5TH GRADE SCIENCES

NATURAL

SOCIAL

CEIP Ginés Morata - Almería-
Andrés Egea | andres@colegioginesmorata.es
The nervous system

The central nervous system consists of the brain and the spinal cord. This system receives information, interprets it, and decides on a response.

The nervous system is formed by nervous tissue.

Nervous tissue is found in every part of the body. This tissue is made up of one type of cell, neurons. Neurons have very long, thin structures through which they can send and receive messages.

Neurons have a complex shape. Neurons are a type of cell with three parts:

- The body, which contains the nucleus and organelles.
- Dendrites, which are branched structures. With these structures neurons receive information from the sense organs or from other neurons.
- The axon, which transmits information to other neurons and sends orders to organs. Axons run beside other axons to form nerves.

The nervous system is formed by the central nervous system and the peripheral nervous system.

The brain has three parts:

- The cerebrum controls voluntary movements.
- The cerebellum coordinates movements and maintains balance.
- The brain stem regulates internal organs.

The spinal cord controls reflex movements. The peripheral nervous system consists of nerves. It transmits information from the sense organs to the central nervous system and from the central nervous system to other organs.
The sense organs

The sense organs detect and transform stimuli into nerve impulses. The nerve impulses are sent to the nervous system which interprets them as sensations: colours and shapes, sounds, smells, flavours, heat and cold, etc.

Sense organs are: The eye, the ear, the skin, the pituitary glands and taste buds.

SMELL

The sense organ of smell is inside your nose. We use our nose to smell. We can distinguish more than 10,000 different smells. Some animals have a stronger sense of smell than people.

Smells are in the air we breathe.

A smell travels through the air and enters our nose through the nostrils. The smell enters the nasal cavity and goes to the olfactory nerve which sends the information to the brain. The brain interprets the information.

TASTE

The sense of taste allows you to capture different flavours of food. The tongue is the main sense organ of taste. Our tongue is covered with small bumps called taste buds.

These taste buds distinguish five basic flavours: sweet, salty, sour, bitter and umami.

Different areas of the tongue detect different tastes. Umami is difficult to recognise. You can taste umami all over the tongue.

How taste works

The inside of the mouth and the nose are connected. So, when food enters your mouth, it reaches the tongue and the nose. Taste and smell work together to distinguish different flavours.
 ► **TOUCH**

We use our skin to feel. Our body is completely covered by skin. The skin has sensitive touch receptors that allow you to distinguish different sensations, for example temperature, texture, pressure, and pain. Touch receptors send this information to the brain.

Some parts of your skin are more sensitive to touch than others, for example, your fingertips and lips. By touching things, we know if something is wet or dry, hot or cold, or hard or soft. **Nerve endings** send the information to the brain.

 ► **SIGHT**

Our eyes are our sense organs of sight. We use our eyes to see. They give us important information. We use them to see colours, size, shape, position and distance. We use some parts of the eye to see. Other parts are for protection.

- We use the cornea, pupils, iris, lens, retina and optic nerve to see.
- The eyelids, the eyelashes and eyebrows protect our eyes.

Eyelids protect the eyes by opening and closing. Eyebrows and eyelashes protect the eyes from dirt.

Tears keep the eyes moist.

**How does the light enter through the eyes?**

1. Light passes through the cornea.

   The cornea is transparent.

2. Then, light passes through the pupil.
The pupil is the hole in the centre of the iris.
3. The level of light is controlled by the iris.
The iris is a coloured ring.
4. The lens helps the eye to focus.
5. Finally, the retina captures the light.

► HEARING

We use our ears to hear different sounds. Our ears are our sense organs of hearing.
The ear has three parts:

1. Sound vibrates. The sound vibrations go into the outer ear and along the ear canal.
2. The vibrations reach the eardrum. It vibrates.
3. The vibration of the eardrum moves the three small bones. They make the sound louder.
4. The sound then goes to the cochlea.
5. The cochlea sends the sound through the auditory nerve to the brain.

► The musculoskeletal system

The musculoskeletal system consists of the skeleton and the muscular system. Both systems work together to make the body move.
The **skeleton** consists of all the bones in the body. It supports the body, and enables us to move. It protects delicate organs, such as the heart, lungs and brain.

The skeleton is made up of **bones**. Bones are hard, strong and rigid. An adult skeleton is made up of 206 bones. Bones are living things. While you are growing, they are growing too.

