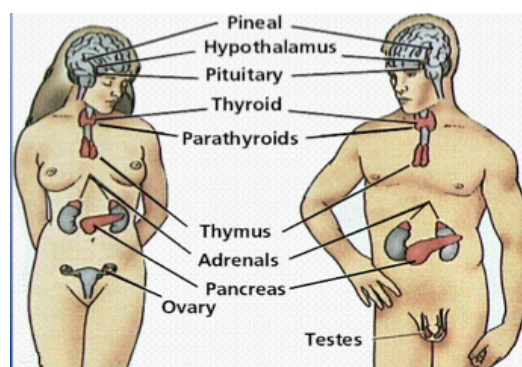
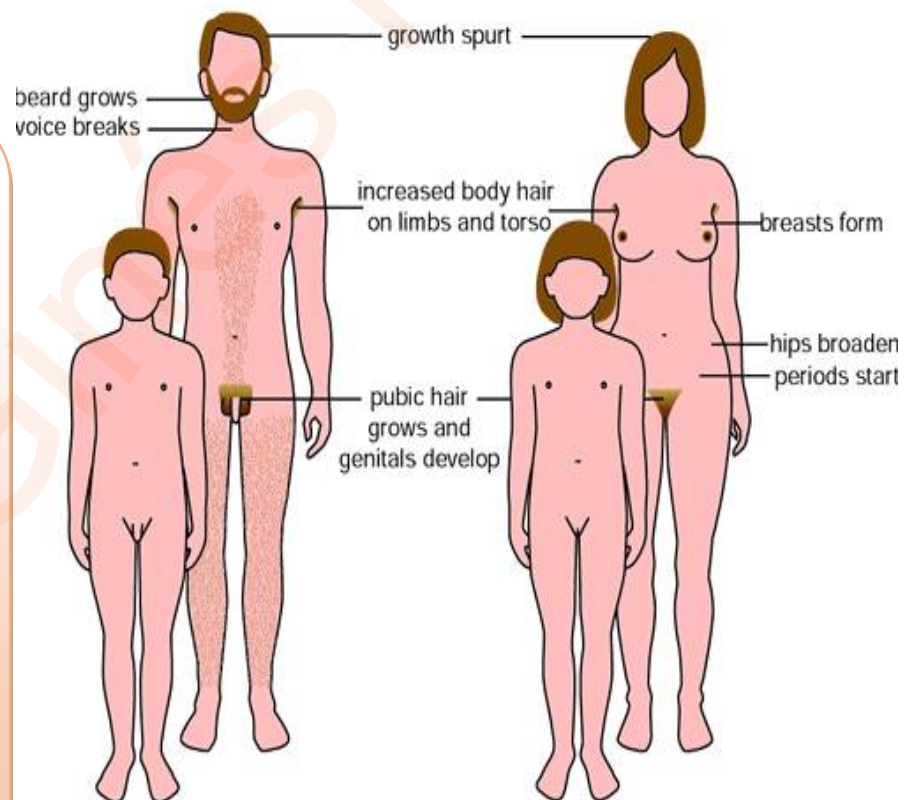
**Secondary** sexual characteristics differentiate men and women. They develop at puberty.

- Men have lower voices, more developed muscles and a lot of facial and body hair.
- Women have higher voices, breasts, wider hips and little body hair.

## 1.2. PUBERTY

Puberty occurs when the reproductive system matures, and secondary sexual characteristics appear. Puberty starts when the pituitary gland sends hormones to the genital organs. As a result of this, changes occur in boys and girls and their secondary sexual characteristics develop.

- Girls reach puberty between the ages of 11 and 14.
- Boys reach puberty between the ages of 13 and 15.



## 2. The reproductive system

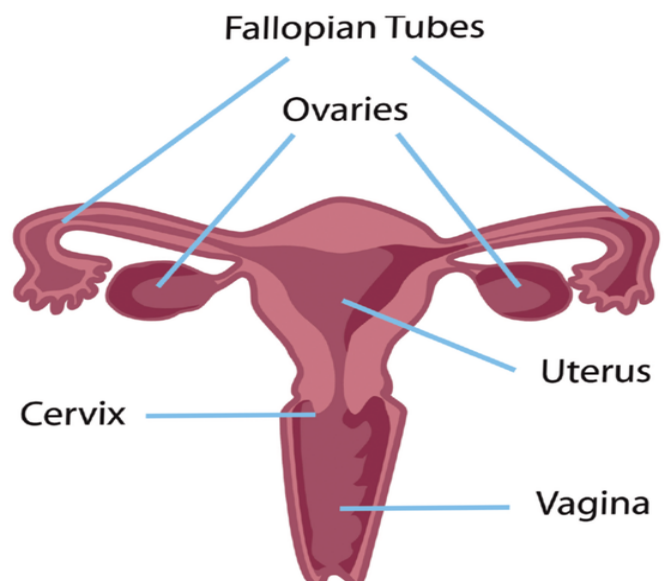
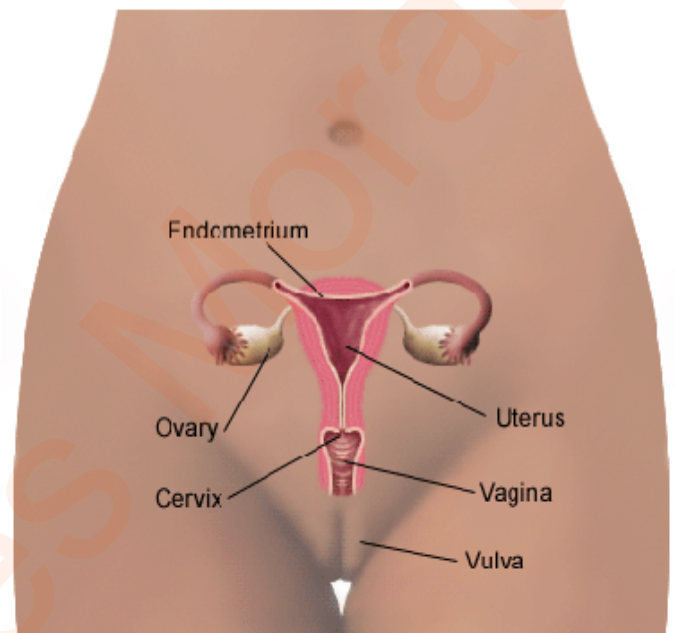
Both the male and female reproductive systems consist of **internal** and **external genital organs**.

### 2.1 The female reproductive system.

The **female internal genital organs** are:

- The **ovaries**: they produce the eggs necessary for reproduction.
- The **Fallopian tubes**: they connect the ovaries to the uterus.
- The **uterus**: it is the organ where the baby develops during pregnancy.
- The **vagina**: it is a channel which goes from the uterus to the outside of the body.

The **female external genital organs** have a collective name - the **vulva**. The vulva includes creases of skin called **labia**, and the openings to the vagina and the urethra.

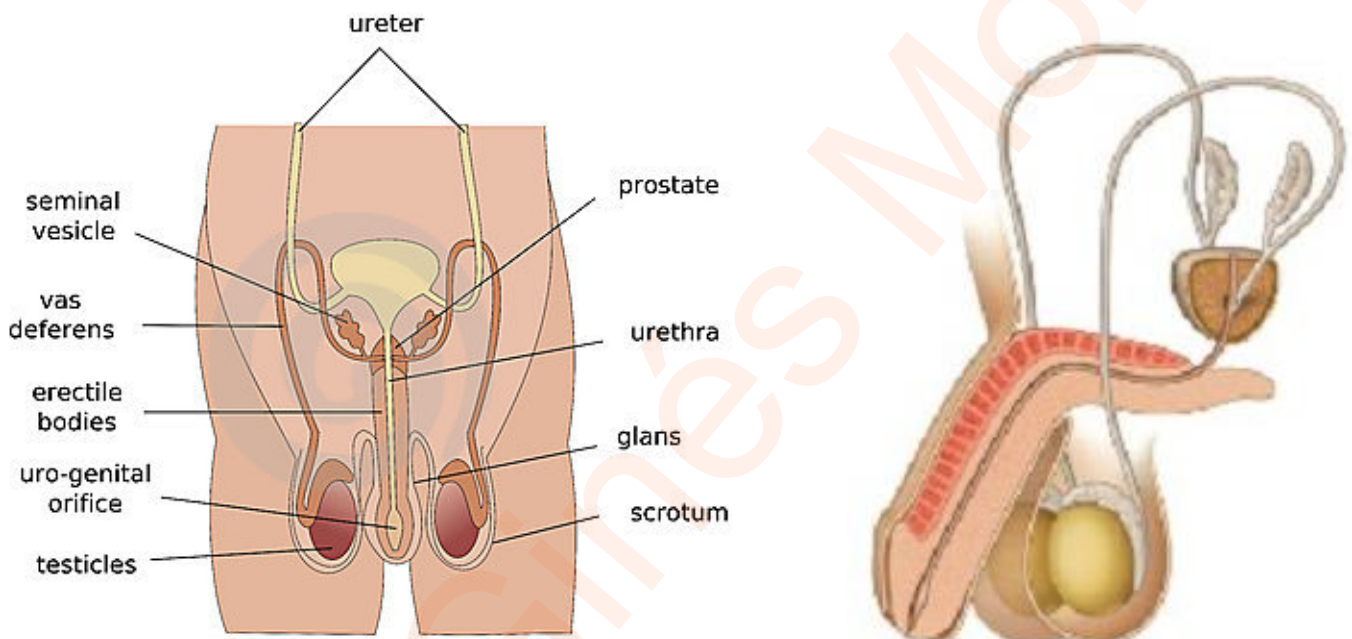


## 2.2 The male reproductive system.

The male internal genital organs are:

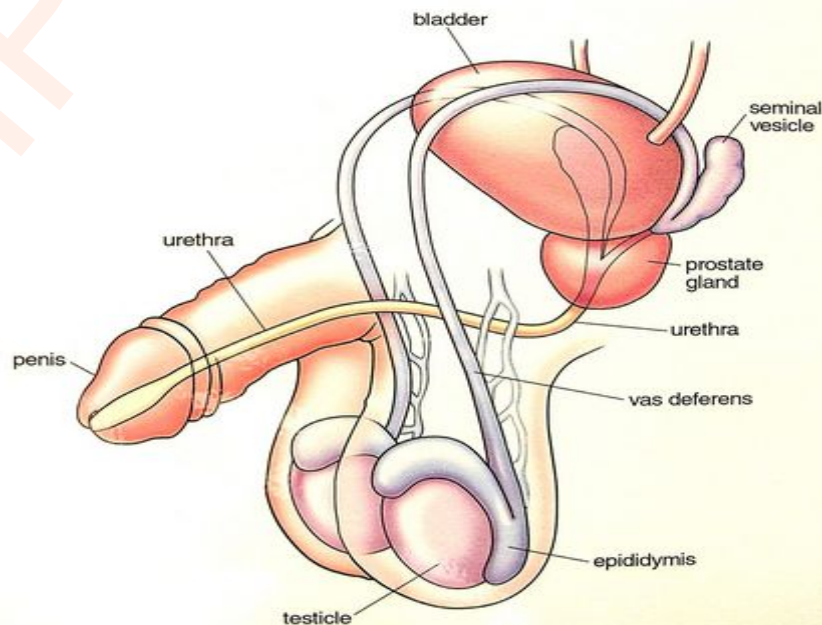
Two **testicles** or **testes**: they produce the sperm cells necessary for reproduction.

- The **vas deferens**: sperm travels through this tube to the urethra.
- The **urethra**: sperm travels through this passage to the outside of the body.
- The **seminal vesicles** and the **prostate gland**: they produce a liquid to feed and transport sperm.



dreamstime.com

### Male Reproductive System





# ACTIVITIES



1. Look at the photos. Describe each gender's secondary sexual characteristics.



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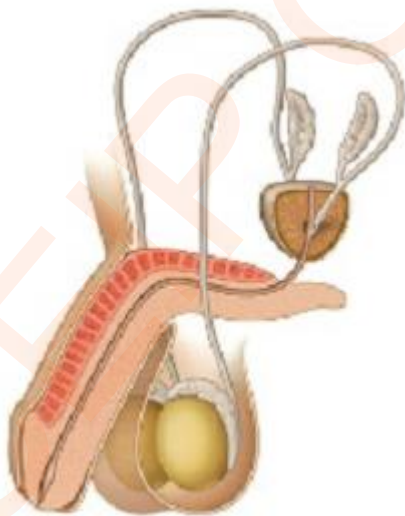
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2. Label the illustrations



### 3. Match the two columns

- |  |  |
|--|--|
| <input type="radio"/> a. Ovaries         | <input type="radio"/> 1. They connect the ovaries to the uterus.           |
| <input type="radio"/> b. Testicles       | <input type="radio"/> 2. It is a passage through which sperm travels.      |
| <input type="radio"/> c. Urethra         | <input type="radio"/> 3. Sperm travels through this tube to the urethra.   |
| <input type="radio"/> d. Fallopian tubes | <input type="radio"/> 4. It is the organ where the baby develops.          |
| <input type="radio"/> e. Penis           | <input type="radio"/> 5. They produce the eggs necessary for reproduction. |
| <input type="radio"/> f. Vas deferens    | <input type="radio"/> 6. The urethra passes through this organ.            |
| <input type="radio"/> g. Uterus          | <input type="radio"/> 7. They produce sperm cells.                         |

### 4. Answer the questions.

- a. When does puberty start? \_\_\_\_\_  
\_\_\_\_\_
- b. When do girls reach puberty? \_\_\_\_\_
- c. When do boys reach puberty? \_\_\_\_\_

### 5. Circle the correct alternative.

- a. One egg cell passes through a Fallopian tube every 20 days / 28 days.
- b. If the cell is not fertilised, the woman has a period / becomes pregnant.
- c. An adult male produces about 2 million / 200 million sperm every day.
- d. The first cell of a new human being is called an embryo / a zygote.
- e. After about eight weeks, the embryo is called a zygote / a foetus.

# UNIT 3

# LIVING THINGS



## 0. Living things

In nature there are non-living things, such as rocks and minerals, and living things, such as animals and plants.

All living things depend on life processes to stay alive: nutrition, sensitivity and reproduction.

**Nutrition** provides two things: substances that living things need to grow and energy to carry out life processes.

**Sensitivity** enables living things to react to what they perceive around them.

**Reproduction** enables living things to create offspring similar to themselves

### ACTIVITIES



1. - Name three living and three non-living things.

a. Three living things: \_\_\_\_\_

b. Three non-living things: \_\_\_\_\_

2. - Match the two columns.

a. Nutrition

1. Living things react to their environments.

b. Sensitivity

2. Living things have offspring.

c. Reproduction

3. Living things eat food, which contains nutrients.

## 1 Cells

### 1.1. Discovering a cell

Living things are made up of tiny units called cells. Cells are the smallest living units in a living thing.

Some living things are made up of a single cell. They are **unicellular**.

Other living things are made up of many cells. They are **multicellular**..

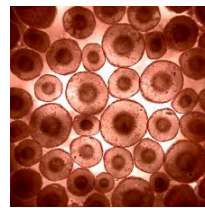
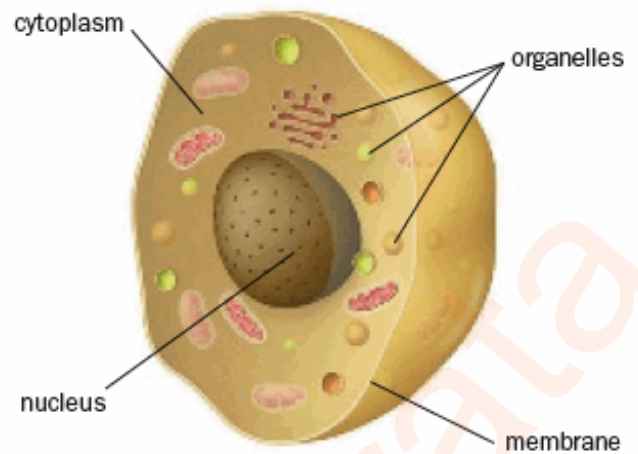
## 1.2. What are cells like?

Cells differ in shape and size. They carry out different tasks.

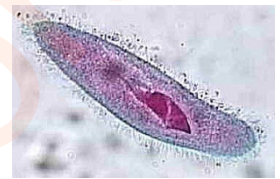
Cells have three parts:

- The **membrane** is the covering around the cell.
- The **nucleus** is the part which controls the cell.
- The **cytoplasm** is between the nucleus and the membrane.

Plants cells also have a hard cell wall around the membrane



Multicellular



unicellular

## 1.3. Organisms

Multicellular living things have the following structure:

- **Cells form tissues:**

**Tissues**, such as muscle tissue, are made up of cells which work together.

- **Tissues form organs:**

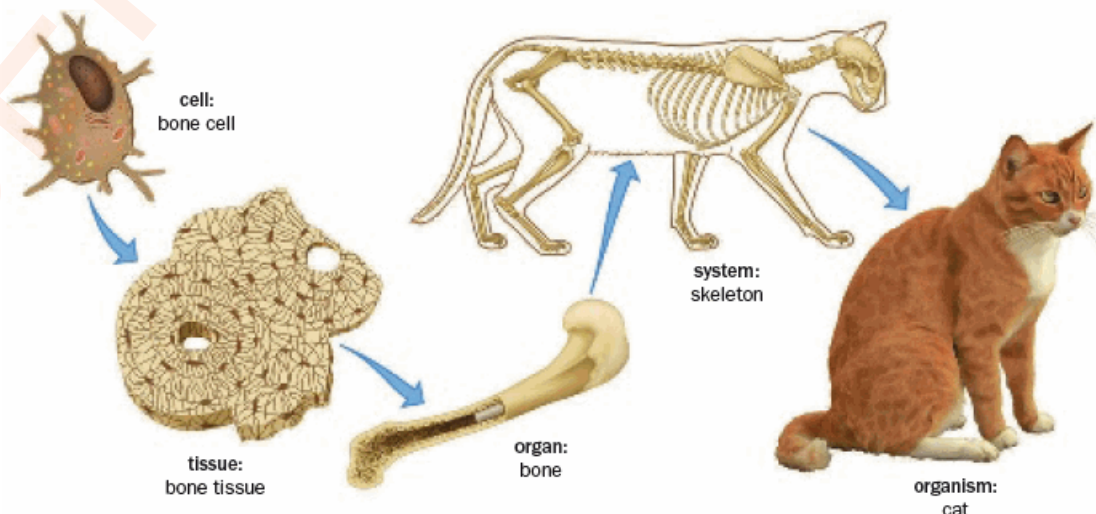
**Organs**, such as the heart, are made up of tissues which work together.

- **Organs form systems:**

**Systems**, such as the digestive system, are made up of organs which work together.

- **An organism is a complete living thing:**

Many systems work together in an organism. All living things are organisms





# ACTIVITIES



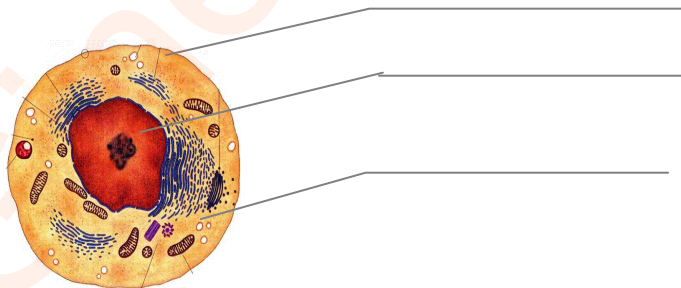
3.- Use these words to complete the sentences.

Unicellular - wall - multicellular - membrane - cytoplasm - nucleus - cells

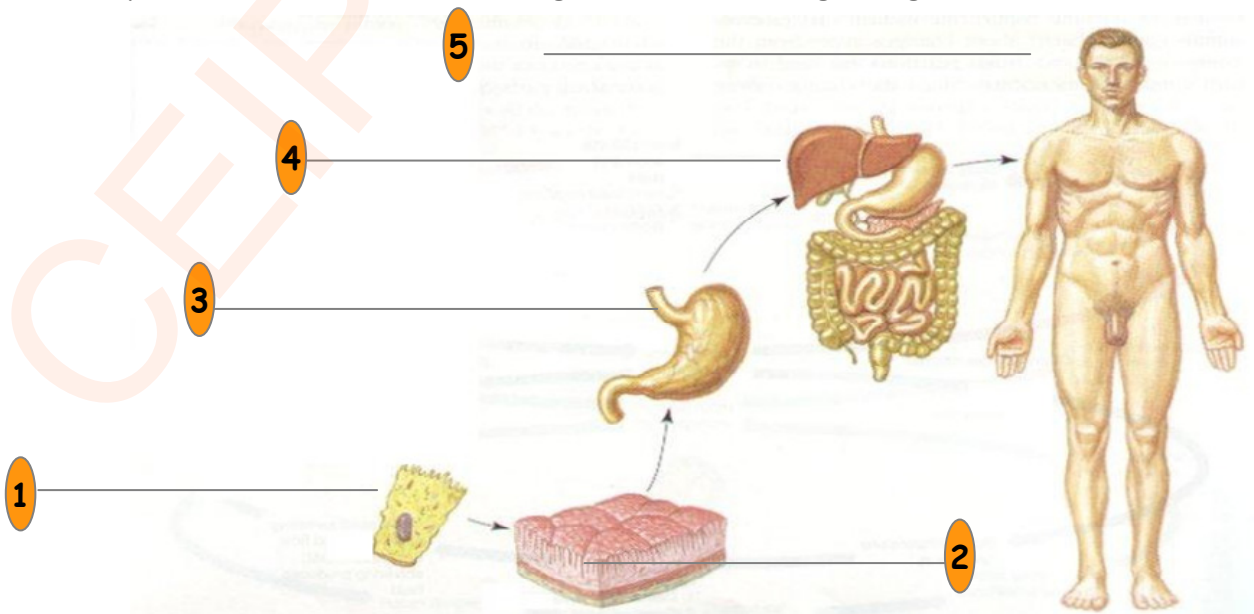
- a.- \_\_\_\_\_ are the smallest living units in a living thing.
- b.- Living things which are made up of a single cell are \_\_\_\_\_
- c. Living things which are made up of many cells are \_\_\_\_\_
- d.- The \_\_\_\_\_ is the covering around the cell.
- e. The \_\_\_\_\_ is the part which controls the cell.
- f. \_\_\_\_\_ is between the nucleus and the membrane.
- g. Plant cells also have a hard cell \_\_\_\_\_ around the membrane.

4.- Label this cell.

Cytoplasm  
Nucleus  
Membrane



5. Identify and label the levels of organisation in living things.



## 2. Kingdoms

Living things are classified into groups called kingdoms. The principal kingdoms are the animal kingdom, the plant Kingdom and the other kingdoms such as the fungi Kingdom. Others are bacteria, virus and protist

### 2.1. Animal Kingdom

Animals are multicellular living things that eat other living things. They can move from one place to another, and they can react quickly to stimuli. To do this, they have a nervous system and sense organs.



### 2.2. Plants Kingdom

Plants are multicellular living things that use sunlight and substances from the soil and air to make their own food. Plants cannot move around because they are fixed to the ground.





## 2.3 The Fungi Kingdom

Fungi can be unicellular, but most are multicellular.. Like animals, fungi do not make their own food. They depend on other organisms for food



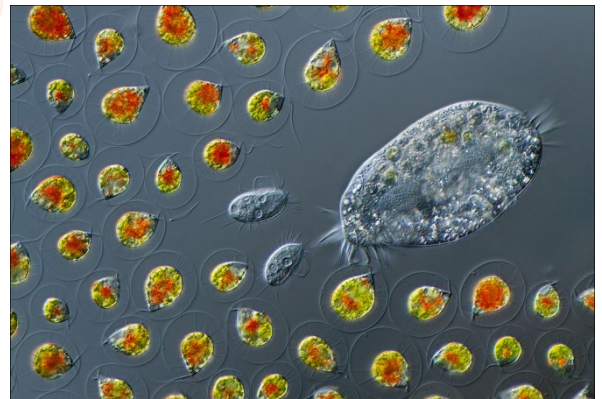
## 2.4 The Bacteria kingdom

Bacteria are the most abundant of all living things. Bacteria are the smallest living things. Bacteria are unicellular and can live in different environments: in water, soil, air or inside other living things



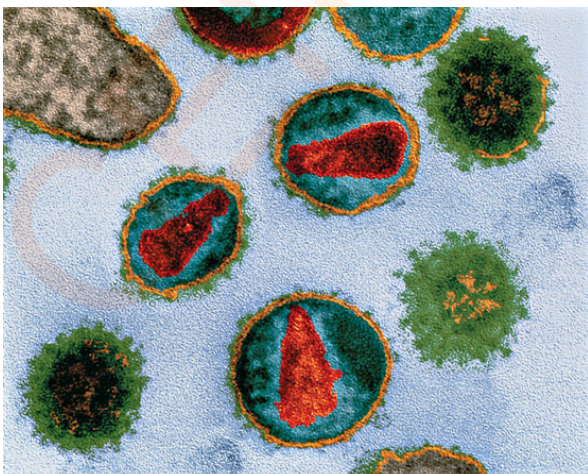
## 2.5 The Fifth Kingdom

Bacteria are the most abundant of all living things. Bacteria are the smallest living things. Bacteria are unicellular and can live in different environments: in water, soil, air or inside other living things



## 2.6 Viruses

Viruses are so small and simple that scientists cannot agree if they are living things or not. For this reason, they are not included in any of the five kingdoms. Viruses can only reproduce inside other living things. They cause illnesses like influenza, measles, chicken pox and AIDS.



# ACTIVITIES



## 6.- Match the characteristics to the kingdom.

1. They make their own food.

2. They have roots in the ground.

3. They have a nervous system and sense organs.

4. They depend on other organisms for food.

5. They can move from one place to another.

6. They eat other living things.



## 7.-Classify the organisms

algae

lactobacillus

poppy

cholera

protozoa

giraffe

sunflower

human

mushroom

Animal	Plant	Fungi	Bacteria	Fifth

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# UNIT 4

# PLANTS

# KINGDOM





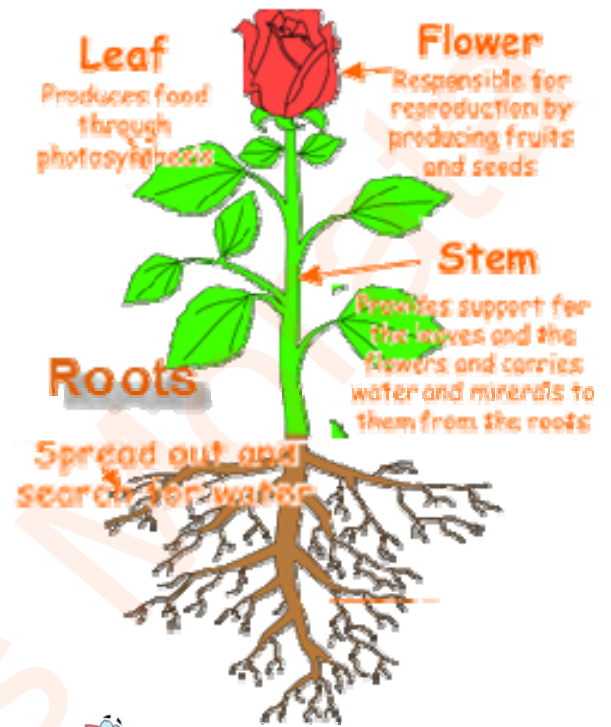
# 1. Plant parts. Nutrition

Plants have roots, a stem and leaves.

The **roots** are in the soil. Water and other substances are absorbed from the soil through the roots.

The **stem** supports the leaves. Water and nutrients are transported from the roots to the leaves inside the stem.

The **leaves** breathe and make the plant's food.



## ACTIVITIES



1. Order the stages of plant nutrition. Write 1, 2, 3 or 4.

Elaborated sap travels to all parts of the plant.

Raw sap travels up the stem to the leaves.

The roots absorb water and minerals.

With sunlight, raw sap mixes with carbon dioxide and becomes elaborated sap.

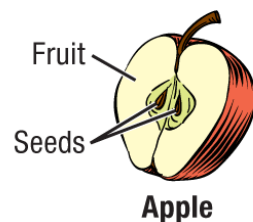
## 2. Plant groups

### 2.1. Flowering plants

Flowering plants are the biggest group of plants.

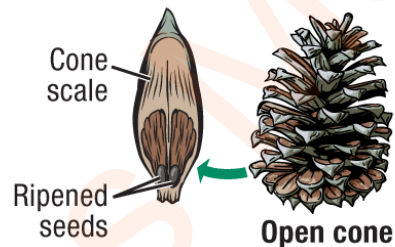
- **Gymnosperms** have small flowers, but no fruit. Their seeds are all together in cones. Almost all gymnosperms are trees, such as pine trees.
- **Angiosperms** have flowers and fruit. Lemon trees and some grasses are angiosperms.

#### ANGIOSPERM SEEDS AND FRUIT



vs.

#### GYMNOSPERM SEEDS



### 2.2. Non-Flowering plants

**Non-flowering plants** are the smallest group of plants.

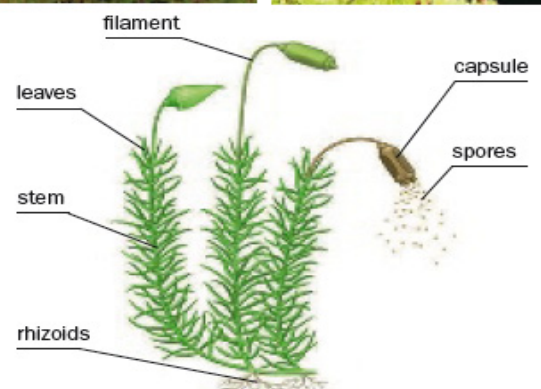
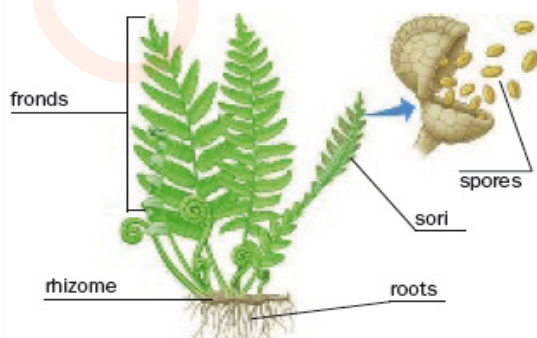
They need shade and moisture.