The skeleton has two important functions. It supports our body and it protects the delicate, soft organs inside. The ribs protect our heart and lungs. The skull protects our brain.

**Joints** are the places where two bones meet. There are:

- Fixed joints, such as the skull
- Movable joints, such as the knee or elbow
- Gliding joints, such as between vertebrae

The **muscular system** consists of all the **muscles** in the body. The muscular system enables the body to move, gives the body its shape and protects organs, such as the liver.

Muscles can change in length:

- When they **contract**, they become shorter and thicker.
- When they **relax**, they return to their original length and thickness.

Tissues called **tendons** connect muscles to bones.
MUSCLES

Muscles are strong, elastic tissue attached to bones. They move the bones they are connected to. We divide muscles into two groups:

- **Voluntary muscles** move when we want them to move. We control their movements.
- **Involuntary muscles** move automatically. We do not control their movements. For example, the heart pumps blood around our body day and night. Other involuntary muscles in our stomach help digest our food.

How we use our muscles

Muscles are flexible. When they contract, they are short. When they relax, they are long. Every muscle in our body has a special function.

- The **trapezius** muscle helps move our shoulders.
- The **quadriceps** muscles help us walk, run and jump.
- The **abdominal** muscles help us bend down.
- The **biceps** and **triceps** muscles work together to bend and stretch our arms.
UNIT 1: SENSITIVITY
ACTIVITIES

1. Identify the systems.

   a. This system is important for sensitivity. The brain is part of it.
   b. It is made up of muscles.
   c. It is made up of bones.
   d. It is made up of the two systems comprising of muscles and bones

2. Look at the photos. Read and circle the correct option.

   The footballer receives information about the ball through **his brain** / **sense organs**.
   The **leg bones** / **motor neurons** transmit the information from the brain to the muscles.
   **Muscles** work in pairs to produce the kick. Some muscles **extend** / **contract**: this means they get shorter. At the same time, others **extend** / **contract**: this means they get longer.

How many muscles are involved in the movement of a joint?
3. Label de diagram of a neuron

4. Match the two columns

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
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<tbody>
<tr>
<td>a. The brain</td>
<td>○ 1. has three parts.</td>
</tr>
<tr>
<td>b. The cerebrum</td>
<td>○ 2. maintains balance.</td>
</tr>
<tr>
<td>c. The cerebellum</td>
<td>○ 3. controls reflex movements.</td>
</tr>
<tr>
<td>d. The brain stem</td>
<td>○ 4. regulates internal organs.</td>
</tr>
<tr>
<td>e. The spinal cord</td>
<td>○ 5. controls voluntary movements.</td>
</tr>
<tr>
<td>f. The peripheral nervous system</td>
<td>○ 6. consists of nerves.</td>
</tr>
</tbody>
</table>
5.- Put the sentences in order to describe how sound reaches the brain.

___ The cochlea sends the sound through the auditory nerve to the brain.
___ The brain interprets the information.
___ The sound captured by the ear is received by the cochlea.

6.- Complete the parts of the eye and match them to the definitions.

a. __ r__ __ We use it to focus.
b. __ t__ __ a It takes the image we see to the brain.
c. __ o__ n__ __ It is the coloured part of the eye.
d. o __t__ __ e__v__ It captures the light.
e. __ u__ __ l It is transparent and light passes through it.
f. __ n__ __ Light enters the eye through it.

7.- Cross out the mistakes and correct them.

a. We use our eyelashes to see.
b. Light enters our eyes through the retina.
c. The pupil is the black centre of the eye.
d. The iris is the coloured part of the eye.
e. The retina is at the front of the eye.
f. We use the lens to focus.

8.- Unscramble the letters and write.

1. Muscles are ( blexifle ) ..............................
2. Muscles are ( horts ) ................................. when they contract and ( ngol ) when they relax.
3. The ( driquespc ) ....................................muscles help us run and jump.
4. The ( ziraustpe ) .................................... muscle helps move our shoulders.
9.- Look and label the skeleton.

sternum – vertebrae – radius
READ AND LEARN

Can we communicate with extra-terrestrials?

Our interaction function is so advanced we can communicate between ourselves and with other species. We can even try and communicate with extra-terrestrials. To do this some spaceships have carried messages for people who may live on other planets.

The first of these was sent into space in 1972, in the spaceship Pioneer X. It included drawings of who sent the spaceship and where they sent it from; a man and a woman; a map of the solar system showing the Earth; the position of the Sun in relation to other stars, etc.