- **Mosses** are small plants which live on rocks, trees and the ground.
- **Ferns** are larger than mosses. They have thick, underground stems and big leaves

Ferns



Mosses

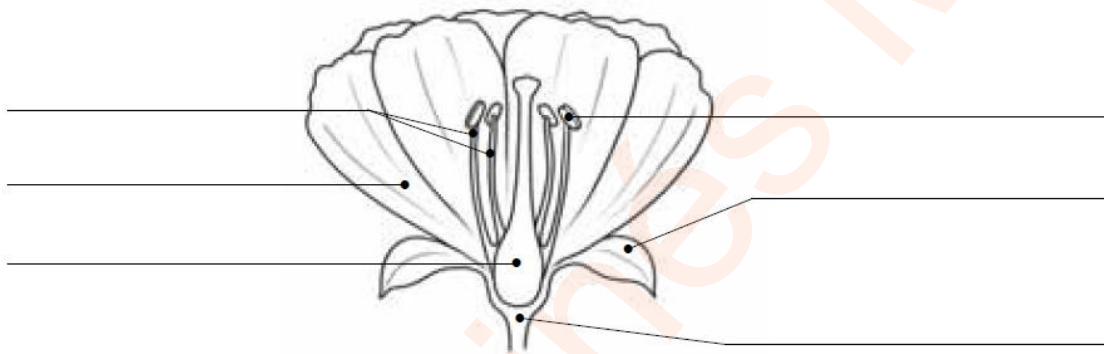




2. Match the two columns.

	Angiosperms
Flowering plants	Ferns
Non-flowering plants	Gymnosperms
	Mosses

3. Label the parts of the flower.



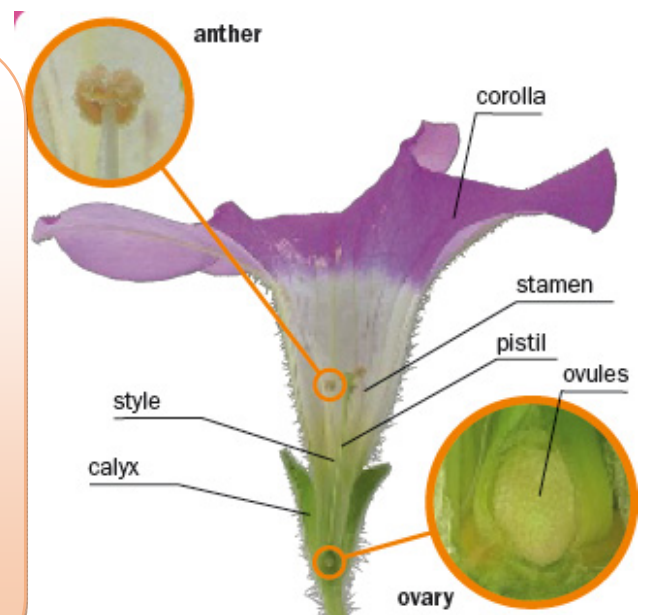
## 3. Reproduction

### 3.1. Sexual Reproduction

Flowers are the reproductive organs of plants. They have male parts and female parts.

**Stamens** are the **male** parts of the flower. The anther is located at the top of the stamen. Pollen is produced in the anther. Pollen is a microscopic powder made up of small grains.

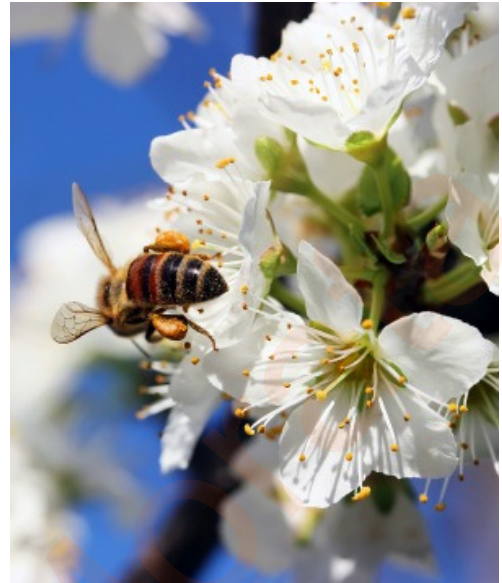
The **pistil** is the **female** part. It consists of the stigma, which receives the pollen, the style and the ovary. The ovary contains ovules. Ovules become seeds. The stamen and pistil are protected by the corolla and the calyx.





### 3.1.1. Pollination

Pollination is the transfer of pollen from the stamen to the ovary within the same plant or between plants of the same type. **Insect pollination.** Insects are attracted by aromatic flowers with nectar. The pollen grains stick to the insect and are carried to the stigma of other flowers. **Wind pollination.** Some plants have small, unattractive flowers. They produce large quantities of pollen. The wind blows this pollen to the stigmas of other flowers



### 3.1.2. Seeds and fruits

After pollination, seeds and fruit begin to grow. Seeds form from the ovule and contain an embryo and a food store. The embryo is a miniature plant. The food store supplies the embryo with nutritive substances. Fruit is formed from the ovary. Seeds are inside the fruit. The fruit has two functions: to protect the seeds and to spread the seeds far from the mother plant.

### 3.1.3. Seeds germination

Germination is the final stage in plant reproduction. This is when the ripe fruit falls to the ground, the fruit opens and the seeds fall out and start to grow.



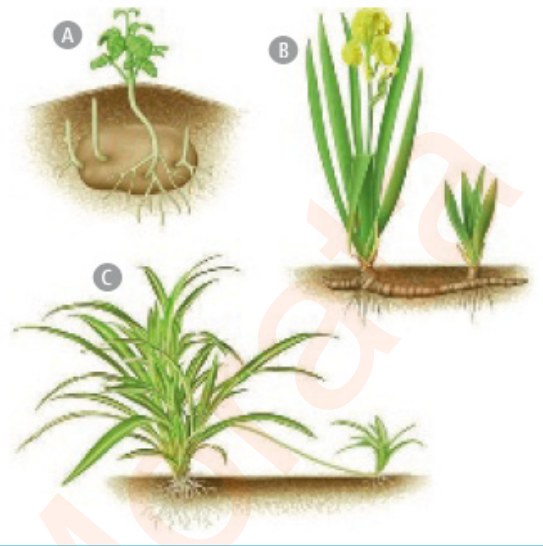
### 3.2. Asexual reproduction

Many plants can reproduce without flowers or seeds. This is called asexual reproduction. These plants use parts of themselves to reproduce.

**Tubers** are subterranean stems. When we plant a tuber, part of the stem grows above ground and develops leaves. Part grows underground and develops roots. Potatoes are tubers.

**Rhizomes** are specialised stems. They extend horizontally below ground. Irises produce rhizomes.

**Stolons** are specialised stems. They extend horizontally above ground from the mother plant. Strawberry plants produce stolons



A. Tuber. B. Rhizome. C. Stolon.

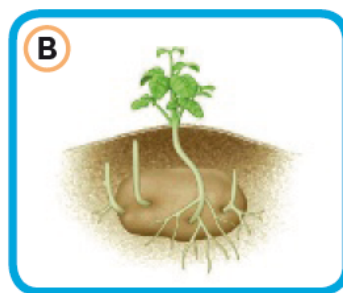
### ACTIVITIES



#### 4. Circle the correct option.

- Flowers are the *nutritional* / *reproductive* organs of plants.
- The stamens are the *male* / *female* parts which produce pollen.
- Tiny pollen grains form on the *stamens* / *petals*.
- Respiration* / *Pollination* is the movement of pollen from the stamens to the ovary.
- The *ovary* / *corolla* is the female part which contains ovules.
- Sunlight* / *Wind* can carry pollen to other plants.
- After pollination, the *ovary* / *calyx* grows and becomes a fruit with seeds.
- When seeds germinate, *they open* / *close* and small roots grow.

#### 5. Label these stems: tubers, bulbs or stolons.



# UNIT 5

## ANIMAL KINGDOM





# 0. Animal Kingdom

Animals are multicellular living things that eat other living things. They can move from one place to another, and they can react quickly to stimuli. To do this, they have a nervous system and sense organs.



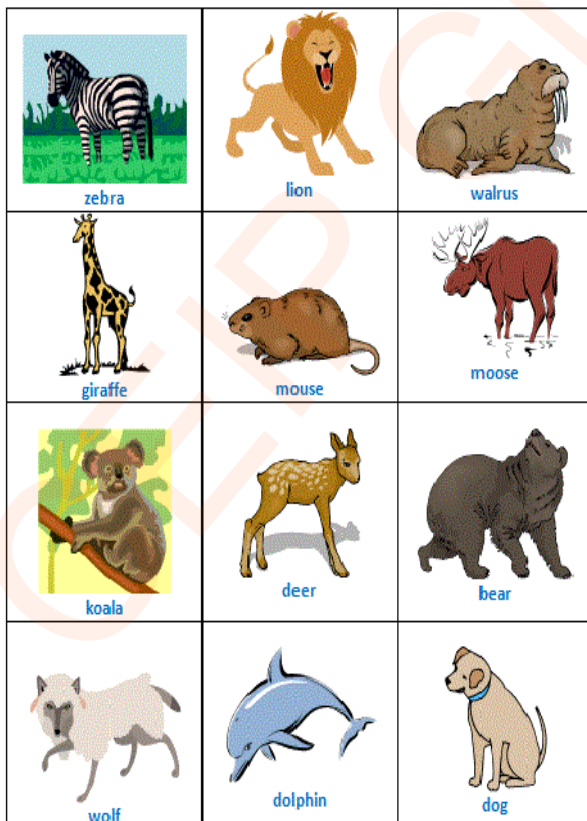
## 1. VERTEBRATES

### 1.1. Vertebrates

Vertebrates are animals which have a **backbone** and an internal **skeleton**.

The skeleton protects vital organs and supports the weight of the animal's body. Large animals have big skeletons and small animals have small skeletons. All vertebrates can be classified into five groups: **mammals**, **birds**, **fish**, **reptiles** and **amphibians**.

#### 1.1.1. MAMMALS



Characteristics of mammals

- Mammals are viviparous. Young mammals drink their mother's milk.
- All mammals breathe air with their lungs.
- Most mammals live on land. They are terrestrial mammals. However, some mammals live in water. They are aquatic mammals.
- Most mammals have hair or fur on their bodies to keep them warm. Aquatic mammals have bare skin.
- Mammals can be carnivores, herbivores or omnivores.
- Almost all mammals walk or swim. Bats can fly.



### 1.1.2. BIRDS

Birds have feathers, two wings to fly, two legs covered with scales, and a tail. Many birds live on land. They can walk, and most birds can fly. Other birds, such as ducks, live on land and in water. They have webbed feet to help them swim. Birds don't have teeth, they have beaks. Birds breathe air with their lungs. They are oviparous. They hatch from eggs laid on land. Birds incubate their eggs, feed and take care of their babies.



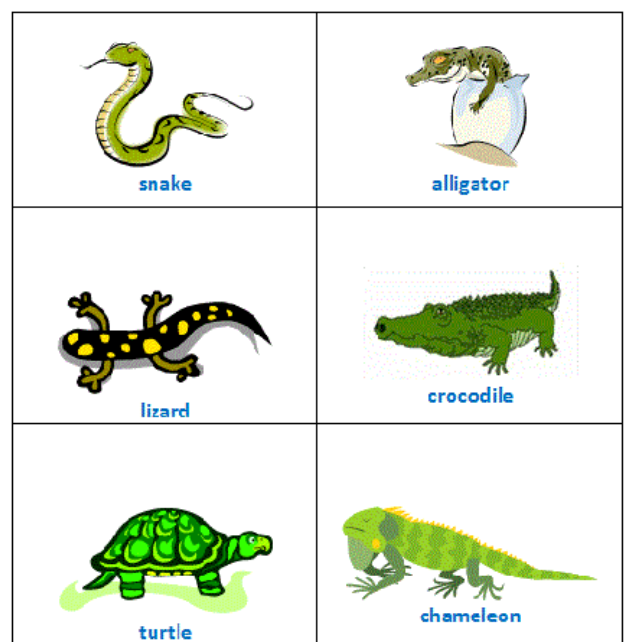
### 1.1.3. FISHES



Fish live in water. Some fish live in rivers. Other fish live in the sea. They breathe in oxygen from water using their gills. Their bodies are covered with scales. They have fins and a tail to help them swim. Fish are oviparous animals. They lay many small eggs in water. These eggs have no protective covering, and the fish don't incubate them. Fish don't take care of the baby fish.

### 1.1.4. REPTILES

Tortoises, snakes and crocodiles are all reptiles. All reptiles breathe through lungs and their skin is thick and covered with scales. Most of them live on land and walk using their legs, but snakes do not have legs. Reptiles are oviparous. Reptiles lay their eggs on land to reproduce. Most reptiles don't incubate their eggs or feed or take care of their babies.



### 1.1.5. AMPHIBIANS

Frogs, toads, newts and salamanders are all amphibians. Amphibians can live on land and in water. They breathe through gills when they are young and with lungs when they are adults. Their body is covered with bare skin. Adult amphibians have four legs. Amphibians are oviparous and don't take care of their babies. Tadpoles hatch from eggs laid in water



### ACTIVITIES



1. Classify these vertebrates. Look and write mammal, bird, fish, reptile or amphibian



2.-Read the description of mammals and circle the mistakes.

Mammals are oviparous. Most have scales on their bodies to keep them warm. They breathe with gills. Baby mammals drink their mother's water.

Now write the correct words.

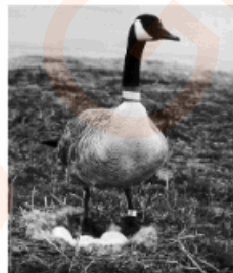
Mammals are ..... Most have ..... or ..... on their bodies to keep them warm. They breathe with their ..... Baby mammals drink their mother's .....

3. Read these sentences. Are they true (T) or false (F) sentences ?

- a) Fish and amphibians are oviparous animals.
- b) Adult fish have got lungs to breathe air.
- c) Amphibian young are called larvae or tadpoles.
- d) All types of fish have got a bony skeleton.
- e) Adult amphibians have never got tails.

4. Find the names of eight reptiles and birds. Then label the pictures.

bgoosepacrocodiletieagleokturtlezuostrichaglizardetswallowq



a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

d) \_\_\_\_\_



e) \_\_\_\_\_

f) \_\_\_\_\_

g) \_\_\_\_\_

h) \_\_\_\_\_



## 2 INVERTEBRATES

### 2.1. Invertebrates

**Invertebrates** do not have a backbone. There are many different types of invertebrate animals. Some live on land and some live in water.

Some invertebrates have a protective covering, for example, a **shell** or an **exoskeleton**.

3. Shells are hard and strong.
4. Exoskeletons can be thick or thin.
5. Some invertebrates don't have a **protective covering**.