The two Voyager spaceships, sent to space in 1977, took a metal disk with sounds, music and images showing the diversity of life and culture on Earth. The disc also contained instructions for use and information about human beings.

The spaceship will take thousand of years to reach the nearest star. Do you think someone will find them?

QUESTIONS ON THE TEXT

1.- Look up the meaning of the following words in your dictionary: gravity, crumbs, straws, sticky.
   - Gravity:
   - Crumbs:

2.- What was the name of the spaceships that carried the first message

3.- What do you think the words Pioneer and Voyager mean?
4.- What messages did the Voyager spaceships carry?

LET'S ASK QUESTIONS

1.- What is disability

2.- How do you think deaf people communicate with each other?

3.- How do you think blind people read books?

NEW WORDS
What is an ecosystem?

An ecosystem consists of all the living things in a specific environment and their interaction with their habitat. Ecosystems can be small, like a pond, or large, like a rainforest.

The components of an ecosystem are:
- Living things: the plants in an ecosystem are called flora. The animals are called fauna. There are also fungi, bacteria and algae.
- The environment: this refers to the surrounding conditions which affect living things, such as soil, climate, water, air and light.

Types of ecosystems

There are two types of ecosystems, terrestrial and aquatic:

* Forests, grasslands and deserts are terrestrial ecosystems. Many living things live in forests and grasslands. The abundant vegetation provides them with food. Few living things live in deserts because there is little food.
* Freshwater ecosystems, such as rivers and lakes, and marine ecosystems, such as the sea, are aquatic ecosystems.

Living things in an ecosystem

All living things are grouped into species, for example, lions, tigers, poppies, oak trees, etc.

A population is all the members of one species living in the same ecosystem.

A habitat is the place within an ecosystem where a population lives.

A community is made up of all the populations that interact in an ecosystem.
Relationships between living things: The Food Chain

Living things obtain food in different ways:

- **Producers**, such as plants and algae, make their own food.
- **Primary consumers**, such as zebras and fish, eat plants and algae.
- **Secondary consumers**, such as lions and snakes, eat primary consumers.
- **Tertiary consumers**, such as eagles and owls, are secondary consumers which eat other secondary consumers.
- **Decomposers**, such as fungi and bacteria, eat the remains of other living things.

![Beech tree forest. In terrestrial environments, plants are producers.](image)

![Vultures are scavengers. They help eliminate dead bodies from ecosystems.](image)
UNIT 2: ECOSYSTEMS

ACTIVITIES

1. Read the sentences and circle the correct words.

   a. Producers make their own food / eat other living things.
   b. Consumers make their own food / eat other living things.
   c. Primary consumers get their energy from plants / eating herbivores.
   d. Secondary consumers get their energy from eating tertiary consumers / herbivores.
   e. Tertiary consumers get their energy from eating secondary consumers / plants.

2. Write parasite, scavenger and predator. Then, match the type of animal to the definitions.

   A
   They feed off other living things without killing them.

   B
   Carinivorous animals that hunt other animals for food.

   C
   They eat the dead bodies of the other animals.

3. Number the living things to show the food chain.
4. Give two examples of each of the following living things from the food chain.
   a. Producer: ____________________________________________.
   b. Primary consumer: ____________________________________.
   c. Secondary consumer: ________________________________.
   d. Tertiary consumer: ________________________________.

5. Write T (true) or F (false). Correct the false sentences.
   □ Decomposers are bacteria and fungi.
   □ Decomposers only decompose the remains of plants.
   □ Decomposition puts minerals from living things back into the soil.
   □ Decomposition does not help keep the soil fertile.

6. Complete the sentences.

<table>
<thead>
<tr>
<th>algae</th>
<th>aquatic</th>
<th>ecosystem</th>
<th>environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>fauna</td>
<td>flora</td>
<td>fungi</td>
<td>habitat</td>
</tr>
</tbody>
</table>

   a. An ____________________________ consists of all the living things in a specific environment and their interaction with their ________.
   b. The plants in an ecosystem are called ____________________________.
   c. The animals are called ____________________________.
   d. There are also bacteria, and ____________________________.
   e. The ____________________________ refers to the surrounding conditions which affect living things.
   f. There are two types of ecosystems, ____________________________ and ____________________________.
READ AND LEARN

20,000 Leagues Under the Sea

Jules Verne (1828-1905) was a French writer who wrote about fantastic adventures. In his book 20,000 Leagues Under the Sea, he imagines an enormous submarine which travels round the world. One of the people on the submarine – Doctor Aronnax – is a famous scientist. His servant Conseil loves classifying all the animals and plants under the sea. One day, the Doctor and Conseil are walking along the sea bed:

Conseil: Look, Doctor! White coral and sea anemones – members of the cnidarian group of invertebrates!
Aronnax: I’m sure you’re right, Conseil. But there’s something different over there – it’s an enormous, long worm!
Conseil: Yes, Doctor, there are different worms. That one is a sea worm
Aronnax: How beautiful those starfish are! Can you see them?
Conseil: Oh, yes. They belong to the echinoderms. Be careful, don’t put your hand on that! It’s in the same group as the starfish, but it’s covered with spines!
Aronnax: Ouch! Too late...
Conseil: Sorry, Doctor. Hey, look over here. Our eight-legged friend, of the mollusc group, the same as clams and snails...
Aronnax: And lobsters, like this one here...
Conseil: No, sir, this lobster is an arthropod. Do you see its hard exoskeleton?
Aronnax: So we can’t see arthropods on land.
Conseil: Oh, yes we can! There are many types of arthropod: insects, centipedes, arachnids...
Aronnax: I think you’re a better scientist than me, Conseil!

QUESTIONS ON THE TEXT

1. Answer the questions.

a. What type of invertebrates are coral and sea anemones? __________________________

b. Which type of worm does Conseil see? __________________________

c. Which group do starfish belong to? __________________________

d. Which animal do you think Aronnax puts his hand on? __________________________

e. What is ‘our eight-legged friend’? __________________________

f. Which arthropod does Aronnax see? __________________________
2. Investigate.

Arthropod sense organs are well developed: they have antennae and eyes. The eyes can be simple or compound. Compound eyes are made up of many smaller, simpler 'eyes'.

Find some examples of insects with compound eyes. How do compound eyes help the insect? (Think about flies. Is it easy to hit them when they are on walls or other surfaces?)

3. Correct Doctor Aronnax’s classifications.

a. Aronnax: Coral and sea anemones are echinoderms. Conseil: No, they are cnidarians.

b. Aronnax: Starfish and sea urchins are molluscs.

Conseil: No, they are _________________

c. Aronnax: Beetles and scorpions are sponges.

Conseil: No, _________________

d. Aronnax: Octopi and clams are fish.

Conseil: _________________

e. Aronnax: Lobsters, shrimp and crabs are worms.

Conseil: ___
5th GRADE MINIMUM CONTENTS
UNIT 3: ENERGY

► Energy

Energy is everything that produces changes in things.

► 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.

► The properties of energy

Energy has certain properties that make it very useful:

- Energy can be transferred. It can pass from one object to another. For example, a moving tennis racket has mechanical energy. When it hits a ball, it transfers energy. As a result, the ball acquires mechanical energy.
- Energy can be stored. Batteries, for example, store energy.
• **Energy can be transported.** It can pass from one place to another. Electrical energy, for example, is transported through cables. Combustible fuel energy can be transported in lorries or pipelines.

• **Energy can be transformed** from one type to another. Chemical energy in petrol, for example, is transformed into mechanical energy in a car. Electrical energy is easily transformed into mechanical, light and sound energy. This easy transformation makes electrical energy very useful.

►**Energy sources**

Energy sources are the natural resources from which we obtain the energy we use. They can be **non-renewable** or **renewable**.

We exhaust non-renewable energy sources because they do no have time to renew themselves. The main ones are **fossil fuels** and radioactive substances. We cannot exhaust renewable energy because they renew themselves continually. Some examples are the Sun, wind, moving water, and biomass.