#### 2.1.1. JELLYFISH



**Jellyfish** are invertebrates that live in the sea. They look like bags of jelly. They have **tentacles** that **sting**. Jellyfish don't swim using fins like fish. They **float** with the sea currents and use propulsion.

#### 2.1.2. WORMS

Worms are **long and thin**. Their bodies are soft and they don't have legs. Many worms live **underground**, while others live in the sea.

Some worms, such as the tapeworm, live inside the human body. They can make people very ill.

Adult worms have a bump on the body called a **clitellum**. It is part of their reproductive system.





### 2.1.3. MOLLUSCS

There are many types of molluscs. All molluscs have soft bodies. They usually have hard shells for protection. Snails, scallops and mussels are molluscs.

Snails have a hard, spiral shell. They have one flat foot for moving. They eat plants. Some molluscs don't have shells. For example, the slug and the octopus.



### 2.1.4. ARACNIDS-SPIDERS

Spiders belong to a group of animals called **arthropods**. Centipedes, crabs and insects are also **arthropods**.

Spiders **have eight legs**. Most spiders spin webs to trap insects. They eat the insects that they catch on their webs.



### 2.1.5. INSECTS

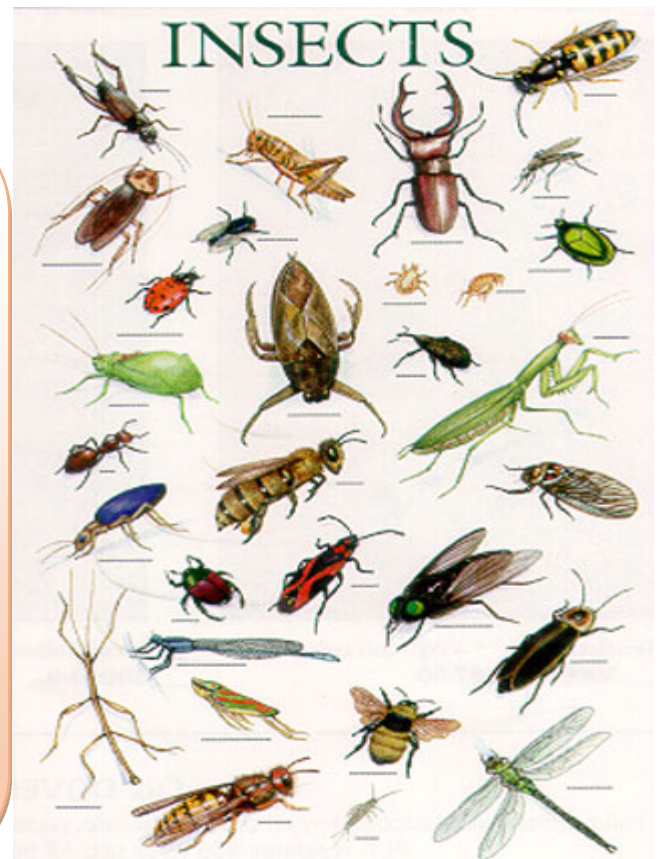
Insects are the largest group of animals. Ants, beetles, butterflies, flies and mosquitoes are all insects. Every insect's body has three parts:

The **head** contains a **mouth**, two **eyes** and two **antennae**. Antennae help insects feel and smell.

The **thorax** contains **wings** and **legs**. Insects have six legs.

The **abdomen** is joined to the thorax. It contains the insect's **organs**.

Insects are **oviparous**.



# ACTIVITIES



1.- Read and circle the correct word.



Mussels have a shell/ an exoskeleton  
Jellyfish have a shell/ no protective covering  
Crabs have a shell/. an exoskeleton

2.- Read and complete the sentences.

3. Invertebrates do not have \_\_\_\_\_.
4. Shells and \_\_\_\_\_ are examples of protective coverings.
5. Beetles have \_\_\_\_\_ exoskeletons.
6. \_\_\_\_\_ .. have thick exoskeletons.
7. \_\_\_\_\_ Do not have a protective covering.

3.- Unscramble the words and complete the text.

t e r s v t b n a

e a s

l f a o

a e s t t e

Jellyfish are ..... They live in the ..... but they are not fish. They do not have fins. They ..... with the sea currents and use propulsion to move. They have long ..... that can sting you!

# UNIT 6

# ENERGY & CHANGES IN MATTER





# 1 ENERGY

Energy is everything that produces changes in things

## 1.1. TYPES OF ENERGY

There are many types of energy. The main types are:

**Mechanical energy.** Due to their movement, objects have mechanical energy. For example, a moving hammer has enough energy to force a nail into wood. Things that are elevated also have mechanical energy; they can fall and this gives them movement.

**Sound energy.** This is energy transported by sound. For example, a strong sound can vibrate glass in a window or can even break it.

**Light energy.** This is light. You can use it, as in the photo, to make a solar-powered calculator work. Plants use light energy to make their food.

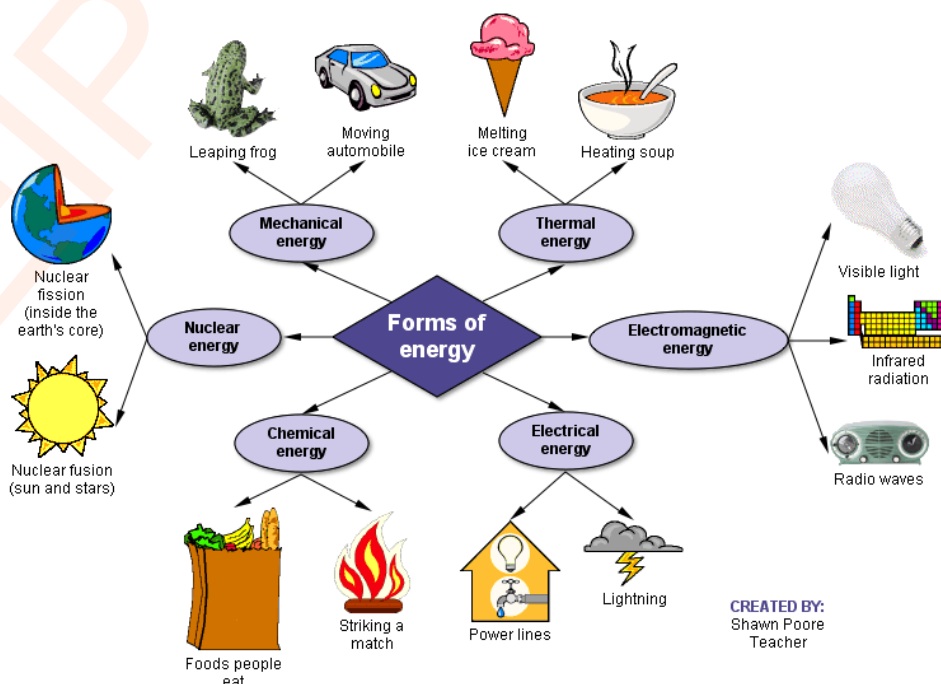
**Heat or thermal energy.** This energy is transmitted in the form of heat. For example, a toaster transmits thermal energy to bread to make toast.

**Electrical energy.** This is transported through the electrical current of a circuit, and makes electrical appliances work.

**Chemical energy.** This energy is stored in substances such as combustibles or food. The substances inside a battery also have chemical energy.

**Nuclear energy.** This is found in substances such as uranium and plutonium. These substances are called radioactive. A small quantity of these substances produces a lot of energy.

A transformation of energy is when one form of energy changes into another.





## 2. MATTER AND IT CHANGES

### 2.1. PROPERTIES OF MATTER

**Matter** is everything that forms the universe and that occupies space. It has both **general and specific properties**.

\* **General properties** are common to all types of matter. They are **mass and volume**. **Mass** is the amount of matter in an object. Mass is measured in grams or kilograms. **Volume** is the amount of space an object occupies. It is usually measured in millilitres or litres.

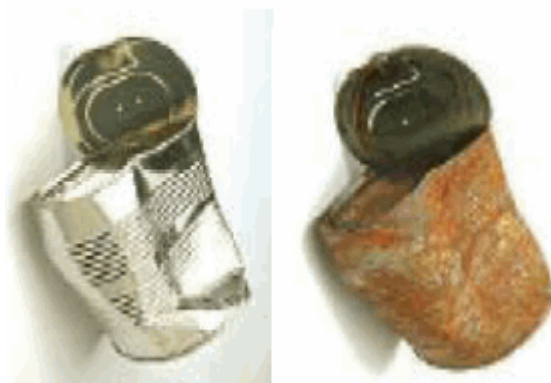
\* **Specific properties** permit us to differentiate between different types of matter. Two examples are **colour and density**. Density is the relationship between the mass and the volume of an object

### 2.2. CHEMICAL CHANGES IN MATTER

**Chemical changes or chemical reactions** happen when two or more substances are combined. **They react** to each other and they produce new substances, called **products**. Two types of chemical reactions are:

\* **Oxidation:** One substance changes into another when it reacts with oxygen. For example, iron changes into rust.

\* **Combustion:** when an object or substance is burned, it changes into another substance. For example, when wood burns, it changes into ashes and gases.



## 2.3 . PHYSICAL CHANGES IN MATTER

- \* **Movement:** The object changes position, but the matter remains the same.
- \* **Expansion:** when the temperature of an object increases, it gets bigger. If the temperature rises, mercury expands in a thermometer.
- \* **Contraction:** When the temperature of an object decreases, it gets smaller. If a balloon filled with air is put in a refrigerator, the air contracts: the balloon gets smaller.

## 3. PURE SUBSTANCES AND MIXTURES

### 3.1 Pure substances

**Pure substances** are formed of only one type of matter. Elements are a pure substance. Gold is a pure substance.



### 3.2 mixtures

**Mixtures** are formed of **different types of matter**. There are two types of mixtures:

**Heterogeneous mixtures.** In these mixtures, you can see the different components. Examples of these are rocks and fish soup.



**Homogeneous** mixtures, or solutions. In these mixtures, you cannot see the different components. Examples of these are seawater, which consists of salt and water, and air, which consists of a mixture of several gases.

**Solutions** are mixtures in which we cannot distinguish the different components.

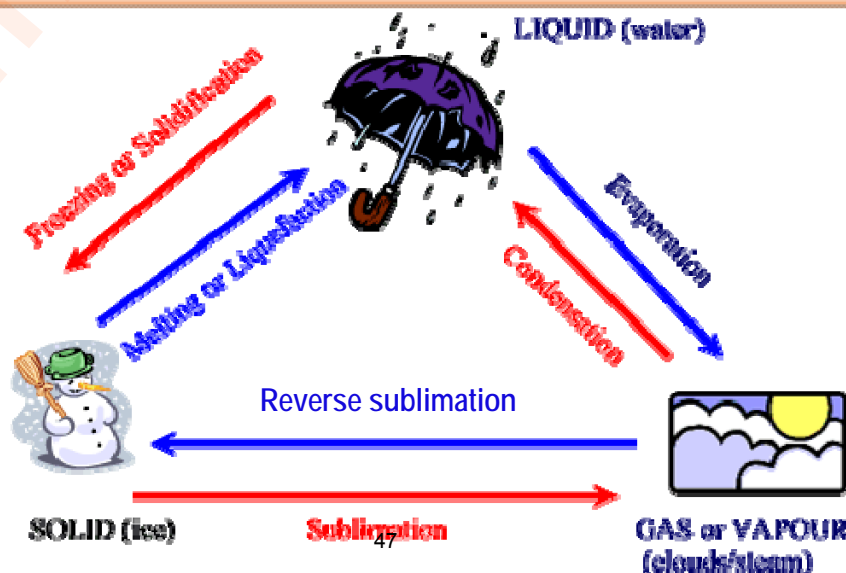


## 4. TYPES OF CHANGES IN STATE

A change in temperature can cause a change of state in matter. These are changes of State:

- **Melting:** A solid changes into a liquid. For example, snow melts when it is warm.
- **Solidification:** A liquid changes into a solid. For example, water changes into ice when it is very cold.
- **Evaporation - Boiling:** A liquid changes into a gas. For example, water boils when it is very hot: one hundred degrees centigrade (100°C). Or water in a pond evaporates.
- **Condensation:** A gas changes into a liquid. For example, water vapour in the air forms condensation on car windows when it is very cold.
- **Sublimation:** A solid changes into a gas. For example, solid air fresheners change into a gas when they mix with air

**Reverse sublimation.** This is when a gas becomes a solid, without first becoming a liquid. For example, when air saturated with water vapour is cooled, it forms frost.



# ACTIVITIES



1. Look at the objects. Circle the type of energy that each one uses.



A

Light  
Wind



B

Thermal  
Nuclear



C

Light  
Nuclear



D

Sound  
Mechanical



E

Electrical  
Chemical



F

Thermal  
Chemical

Which type is missing? \_\_\_\_\_

2.- Think and name...

a. Four things which we use every day.

\_\_\_\_\_

b. Two types of energy we use every day. Give examples.

\_\_\_\_\_

c. Three things that thermal power plants burn.

\_\_\_\_\_

d. Two problems caused by using energy.

\_\_\_\_\_



3.- Match the photographs to the words and then to the definitions.



Evaporation

It happens quickly when the substance reaches a certain temperature.



Boiling

It happens slowly and at a lower temperature.

4.- What type of mixtures are they? Write heterogeneous or homogeneous.



5.- Tick the pure substances.

iron

gold

bronze

vegetable soup

sugar

steel

minerals

perfume

salt

seawater

air

rocks

6.- Read the sentences and circle the correct words.

- Density / Hardness* is the relationship between the mass and the volume of an object.
- Density tells us how concentrated the *mass / volume* is in a specific volume.
- We measure density in grams per cubic *centimetre / litres*.
- Liquids generally have a higher density than *solids / gases*.
- Solids generally have a *higher / lower* density than liquids and gases.
- When the density of an object is lower than the density of a liquid it *floats / sinks*.

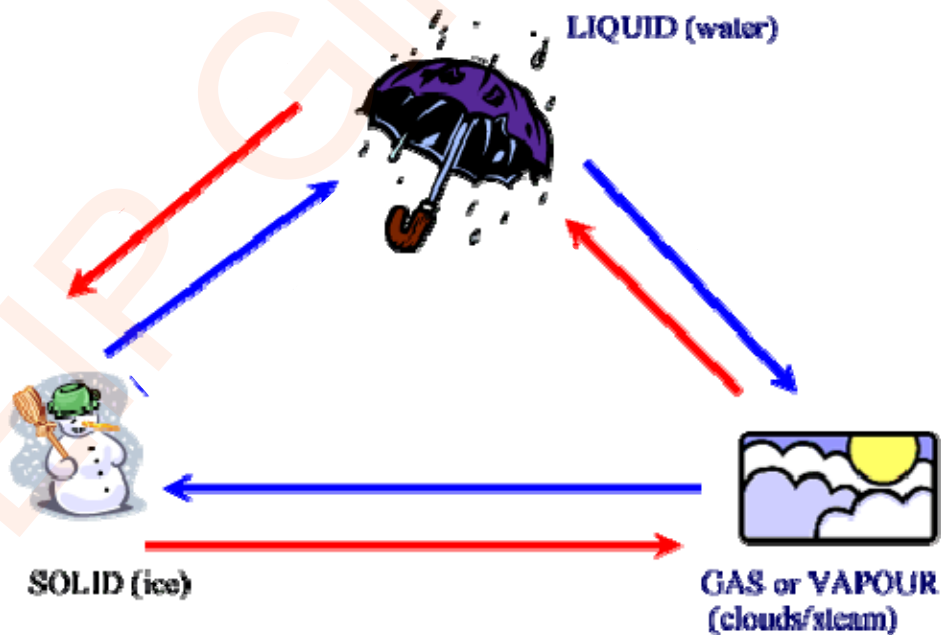
7.- Read the definitions of the different properties of matter. Write general or specific.