►**Power plants. Types of power plants**

Most of the energy we use in our homes and in industry is electrical energy. Most electrical energy is produced in a power station or a power plant. Most power plants produce electrical current with a **generator or dynamo**. A generator or dynamo is a machine with magnets and coils of conductive wire inside. When the magnets turn near the coils, this produces an electrical current.
Power plants can have different energy sources:

- **Hydroelectric power plants** use the mechanical energy of falling water to turn a turbine.
- **Eolic or wind power plants** use the mechanical energy of the wind. The turbines are large windmills that turn in the wind.
- **Thermal power plants** use the chemical energy stored in a combustible fuel. Coal, petroleum or natural gas is used to boil water and produce steam. The steam turns a turbine.
- **Nuclear power plants** use the heat generated when radioactive elements produce a chain reaction. In turn, this heat is used to boil water and create steam to turn the turbine.
- **Solar thermal power plants** use the heat of the sun to boil the water and create steam. Again, the steam turns a turbine.
- **Solar photovoltaic power plants** do not use turbines or generators. Electrical current is created when the sun shines on photovoltaic cells.
UNIT 3: ENERGY

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. - Complete with the properties of energy

   - Energy can be ________________ from one type to another. Chemical energy in petrol, for example, is transformed into mechanical energy in a car. Electrical energy is easily transformed into mechanical, light and sound energy.
   - Energy can be ________________. It can pass from one object to another. For example, a moving tennis racket has mechanical energy. When it hits a ball, it transfers energy. As a result, the ball acquires mechanical energy.
   - Energy can be ________________. It can pass from one place to another. Electrical energy, for example, is transported through cables. Combustible fuel energy can be transported in lorries or pipelines.
   - Energy can be ________________. Batteries, for example, store energy.
3.- Look at the flow charts. Name the power plants.

a. The mechanical energy of water → turns a turbine which produces → electricity → ____________
b. The chemical energy of a combustible fuel → turns a turbine which produces → electricity → ____________
c. The mechanical energy of the wind → turns a turbine which produces → electricity → ____________
d. The heat of the sun boils water. The steam → turns a turbine which produces → electricity → ____________

4.- Read and complete the text. Use the words.

Turbines  electricity  generator  energy source

Power plants produce the ____________ that we use. There are different kinds of power plants. Each one uses a different kind of ____________. Most power plants produce electrical current thanks to a ____________. ____________ turn the generator.

5.- 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.
   ____________  ____________
READ AND LEARN

Using solar energy

The energy we receive from the Sun is called solar energy. It is clean, free and reaches us in enormous quantities every day of the year. Plants use it directly to make their food using photosynthesis. Animals use it, for instance, when they eat plants.

Scientists have spent many years investigating how to use this light and heat in our daily lives.

To use the heat from the sun they have invented machines that use solar energy to work. For example, there are ovens that use glass and mirrors to concentrate the solar energy and cook food without fire or electricity.

There are also solar panels that transform the light from the sun into electricity which we can use. If many panels are collected together they can supply the electricity for a whole town.

Solar power is specially useful in isolated places, a long way from other sources of energy.

QUESTIONS ON THE TEXT

1.- In your dictionary look up the meaning of the following words:

- Oven:
- Solar panel:
- Isolated

2.- How do living things use solar energy?

3.- Where are machines that use solar energy specially useful?
LET'S ASK QUESTIONS

What do you think are the advantages and disadvantages of using solar energy?

Think about things in your daily life that use solar energy to work. Discuss about it.

NEW WORDS

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Machines are devices which use the action of a force to convert one type of energy into another.

For example, a bicycle is a machine which transforms human energy into mechanical energy. Machines save us time and physical effort.

Types of machines

Some machines, such as pulleys, are very simple because they have very few components. Other machines, such as computers, are complex because they have many components.

Machines can be classified depending on the energy source. There are machines which work with:

- **Human energy**, such as a bicycle or a hammer
- **Water or wind**, such as a watermill or a windmill
- **Fuel**, such as a car or a gas stove
- **Electricity**, such as a washing machine or a mobile phone

* Machines which produce movement
Many machines produce movement, such as escalators, cars or food blenders. These machines have a motor or an engine. The motor converts fuel or electrical energy into movement.

* Thermal machines
Thermal machines, such as heaters and air conditioners, produce heat or cold.

* Information-processing machines
Information-processing machines are used for communication and calculations. For example, we can communicate with others using mobile phones, and we can make calculations on computers.
Simple machines

There are four types of simple machines: the wheel, the pulley, the inclined plane and the lever. These machines modify the action of forces.

The wheel

The wheel is a simple machine, but it can be used as a component of complex machines. It consists of a round part which turns on an axle. Wheels are used on the majority of vehicles which move on land. Wheels are useful because they reduce friction with the ground. Therefore, they make it easier to move objects along the ground.

The pulley

The pulley is a kind of wheel. It has two raised edges so a rope can run around the wheel without falling off. A pulley is used to lift heavy objects. A pulley changes the direction needed to apply force. Look at the picture. Instead of pulling directly upwards (A), the pulley enables you to pull downwards and lift the object more easily (B).