- a. These properties are common to all matter. \_\_\_\_\_.
- b. These properties vary from one substance to another. \_\_\_\_\_.
- c. Examples of these properties are colour, hardness and density. \_\_\_\_\_.
- d. Examples of these properties are mass, volume and temperature. \_\_\_\_\_.

8.- Complete the definitions. Follow the example.

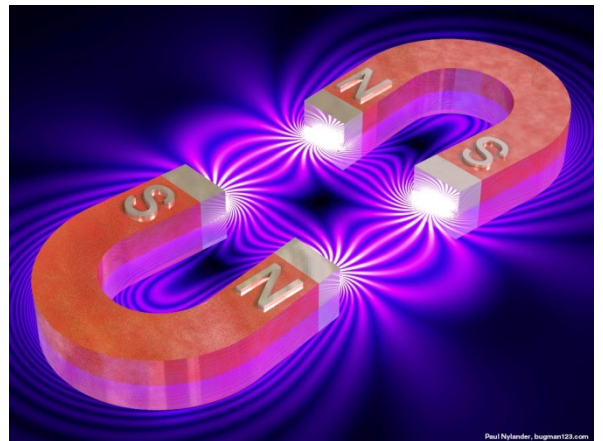
- a. Melting: when a *solid becomes a liquid*.
- b. Solidification: when a \_\_\_\_\_
- c. Vaporization: when a \_\_\_\_\_
- d. Condensation: when a \_\_\_\_\_
- e. Sublimation: when a \_\_\_\_\_
- f. Reverse sublimation: when a \_\_\_\_\_

9.- Complete the diagram about changes of states of matter



# UNIT 7

# ELECTRICITY & MAGNETISM

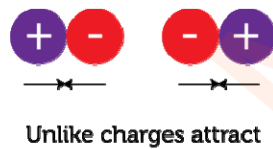
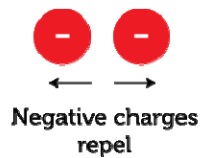
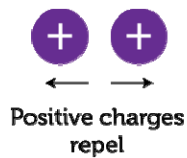


# 1 Electrical charges

There are two types of **electrical charge**: **positive** and **negative**. Negative charges can move from one place or object to another.

- If an object has more positive than negative charges, it is **positively** charged.
- If an object has more negative than positive charges, it is **negatively** charged.
- If an object has the same number of positive and negative charges, it is **neutral**.

Objects with **opposite** charges **attract** each other, and objects with the **same** charges **repel**

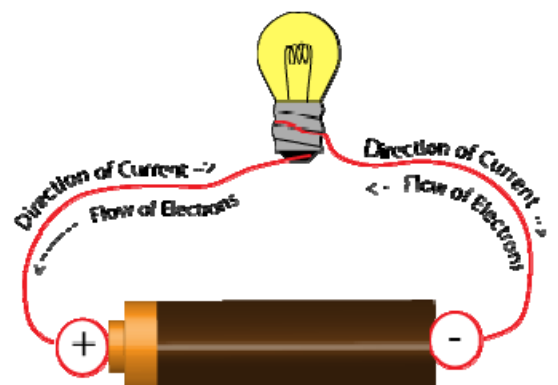
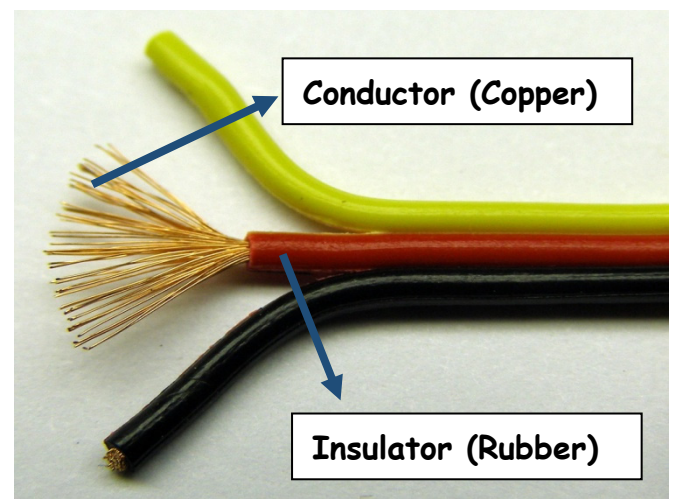


## 2. Electrical current

**Electrical current** is the **flow** of electrical charges. It transmits energy called **electricity**.

Electrical current flows differently, depending on the type of material through which it flows.

- **Conductors**: electrical current flows easily through conductors. Most metals are conductors.
- **Insulators**: electrical current does not flow easily through insulators, such as air, glass, plastic, wood and rubber





## 3 The effects of electrical current

When electrical currents circulate through a conductor, they can produce:

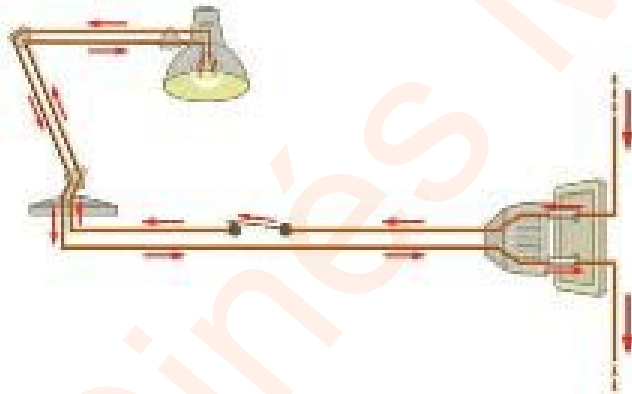
**Heat.** When electrical current circulates through a wire, it can heat up. This is what happens in a toaster or electric grill.

**Light.** Electrical current can produce light as we can see in the light bulb on the right.

**Sound.** Electrical current can be transformed into sound in loudspeakers on a radio.

**Magnetism.** When electrical current circulates through wire, the wire behaves like a magnet. Electromagnets use this effect.

**Movement.** In electric motors, the electrical current produces a turning movement. These motors have a magnet and a conductor wrapped around an axis, like fans or drills.



## 4. Magnetism



**Magnetism** is the property some substances have to **attract metal**, like iron. These substances are called magnets.

There are natural and artificial **magnets**. Magnets can be **natural**, such as the mineral magnetite, or **artificial**, such as magnets manufactured from metal.

An electromagnet behaves like a magnet when it is connected. What will happen to the paper clips when the battery is disconnected?

## 5. Electrical circuits

As you can see in the diagram, an electrical circuit is formed by various elements connected in a way that allows the circulation of an electrical current.

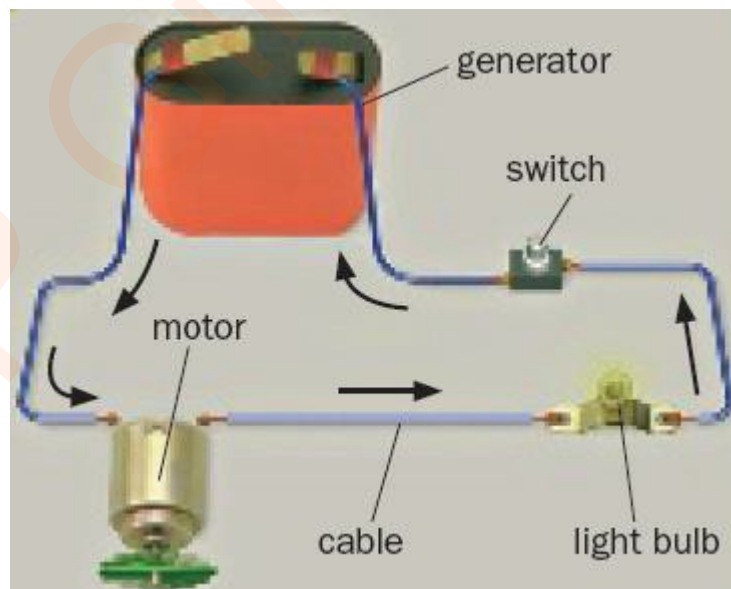
**A generator**, for example, a battery, produces the electrical current. A generator has two poles or terminals. Electrical charges exit through one terminal and enter through the other. In this way, an electrical current is created.

**Cables** transmit the electrical current from the generator to the other components of the circuit. Generally, electric cables are made of copper wires and are covered with plastic.

**Light bulbs**, electric motors and other components convert the electrical current into light, movement, heat and sound. Look at the second diagram.

**Switches** make it possible to control the current in the circuit. They make current flow and stop flowing.

For current to flow, a circuit must be closed. This means that all components are connected, and the switch is closed.



## ACTIVITIES



1. Look at the photo. Complete the text. Use the words.

repel

negative

attract

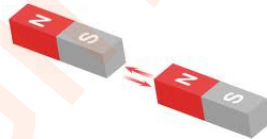
positively



When two objects are rubbed together, one becomes \_\_\_\_\_ and the other becomes positive

Here, the girl is combing her hair. Her comb is negatively charged, but her hair is charged. For this reason, the comb and the hair \_\_\_\_\_ each other. Individual hairs each other because they have the same charge

2. Look at the picture and answer the questions.



a. What happens when two of the same poles are put together?

\_\_\_\_\_

b. What happens when two opposite poles are put together?

\_\_\_\_\_

c. Name three objects which use magnets

\_\_\_\_\_

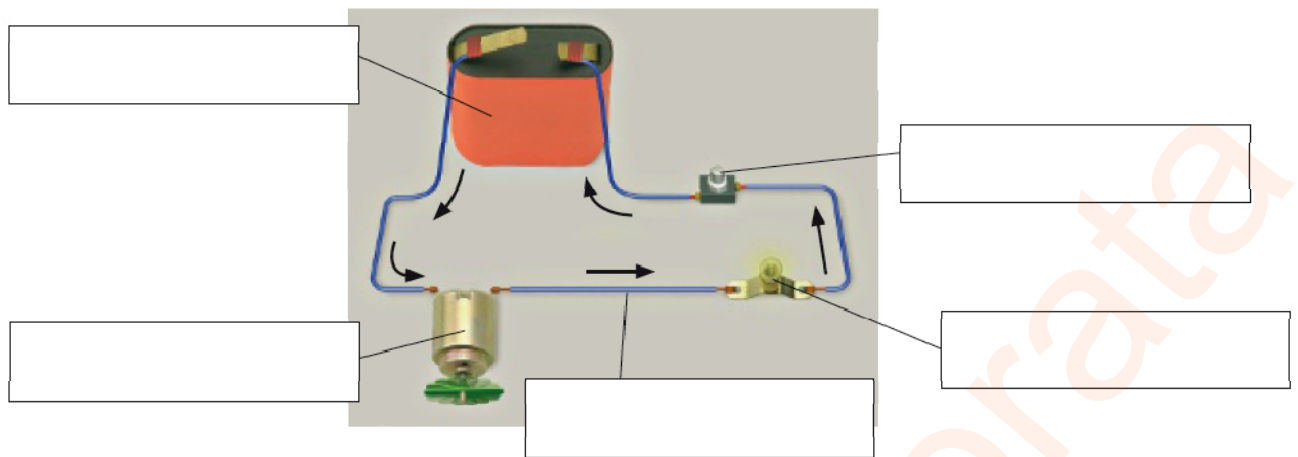
3. Complete.

If an object has more positive than negative charges, it is \_\_\_\_\_ charged

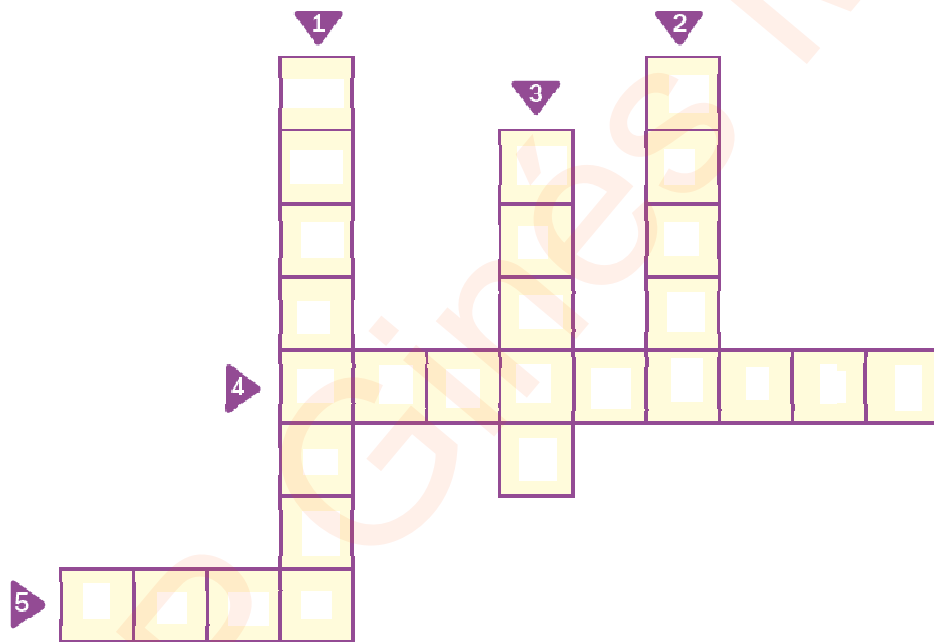
If an object has more negative than positive charges, it is \_\_\_\_\_ charged

If an object has the same number of negative and positive charges, it is \_\_\_\_\_ .

4. Look at this diagram of an electrical circuit. Label the components.



5. Complete the crossword to name the effects of electrical currents.



**Down**

- 1. The turning of a drill is produced by this effect.
- 2. Electricity produces this effect in a light bulb.
- 3. Your MP3 uses this effect

**Across**

- 4. An electromagnet produces this effect as the electrical current circulates.
- 5. This effect is produced in an electric toaster





CEIP Ginés Morata

# Social Studies



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CEIP Ginés Morata - Almería  
2015

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# UNIT 1

# EUROPEAN

# LANDSCAPES





# 1. Europe location

Europe is a small continent in the Earth's northern hemisphere.

It reaches:

- The Arctic Ocean to the north.
- The Mediterranean Sea to the south.
- The Atlantic Ocean to the west.
- The Ural Mountains and the Caspian Sea to the East.



# 2. European relief

Europe has various mountainous regions. The centre of Europe is mostly flat.

Look at the map of Europe. The green areas represent low plains. There are lots of these green areas on the map. Some of the plains in Europe are very large and some are smaller. There is a large arc of high mountains in the south, but lower mountains in the rest of the continent.





## 2.1. Plains

- The plains extend through the central and eastern parts of Europe. At the centre, lies the **Great European Plain**, which is bordered to the north by the **Baltic and North Seas** and to the south by the **Alps and Carpathian Mountains**. On this large plain, there are massifs. These are low mountains like the **Central Massif**, the **Vosges Range** and the **Black Forest Mountains**. In Eastern Europe, the Eastern European Plain borders on the **White Sea** and the **Barents Sea** to the north, and the **Ural Mountains** to the east.



## 2.2. Mountains

- The highest mountain system in Europe is in the south. Most of this system borders on the Mediterranean Sea and is formed by tall ranges such as the **Pyrenees**, the **Alps**, the **Carpathians**, the **Balkans** and the **Caucasus Mountains**. The highest mountain peak in Europe is **Mount Elbrus** (5,642 m) in the Caucasus.
- Lower mountains (under 2,500 m) include the **Scandinavian Mountains** in the north and the **Ural Mountains** in the east. The Ural Mountains form the border between Europe and Asia.



### 3. European Coasts

Europe is a continent with many kilometres of coastline. It has a very irregular, jagged coast with many features:

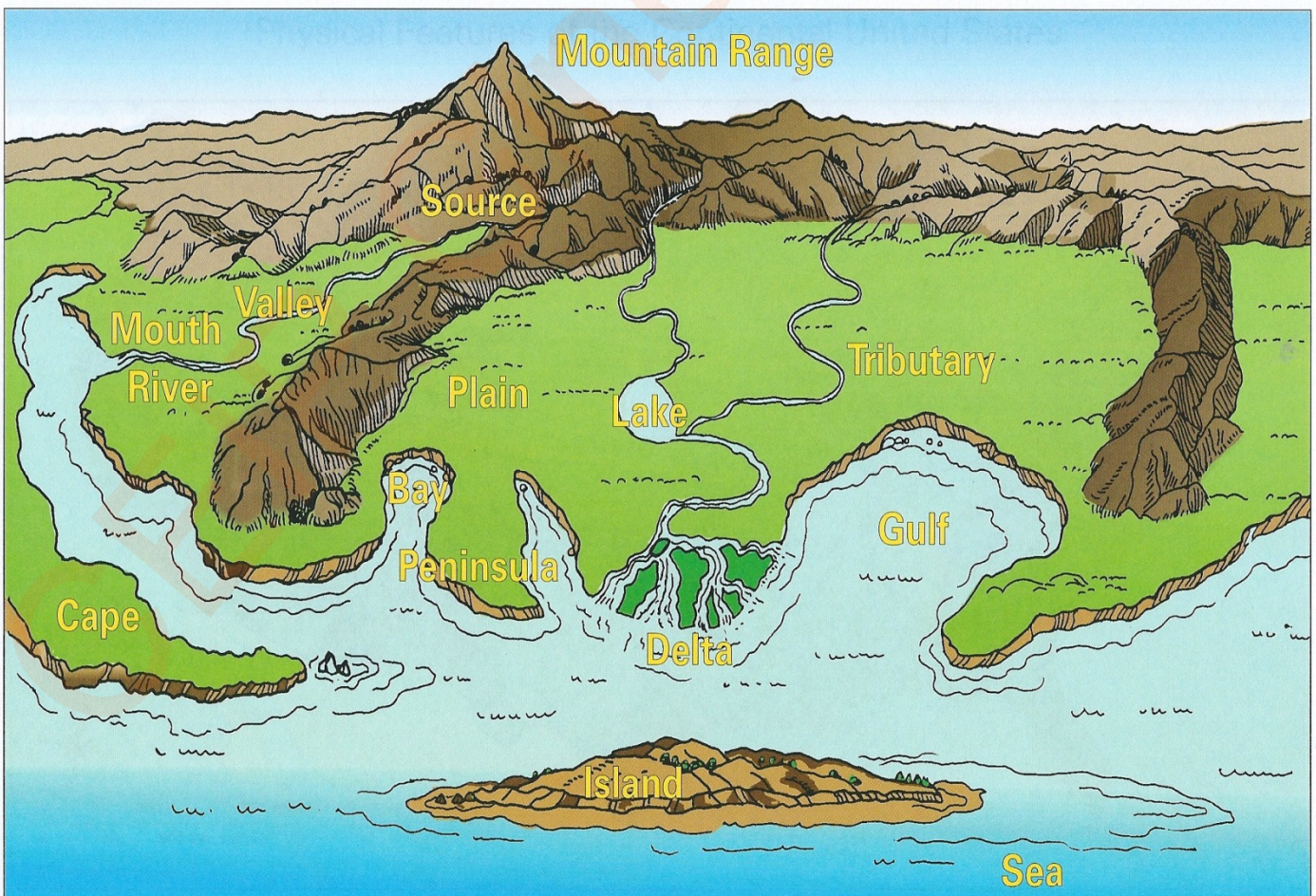
**Peninsulas.** The Kola, the Scandinavian and the Jutland Peninsulas are situated in the north. The Iberian, Italian, Balkan and Crimean Peninsulas are situated in the south.

**Gulfs** are large bays. The Gulf of Bothnia on the Scandinavian Peninsula is located in the north. The Gulfs of Lion and Genoa and the Bay of Biscay are located in the south.

**Capes** are high points of land extending into a body of water. The North Cape is in the north of Europe, while Cape Finisterre, Cape St. Vincent and Cape Matapan are in the south.

**Fjords and inlets** are valleys into which seawater enters. Fjords are made by glaciers. Fjords are only found on the Scandinavian Peninsula. In contrast, inlets are found in many places, such as the north coast of the Iberian Peninsula.

**Islands.** Europe has many islands. Examples are: Iceland, in the north; the British Isles and Ireland, in the centre; the Balearic Islands, Corsica, Sardinia, Sicily, Cyprus, Malta and Crete in the south.





## 4. RIVERS

Most rivers in Europe are relatively long and have an average volume of flow. Therefore, many are navigable by boat, and are used as travel routes. European rivers are classified by watershed. This means they are classified according to the ocean they eventually flow into. In Europe, there are five watersheds or river basins:

- **Arctic watershed:** They freeze in the winter. The largest rivers are the *Pechora* and *Northern Dvina*.
- **Atlantic watershed:** Rivers in this watershed have the greatest volume in Europe. These rivers include the *Western Dvina*, the *Vistula*, the *Oder*, the *Elbe* and the *Rhine*.
- **Mediterranean watershed:** Rivers in this watershed have a low, irregular volume. The *Ebro*, the *Rhone*, and the *Po* are Mediterranean rivers.
- **Black Sea watershed:** These rivers are very long and have greater volume. Examples are the Danube and the Dniester.
- **Caspian Sea watershed** also has long rivers with a large volume of flow. The longest river in Europe, the *Volga*, is in this watershed.



## 5. CLIMATES

There are five different climates in Europe:

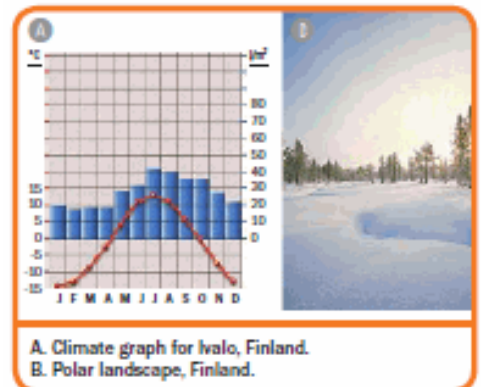
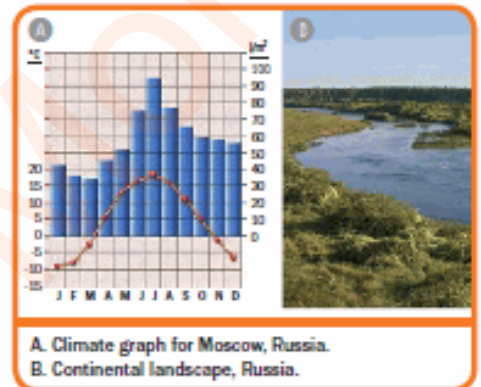
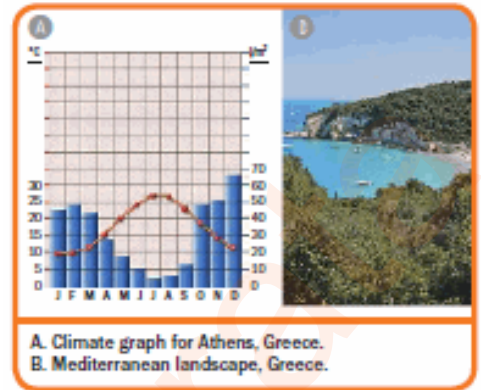
**Mediterranean:** Characteristic of the Mediterranean coast and some interior areas in the south of Europe. Temperatures are high in summer and mild in winter. Precipitation is not abundant. In fact, in summer months, there is very little rain.

**Oceanic:** Characteristic of all the areas along the Atlantic Ocean and central Europe. Temperatures are mild in summer. Precipitation is abundant and regular. This climate has four seasons. Great Britain is a country with an oceanic climate

**Continental:** Characteristic of areas in Eastern Europe. Temperatures are high in summer, but very low in winter. Precipitation is higher in summer.

**Polar:** This is found in the north of the Scandinavian countries and Russia. Polar climates are the coldest on the Earth. Temperatures vary between  $-50^{\circ}\text{C}$  in winter and  $15^{\circ}\text{C}$  in summer. Precipitation is scarce.

**Mountain or Alpine:** This is found at the top of the highest points of the continent. The temperatures are very low in winter and cool in summer. Precipitation is abundant





# ACTIVITIES



1. Look at the map. Write the number next to the name of each mountain range

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Central Massif   | <input type="checkbox"/> Scandinavian Mountains | <input type="checkbox"/> The Pyrenees           |
| <input type="checkbox"/> The Alps         | <input type="checkbox"/> Ural Mountains         | <input type="checkbox"/> Black Forest Mountains |
| <input type="checkbox"/> Vosges Mountains | <input type="checkbox"/> Caucasus Mountains     | <input type="checkbox"/> The Carpathians        |

• Classify the mountain ranges. Write the numbers.

Low mountains:

High mountains:



2. Look at the map above. Find these places on the map and write the letters in the circle.

- |             |                 |                  |            |
|-------------|-----------------|------------------|------------|
| Peninsulas: | A. Scandinavian | B. Italian       | C. Jutland |
| Gulfs:      | D. Bothnia      | E. Genova        |            |
| Capes:      | F. North        | G. St. Vincent   | H. Matapan |
| Islands:    | I. Iceland      | J. Great Britain | K. Crete   |

### 3. Colour the map. Use the climate key.

KEY:

GREEN = Oceanic

YELLOW = Continental

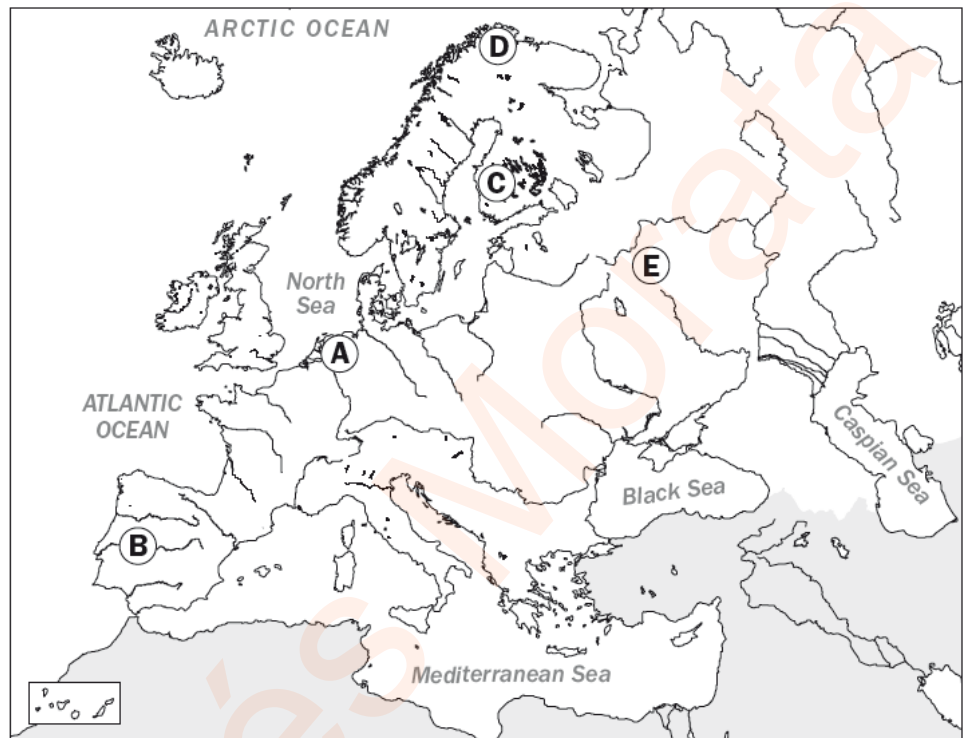
ORANGE = Mediterranean

PURPLE = Polar

BLUE = Alpine

- Write the letter that corresponds to the type of vegetation:

- Steppes
- Oceanic forest
- Taiga
- Mediterranean vegetation
- Tundra



### 4. Complete the definitions with the words

flow

lake

river

volume

watershed

- A large, natural flow of water travelling to the sea, a lake or another river
- An area of land that separates waters flowing into different seas or rivers
- The speed of the water running in a river
- A large area of water surrounded by land
- The amount of water in a river

# UNIT 2

## POPULATION & ECONOMY IN EUROPE





# 1. Population

## 1.1. The European and Spanish population

Spain had over 46 million inhabitants in 2008. There was a population of about 18 million in 1900. There are two reasons for this increase.

\*The **birth rate** is higher than the **death rate**. This means that there is a positive **natural increase**.