The inclined plane

An inclined plane is a slope or a ramp. It makes it easier to move heavy objects. It requires less force than if you raise an object vertically. Instead of lifting the object straight up, you can push it a greater distance using less force. The picture shows that the force required to lift an object with a pulley is greater than the force required to move the object up an inclined plane. The smaller the angle between the plane and the ground, the smaller the force required, and the longer the distance.

The lever

A lever is basically a long stick that you push or pull against a fulcrum or pivot point to make something move. A lever makes it easier to move heavy objects. Look at the picture. When you apply force to a lever, the long end of the lever moves a greater distance than the short end. The short end of the lever applies a much greater force on the object than the force you apply to the long end.

Types of levers

There are three types of levers:

- **First-class levers.** The fulcrum is between the load and the energy moving the force. Crowbars, pliers and scissors are examples of first-class levers (A).

- **Second-class levers.** The fulcrum is at one end and the load is between the fulcrum and the force. Guillotines, wheelbarrows and nutcrackers are examples of second-class levers (B).

- **Third-class levers.** The force is applied between the fulcrum and the load. Your arm and some types of cranes are examples of third-class levers. In your arm, the fulcrum is your elbow. The force is applied by your muscle (C).
Inside a machine

The structure and housing
The structure of a machine, also called the chassis or frame, is the skeleton of the machine. The housing or cover protects the machine. The housing usually contains elements that help us control the machine. For example, the buttons on a video game console controller or the switch on a blender.

The motor and operating parts
Automatic machines that produce movement have a motor or engine. There are two types: Combustion engines are used in most vehicles, and in machines such as chainsaws and steamrollers. Electric motors are used in many automatic machines, from small home appliances to electric locomotives. Operating parts and mechanisms are used to transmit the movement of the motor to other parts of the machine.

Electrical circuits and electronic circuits
We find circuits in machines that function with electrical energy. Electrical circuits and electronic circuits direct the energy that is transmitted to the motor and other parts. Electronic circuits are extremely small. A memory chip is an example of a small electronic circuit that can contain millions of components. Machines with electrical circuits or electronic circuits can only work when they are connected to an electrical grid or when they have batteries.

Sensors
Sensors enable a machine to receive information from the outside or inside of the machine. A temperature sensor can turn on a radiator automatically when the temperature goes down outside. A light sensor stops lift doors from closing when someone is trying to get in or out. This can prevent injuries. An infrared sensor from a television enables you to control it with a remote. An antenna makes it possible for a radio to receive information through the air.

Indicators and screens
Indicators and screens give us information about how the machine is functioning. For example, car indicators show the speed or the temperature of the engine. The indicator on a lift shows what floor it is on. Some machines, such as computers and mobile phones, use digital screens. These are more sophisticated than indicators and can display photographs and videos.
UNIT 5: MACHINES
ACTIVITIES

1.- Complete the text about the uses of machines.

Machines are very _________________ for human beings. Most importantly, they make doing things easier. They enable us to exert less _________________ to complete a task, such as lifting a heavy object. However, machines are also important in other ways. Firstly, machines help humans to complete tasks more quickly. Secondly, they can do complicated tasks very easily. For example, electronic circuits must be very precise, some factories use machines to make them with ___________ . Thirdly, we use machines when a task is very _________________, like exploring the sea floor. Fourthly, machines enable us to _________________ one kind of energy into another. For example, a solar-powered _____________ changes light energy into electrical energy.

2.- Fill in the blanks

Machines can be classified depending on the energy source. There are machines which work with:
• _________________, such as a washing machine or a mobile phone
• _________________, such as a watermill or a windmill
• _________________, such as a bicycle or a hammer
• _________________, such as a car or a gas stove

3.- Look at three machines. What does each one do for us? Name them.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
4.- Label the parts of the toy. Use the words. Then read the descriptions and write the part.

- structure
- batteries
- electrical wires
- electronic circuit
- motor

structure

electrical wires

motor

batteries

a. Many other elements are built on me.
b. I am very small, but I direct energy to the motor.
c. I carry energy from the power source to the motor.
d. I transform energy into movement.
e. I store energy and can be re-charged.

5.- Label the sensors.

6.- Match the sentence halves to describe electrical machines.

- Electrical machines function with...
- Machines that produce movement have an...
- The energy directed to the motor goes through an...