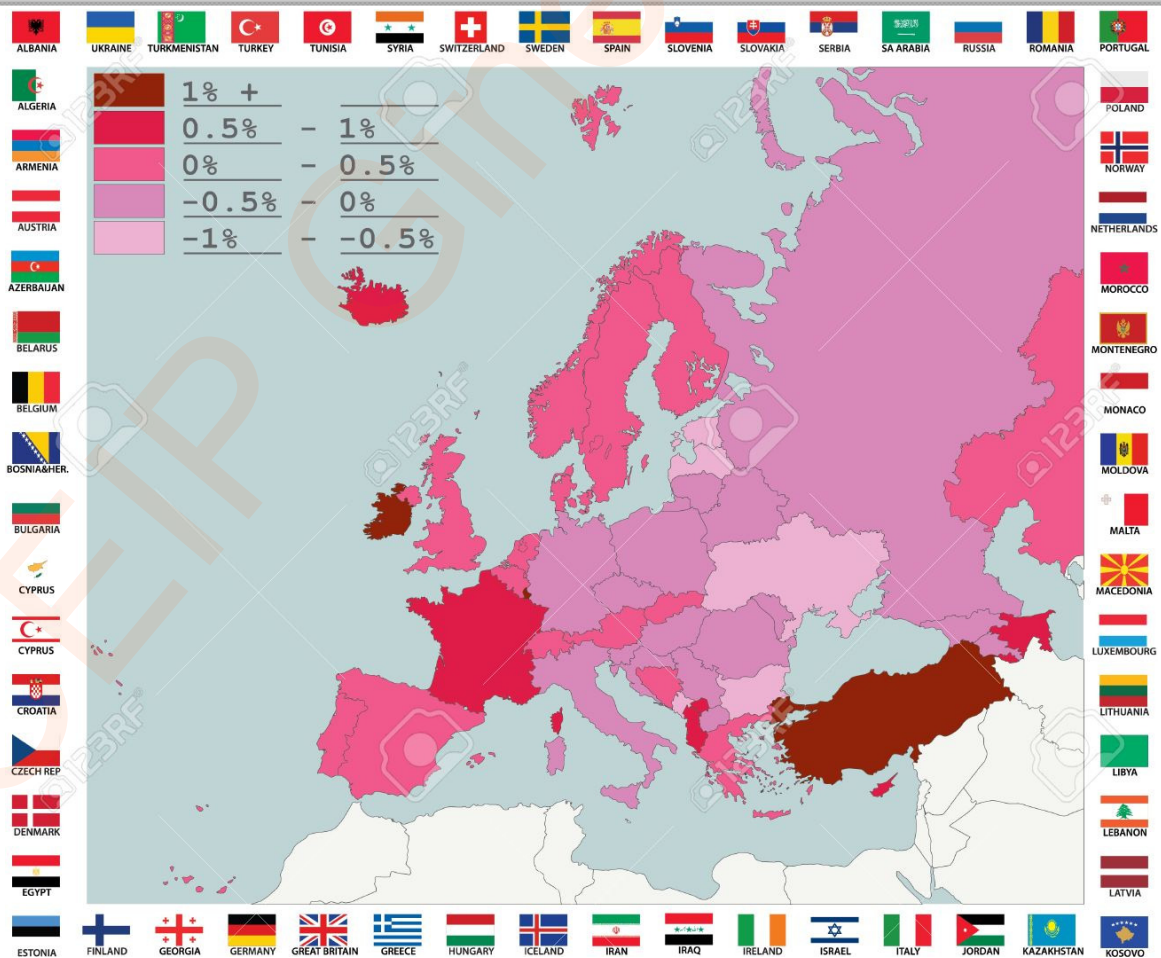
\*Many **immigrants** have come to Spain to work or to retire.

Europe is a highly populated continent. More than 700 million people live there. One important characteristic of the European population is the age of the inhabitants. Europe

has an **ageing population**. This means there are more elderly people than young people. There

are two causes of this ageing:

- **Low birth rate.** Birth rate is the number of babies born. In Europe, few babies are born.
- **Increasing life expectancy.**



European Population growth and decline 1



## 1.2. Population density

The European population is mostly urban. In fact, seven out of every ten Europeans live in cities. Look at the population density map. There are zones with high population density and zones with low population density.

**High population density zones.** The Netherlands, Luxembourg, Belgium, Germany, France, Italy and the UK have high population densities. Some areas of these countries have up to 500 inhabitants/km<sup>2</sup>.

**Low population density zones.** The countries in the south of Europe, on the Mediterranean coast, have lower population densities. These countries can have densities of around 100 inhabitants/km<sup>2</sup>.

The **population density** in Spain is 89 inhabitants/km<sup>2</sup>. This is lower than in other European countries, such as Germany, which has 232 inhabitants/km<sup>2</sup>.



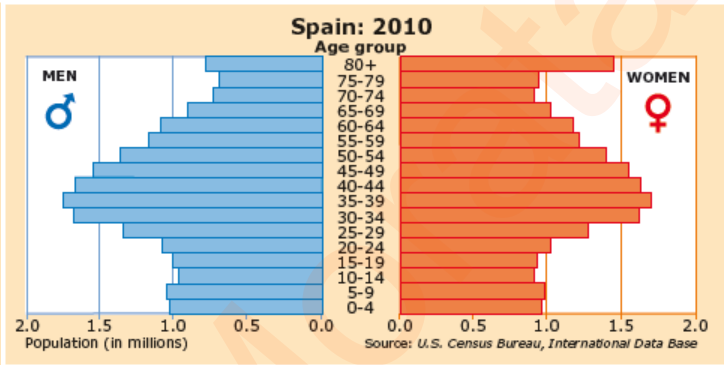
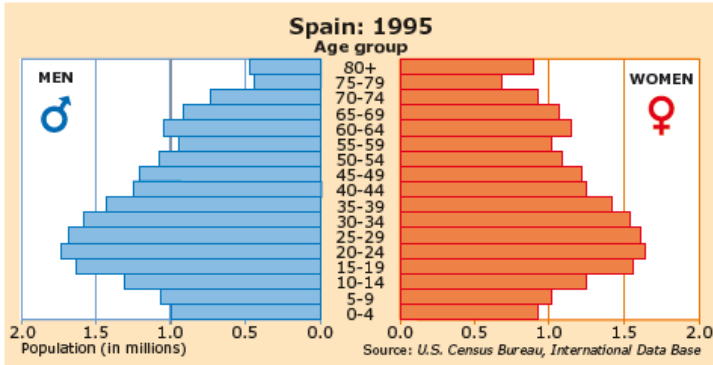
# ACTIVITIES



1.- Look at the population pyramids for 1995 and 2010. Use the information and the words to complete the text..

Spanish Population Pyramid: 1995  
Age and sex distribution

Spanish Population Pyramid: 2010  
Age and sex distribution

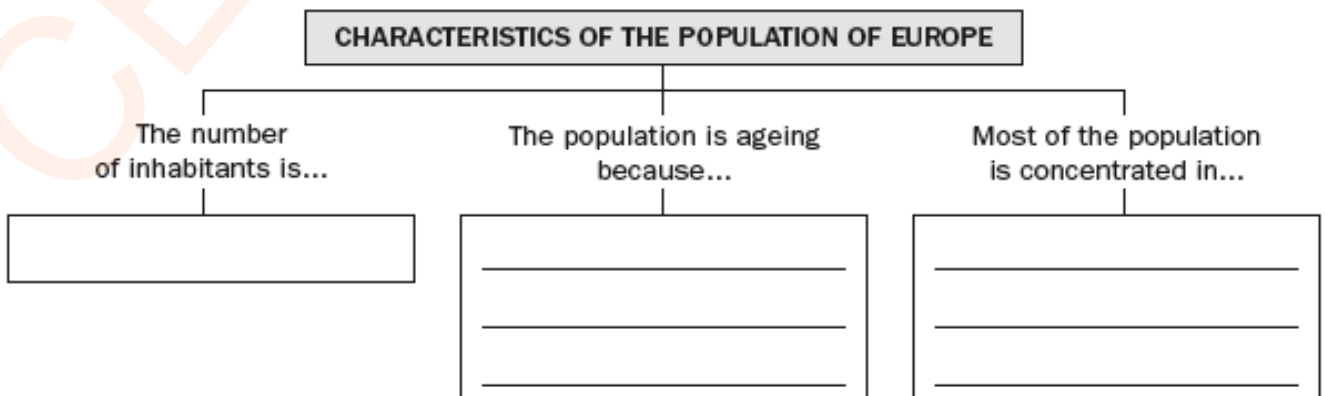


- birth rate
- immigrants
- ageing population
- life expectancy
- later
- older
- active population
- work

People in Spain are living longer. Thanks to good food and medical care, \_\_\_\_\_ is much greater. The population pyramids show us how age distribution has changed over the years.

Why does this happen? One reason is that more women in Spain \_\_\_\_\_ or have their families \_\_\_\_\_. As a result, fewer babies are born. So if people live longer and fewer babies are born, we have an \_\_\_\_\_. Fortunately, many young \_\_\_\_\_ are arriving in Europe, especially in Spain. They become part of the \_\_\_\_\_. When they have families, the \_\_\_\_\_ goes up. However, overall there will be more \_\_\_\_\_ people than younger people in the coming years.

2.- Complete the word map.



3.- Look at the European population density map. Read and tick (✓) the true sentences. Correct the false sentences..



- Most Europeans live on the coasts.
- The European population is distributed evenly throughout the continent.
- The Netherlands, Germany and Italy all have high population densities.
- Few people live in the north of Norway and Finland.
- Southern Europe has about 10 inhabitants/km<sup>2</sup>.

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## 2. The active population. Economy



### 2.1. The Primary sector

The **primary sector** employs the least people in Europe; only four out of every hundred workers. Primary sector activities in Europe are: Agriculture, livestock farming and fishing. This is an important economic activity in Europe.

### 2.2. The secondary sector

The **secondary sector** employs 30% of all Europeans. The main European industries are: Basic industry, The capital goods industry. The consumer goods industry



### 2.3. The tertiary sector

The majority of people in Europe, (66%), work in the **tertiary sector**. Activity in this sector supplies various services: Commerce, Transport and Tourism



The total active population in Spain is approximately 20 million people. The active population can be classified by economic sector:

- \*Less than 5%, about one million people, work in the primary sector. (agriculture, livestock farming and fishing)
- \*About 30%, around 6 million people, work in the secondary sector.
- \* About 60%, around 12 million people, work in the service sector



# ACTIVITIES

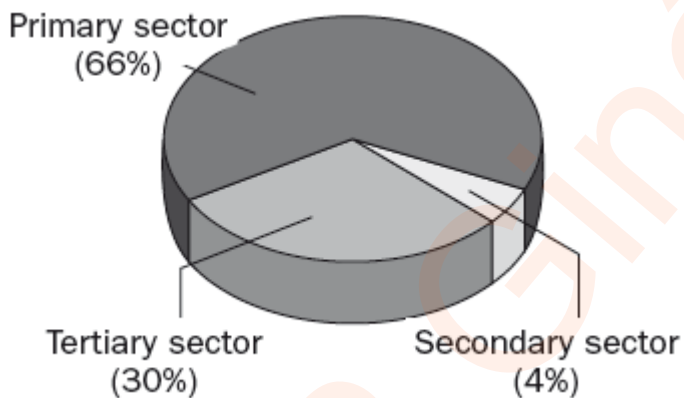


4.- Write the economic activities in the correct column.

- agriculture
- capital goods industry
- commerce
- consumer goods industry
- fishing
- forestry
- livestock farming
- basic industry
- tourism
- transport

Primary	Secondary	Tertiary

5.- Look at the pie chart. Explain why it is not correct.




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6.- Match primary sector activities 1 to 4 with photos A to D. Write the numbers.

- 1. fishing
- 2. forestry
- 3. livestock farming
- 4. agriculture



sunflowers



sheep



fish



wood

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# UNIT 3

# THE EUROPEAN UNION



# 1. What is the European Union?

The European Union (EU) is an economic and political organisation formed by twenty-seven democratic European countries.

**Economically**, the countries of the European Union share common rules about agriculture, transport, fishing and industry. Many European Union countries use the euro as their official currency.

**Politically**, the citizens of any country in the EU can live, study or work in any other country in the EU. EU citizens who have emigrated to another EU country, can vote and be candidates in municipal elections there. EU citizens can also participate in the European Parliamentary elections.





## 2. How the European Union began?

In **1945**, at the end of World War II, several European countries decided to collaborate. They wanted to avoid future wars and to improve the economic development of Europe.

In **1957**, Germany, Italy, Belgium, the Netherlands, Luxembourg and France signed the Treaty of Rome and the European Economic Community (EEC) constitution. As a result, a common market was created. In other words, when products from these six countries were sold in any of the five other countries, there was no tax or tariff to pay.

Later in **1992**, the members of the European Economic Community signed the Treaty of Maastricht. This treaty marked the creation of the European Union.

In December, **2007**, the Treaty of Lisbon was signed by thirteen member states. This Treaty amended the two previous treaties, and now comprises the constitutional basis of the EU.

Since **1992**, the European Union has grown steadily. Now, there are twenty-seven member countries or states. Spain joined the EU in **1986**.

### History of the European Union

- In 1973, Denmark, Ireland and the United Kingdom joined.
- In 1981 Greece joined.
- Spain and Portugal joined in 1986.



## 3. Institutions of the European Union

### 3.1. The European Parliament

#### The European Parliament

The European Parliament approves European laws and co-ordinates economic policies. It controls all the institutions of the European Union.



The European Parliament, Strasbourg (France).



Headquarters of the European Commission, Brussels.

### 3.2. The council of the European Union

The Council of the European Union approves European laws, co-ordinates economic policies and directs security, defence and foreign policy. The Council is made up of ministers from each member state.

### 3.3. The European Comission

The European Commission is what we call the 'government' of the European Union. It works in the same way as a country's national government.

### 3.4. The Court of Justice and the Court of Auditors



The Court of Justice upholds European laws. The Court of Justice is made up of judges and advocate generals. There is one judge from each member state. The Court of Auditors controls the money that the European Union uses. It ensures that EU money is used correctly

## 4. The Eurozone



In 1999, eleven member states of the European Union decided to adopt the euro as their official currency. The eurozone included Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland. In 2001, Greece joined the group. Then in 2002, the twelve countries of the eurozone started circulating the first bank notes and coins. The Central European Bank defines and implements policies related to the euro.

Some countries of the European Union still use their own currencies, such as Sweden, Denmark and the United Kingdom





# ACTIVITIES



## 1.- Complete the chart about the European Union

There are \_\_\_\_\_ countries in the European Union

In economic matters, countries share common rules about:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The main currency is the \_\_\_\_\_

In political matters, citizens can:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 2.- Circle the names of twelve countries that have adopted the euro. Write them on the lines.

G	P	F	M	R	G	R	E	E	C	E	L
P	E	O	I	R	Q	A	K	F	I	T	U
U	A	R	R	N	G	G	K	T	R	S	X
R	P	F	M	T	L	U	R	G	E	P	E
J	B	A	T	A	U	A	Y	N	L	A	M
U	K	R	I	O	N	G	N	R	A	I	B
F	R	A	N	C	E	Y	A	D	N	N	O
P	B	E	L	G	I	U	M	L	D	K	U
N	E	T	H	E	R	L	A	N	D	S	R
A	U	S	T	R	I	A	X	F	I	Q	G

▶ \_\_\_\_\_

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## 3.- Write the dates of the events.

- \_\_\_\_\_ The Treaty of Rome is the constitution of the EEC.
- \_\_\_\_\_ Some European countries decide to collaborate economically and avoid wars.
- \_\_\_\_\_ The Treaty of Maastricht is the constitution of the EU.



\_\_\_\_\_ The Treaty of Lisbon amended the Treaty of Rome and Treaty of Maastricht.

**4.- Complete the summary table**

Institution	Members	Headquarters	Functions
The European Parliament			
The Council of the European Union			
The European Commission			

**5.- Circle the correct alternative.**

1. The European Union is a confederation of *parliaments / countries*.
2. The EU is a space *without political frontiers / with few political frontiers*.
3. *Britain and Italy / France and Italy* were some of the first member states.
4. Today there are *730 / 490* million citizens in the EU.
5. The euro is the official currency in *most / in all* EU countries.
6. Many EU institutions are based in *Geneva and Paris / Brussels and Strasbourg*.

**6.- Tick (✓) the countries where a Spanish citizen needs to show identification at border controls. Underline the countries that use the euro.**

- |                                    |                                      |   |
|------------------------------------|--------------------------------------|---|
| <input type="checkbox"/> Finland   | <input type="checkbox"/> Netherlands | <input type="checkbox"/> Dubai              |
| <input type="checkbox"/> India     | <input type="checkbox"/> Germany     | <input type="checkbox"/> Ghana              |
| <input type="checkbox"/> Serbia    | <input type="checkbox"/> Belgium     | <input type="checkbox"/> Romania            |
| <input type="checkbox"/> France    | <input type="checkbox"/> Jamaica     | <input type="checkbox"/> The United Kingdom |
| <input type="checkbox"/> Lithuania | <input type="checkbox"/> Peru        | <input type="checkbox"/> Luxembourg         |

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# UNIT 4

## THE MODERN AGE IN SPAIN





# 1. The Catholic Kings. The discovery of America

The marriage, in 1469, of Isabel I and Fernando II, called the Catholic Kings, united the kingdoms of Castile and Aragon.

During their reign, the Canary Islands became part of Spain and the conquest of Granada happened in 1492. The same year Christopher Columbus discovered America. This marks the beginning of the Modern Age.

In the 15th century, many people believed that the Earth was flat. However, Christopher Columbus was convinced that it was round. He believed that you could arrive in Asia by sailing across the Atlantic Ocean to the west. On 3rd August, 1492, Columbus set off with three caravels from the port of Palos de la Frontera, in Huelva. Two months later, on 14th October, the expedition reached land. Columbus thought he had arrived in Japan, but in actual fact, he had landed on an island in the Caribbean

The discovery of America



Years later, the Italian navigator Amerigo Vespucci proved that these islands were part of a new continent. In his honour, the continent was named America.

After Columbus' first voyage, the Spanish conquered the Caribbean Islands very quickly. Later, they explored the continent nearby. The most important expeditions were those of Hernán Cortés, who conquered Mexico, and Francisco Pizarro who conquered Peru.

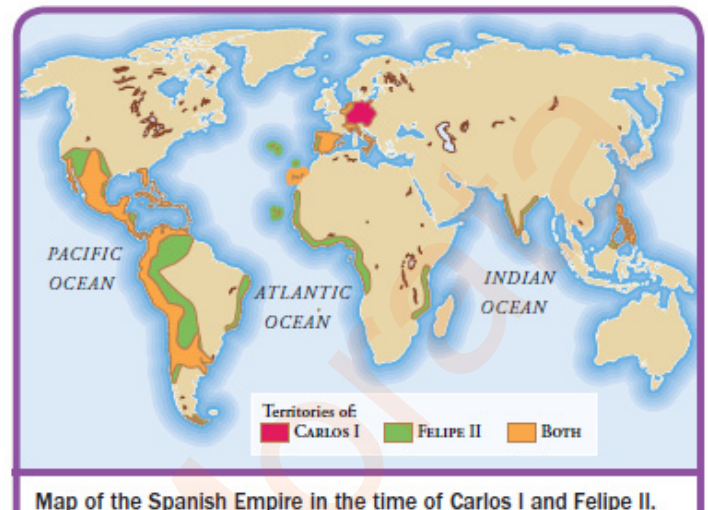
The Catholic Monarchs offered conquerors the title of governor or captain and gave them extensive tracts of land in the new continent.





## 2. The Spanish Empire

In the 16th century, Spain became a powerful empire, the largest that had ever existed. However, near the end of the following century, this vast empire broke apart. Spain lost its superiority in Europe, and was attacked by other European countries.



The Spanish Empire had many different territories: Spain, the Netherlands, a large part of Italy, areas in central Europe, the American colonies and many regions in Africa and Asia. In 1580, the empire expanded more when the Kingdom of Portugal came under Spanish rule.

Each territory in the Spanish Empire had its own laws and institutions, but they were all ruled by the same king. The king controlled the army, declared war and signed peace treaties, organised institutions and established taxes. However, the king's power was not absolute.



## 2.1. The Reign of Carlos I

King Carlos I, the grandson of the Catholic Monarchs, was educated in Flanders in the Netherlands. In 1516, he became the King of Spain. However, the early years of his rule were not easy. Frustrated by the expanding Lutherans, Carlos I decided to abandon the throne. He divided his empire between his brother and his son, Felipe II.



Portrait of King Carlos I of Spain.



Portrait of King Felipe II of Spain.

## 2.2. The reign of Felipe II

In 1556, Felipe II became ruler of the largest empire of its time. However, he also inherited many problems and had to fight to maintain it. First, he defeated France, but the conflict between the two countries reappeared at the end of his reign. He was more successful against other rivals. In 1571, he defeated the Turks at the Battle of Lepanto.

In 1566, the Netherlands rose up against Spanish rule. The northern provinces declared independence, but the king did not accept it. This began a long and costly war. England supported the uprising, so Felipe II sent the Spanish Armada against them. Although the armada was a powerful fleet of warships, it was defeated in 1588.

All of these wars had enormous costs. Most of the money came from the gold and silver mines in the Americas. However, the Spanish population became poorer when the price of certain products went up, and the quantity of metals coming from the Americas went down.



## 3. The fragmentation of the Spanish Empire

After the death of Felipe II in 1598, the Spanish Empire weakened and began to break up. The kings of the 17th century, **Felipe III**, **Felipe IV**, and **Carlos II** all had favourites called **validos**. Some had a lot of power, such as the **Duke of Lerma** and the **Count-duke of Olivares**.



Conde Duque de Olivares

### 3.1. the war of succession

In 1700, King Carlos II died without leaving a successor. There were two candidates to succeed to the throne: the **Archduke Charles from Germany**, and **Philip of Anjou from France**.

Each European country supported one or the other, depending on its own interests. Spain was also divided: Castile supported Philip, whilst Aragon supported Charles. These conflicts prompted the War of Succession. This was both an international war and a civil war.



The battle of Almansa, 1707. This was the decisive battle in the triumph of Felipe V of Spain.

The War of Succession ended in 1713, with the signing of the **Treaty of Utrecht**. This recognised the triumph of Philip of Anjou, who became King **Felipe V**. However, the treaty also required that the Spanish Empire give some territories in Europe to Austria and England.

Felipe V established a new form of government, an absolute monarchy. In an absolute monarchy, the king controls all the powers of state.

## 4. The end of the Modern Age

Throughout the 18th century, Great Britain and Portugal disrupted trade routes between Spain and the Americas. Great Britain and Portugal wanted Spain to give up its monopoly on the colonies in the Americas, so that they could trade with them too. As a result of this conflict, there were various wars between Spain and these countries.

Wars had enormous costs. To pay for them, kings raised the taxes. This made the Spanish people poorer. These difficulties led to protests. In 1808, the **Riot of Aranjuez** forced Carlos IV to abdicate. His son became the next king, Fernando VII.



The riot of Aranjuez. The people's revolt took place in March 1808.



# ACTIVITIES



## 1 Match the columns. Add the dates.

- |   |   |
|---|---|
| <input type="radio"/> a. The Catholic Monarchs      | <input type="radio"/> 1. won the Battle of Lepanto. _____     |
| <input type="radio"/> b. Charles I                  | <input type="radio"/> 2. financed Columbus' expedition. _____ |
| <input type="radio"/> c. Phillip II became king and | <input type="radio"/> 3. ruled over an enormous empire. _____ |
| <input type="radio"/> d. Phillip II's armies        | <input type="radio"/> 4. became king in _____                 |

## 2.- Read and complete the text. Use the words.

- Caribbean      flat      Asia      America      Japan      round

Christopher Columbus did not believe the world was \_\_\_\_\_. He wanted to prove it was \_\_\_\_\_. According to his calculations, he could go west across the Atlantic Ocean to reach \_\_\_\_\_. He left from Palos de la Frontera in 1492, and two months later reached land. He thought he was in \_\_\_\_\_ but, he was actually on an island in the \_\_\_\_\_ Sea. Later, Amerigo Vespucci proved these lands were part of a new continent. As a result, the continent was named in his honour.

## 3.- Write the dates of these events in the reign of King Felipe II of Spain. Then number them in order.

- \_\_\_\_\_ Felipe II of Spain became ruler of the empire.
- \_\_\_\_\_ England defeated the Spanish Armada.
- \_\_\_\_\_ The Netherlands revolted against Spanish rule.
- \_\_\_\_\_ Felipe II defeated the Turks in the Battle of Lepanto
- \_\_\_\_\_ England supported the uprising in the Netherlands.
- \_\_\_\_\_ Felipe II sent the Spanish Armada against them.

4.- What was the War of Succession? Why did it start? Who fought on each side?



Philip d'Anjou of France.

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Archduke Charles of Germany.

5.- Read about the fragmentation of the Spanish Empire. Unscramble the letters to discover the countries.

a. This country protested and revolted against Spain. Later it became independent.

o r l p a t g u

b. This country experienced unrest because the people lost faith in the Spanish institutions.

y i l a t

c. This country was at war with Spain for most of the 17th century.

e t h s n t r h e e l a n d

6.- Think about the Spanish Empire. Tick (✓) the correct columns.

	The King had power over the...	The King did not have power over the...
army		
acceptance of new laws		
establishment of new taxes		
costs of new taxes		
declaration of war		
signing of peace		

# UNIT 5

# THE

# CONTEMPORARY

# AGE



# 1. The Contemporary age. the 19th century

The Contemporary age started with the French Revolution in 1789 and still continues today.

The three most important events of the 19th century were: French revolution, Industrial revolution and changes in society.

## 2. War of independence



The War of Independence. This painting shows Captains Daoiz and Velarde fighting in Madrid against the French army.

At the beginning of the 19th century, the empire of the French emperor Napoleón Bonaparte extended through Europe.

- In 1808, Napoleon's army invaded Spain. This invasion caused the War of Independence against France. The Spanish won the war in 1814.

- In 1812, during the war, the **first Spanish Constitution** was written in Cádiz. It proposed the rights of the citizens, including the right to vote.

- **The reign of Fernando VII (1814 -1833)** began after the War of Independence. All rights and liberties of civilians were suspended. Fernando VII abolished the Constitution of Cadiz, and established an absolute monarchy. He persecuted the Liberals who tried to take power





### 3. Spain after Fernando VII

When Fernando VII died in 1833, Isabel II came to the throne. During her reign, the constitutional monarchy was consolidated. In other words, the power of the queen was limited by a constitution. Isabel II reigned from 1833 to 1868. During these years there was confrontation between the **liberals** (in favour of the rights and liberties of civilians) and **absolutists or conservatives** (against the rights and liberties of civilians).

- In 1873 the First Republic was formed. In a republic the head of state is elected by the citizens.
- In 1874 the monarchy returned with Alfonso XII. A new Constitution was written.



Celebration of the Constitution of Cadiz. The Constitution was approved on 19<sup>th</sup> March, 1812, the day of Saint Joseph. It became known as 'la Pepa', which is a nickname for 'Joseph'.

### 4. Society in 19th century

Society in the 19th century was divided into three social classes, based on wealth.

**The upper class** was the wealthiest. It was made up of aristocrats and the bourgeois.

**The middle class** consisted of less prosperous merchants, small landowners, and professionals, such as doctors, lawyers and engineers.

**The lower class** was the poorest. It was made up of factory workers, and peasants, who worked on the land of the large landowners. The servants who worked for the upper class, and beggars were also members of this class.



## 5. Spain from 1900 to 1975

Spain did not participate in the World Wars. But during this time there were many changes in Spain.

- Alfonso XIII was king during the first years of the 20th century. In 1931, he left the country and the Second Republic was formed.
- The Civil War began in 1936 when soldiers rebelled against the Republic. The war lasted until 1939. At the end of the war a military dictatorship, led by General Francisco Franco, was formed. It lasted until 1975. During the dictatorship there was no democracy, there were no political parties and no freedom of expression.



## 6. Spain from 1975 to today. Transition and democracy

The transition was the period of political changes that were made to move from the dictatorship of General Franco toward democracy. This process began in 1975 and ended in 1982.

In 1975, Juan Carlos I was named the King of Spain. There were many reforms: political parties were legalised and Spain became a democracy. In 1977, the first democratic elections were celebrated. This change from dictatorship to democracy is called the Transition.

- In 1978, the present Constitution was approved. It guarantees our rights and liberties and recognises democracy as our system of government.
- In 1986, Spain entered the European Economic Community which is now called the European Union.
- In 2002, Spain and many other countries of the European Union adopted the Euro as their common currency. They are known as the Euro Area.



King Juan Carlos I signing the Constitution.



Adolfo Suarez was named President of the Government by King Juan Carlos I.

# ACTIVITIES



## 1 Fill in the blanks

The Contemporary age started with the \_\_\_\_\_ in \_\_\_\_\_ and still continues today.

The three most important events of the 19<sup>th</sup> century were: \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_

## 2.- Complete the text about the reign of Fernando VII. Use the words.

persecuted      coup      jail      Cuba      independence  
Argentina      disorder      abolished

Fernando VII took power and \_\_\_\_\_ the Constitution of Cadiz. In its place, he established an absolute monarchy. The Liberals were against him, and tried to take power with a \_\_\_\_\_. They failed, and Fernando VII \_\_\_\_\_ them.

Many Liberals left Spain to avoid \_\_\_\_\_. Abroad, the American colonies struggled for \_\_\_\_\_. This was easier because there was such political \_\_\_\_\_ in Spain. \_\_\_\_\_ was the first colony to win independence, and by 1824, all except \_\_\_\_\_ were independent.

## 3.- Complete the table to describe 19th century society. Use the words.

peasants - aristocrats - small landowners - servants - doctors  
 factory owners - factory workers - prosperous merchants - lawyers

Upper class	Middle class	Lower class

#### 4.- Complete the definitions.

- a. In a dictatorship, supreme power is held by a \_\_\_\_\_ and the people cannot \_\_\_\_\_.
- b. In a republic, supreme power is held by a \_\_\_\_\_ and the people can \_\_\_\_\_.
- c. In a constitutional monarchy, supreme power is held by a \_\_\_\_\_ or \_\_\_\_\_, but it is limited by a \_\_\_\_\_.

#### 5.- Complete the sentences about the Spanish Civil War.

- a. General Francisco Franco led a coup against the \_\_\_\_\_ on \_\_\_\_\_.
- b. This led to the Spanish Civil War which lasted until \_\_\_\_\_.
- c. The Spanish people were divided into \_\_\_\_\_ and \_\_\_\_\_.
- d. The \_\_\_\_\_ supported General Franco, the \_\_\_\_\_ did not.
- e. The \_\_\_\_\_ won the war.
- f- Franco died on \_\_\_\_\_ and \_\_\_\_\_ became the head of state

#### 6.-Match the sentence parts to explain the transition to democracy after the dictatorship.

a. Juan Carlos I appointed...

economic problems and terrorist attacks.

b. Suarez legalised political parties and unions and implemented...

the Central Democratic Union.

c. Suarez won the elections, standing for...

strikes and protests.

d. There were serious...

Adolfo Suarez as President of Spain.

e. The people were unhappy, so there were...

various reforms.