  - electrical motor.
  - electrical circuit.
  - electrical energy.
4. Circle the fulcrum on each picture

5. Look at the levers. Write FC (first-class), SC (second-class) or TC (third-class).

Circle the fulcrum on each one.
READ AND LEARN
Watches are machines

Nowadays almost everyone has a watch with a battery. About 95% of those batteries use quartz as the energy source.

In the past, all watches were mechanical. Mechanical watches do not have batteries. The source of energy in those watches is the mainspring. The spring can be wound mechanically or automatically into a tight coil. The energy from the spring is transformed into movement, and transferred to a series of small gears or gear train.

The balance wheel oscillates, and enables the gear train to move the hands of the watch.

Gears have been used for centuries. Thousands of years ago, the Greeks used astronomical instruments that worked with gears. In ancient China, people used mechanical clocks based on the principle of the sand clock or hourglass.

QUESTIONS ON THE TEXT.

1.- How does a mechanical watch work? What energy source does it use?

2.- Why do you not need to wind quartz watches?
LET'S ASK QUESTIONS

1.- Find out what a clepsydra is and what it is used for.

2.- This is the inside of a mechanical watch. Look at the gears. Draw arrows to show the direction in which each gear wheel turns.

NEW WORDS

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5th GRADE. MINIMUM CONTENTS
UNIT 1: THE UNIVERSE

► The Solar System
The Solar System consists of the Sun, eight Planets and their moons, comets and asteroids. They are all called celestial bodies. Everything In the Solar System orbits the Sun.

► The Sun
The Sun is the largest celestial body. It is much Bigger than any planet. It is at the centre of the Solar System. The Sun is an enormous yellow Star which provides the light and heat necessary For life on Earth. The Sun rotates on its own Invisible axis.

► Planets and satellites
There are eight large celestial bodies called planets. Each planet rotates on its own invisible axis. Each planet also orbits the Sun. The planets can be classified into two groups: terrestrial or inner planets and gas giants or outer planets.

* Mercury, Venus, the Earth and Mars are terrestrial Planets. They are small, and mainly made up of rock.

* Jupiter, Saturn Uranus and Neptune are called gas giants because they are large and made up of gases.

• Natural satellites are smaller celestial bodies, such as moons, which orbit their planets.
Asteroids
In the Solar System, there are thousands of tiny, Rocky celestial bodies called asteroids. They have different shapes.

Comets
Comets are small celestial bodies made up of ice, dust and rock. They have bright tails which point away from the Sun. We can only see the tail of a comet when it is close to the Sun.

THE EARTH

1. The movement of the Earth

The Earth revolves around the Sun. Its orbit is an elongated circle, called an ellipse. The Earth takes exactly 365 days and six hours to complete its orbit. Our “normal” calendar years are only 365 days long.

2. The rotation of the Earth

The Earth is a sphere. It rotates on its own invisible axis, which passes through the North and South Poles. It takes twenty-four hours to complete this rotation. At any time, one half of the Earth is facing the Sun. In that half, it is day. The other half is facing away from the Sun. It does not receive sunlight. In that other half, it is night. The Earth always rotates in the same direction. Consequently, the Sun always rises in the east and sets in the west.

3. The seasons

The Earth’s axis is slightly tilted towards the Sun, and receives more light and heat. It is summer in this hemisphere. The other Hemisphere is tilted away from the Sun. It receives less light and heat. It is winter in that hemisphere.
UNIT 1: THE SOLAR SYSTEM

ACTIVITIES

1. Write the letters next to the names of the planets.

- □ Earth
- □ Neptune
- □ Jupiter
- □ Uranus
- □ Mars
- □ Saturn
- □ Venus
- □ Mercury

2. Write **inner planets**, **outer planets** or **satellites**.

a. These planets have a rocky surface. ________________________________

b. These are small celestial bodies that orbit planets. ___________________

c. These planets are mainly composed of gases. ________________________

3. Read the definitions and write the names of the celestial bodies.

a. Spherical bodies that orbit the Sun. They are smaller than planets. __________

b. Small, rocky objects that orbit the Sun. Some are found in the Kuiper belt. __________

c. Giant balls of ice that orbit the Sun in a long, elliptical path. ________________
4. Label the celestial bodies. Then, circle the odd one out.

- dwarf planet
- shooting stars
- asteroid
- comet

5. Match the sentence halves.

- A star’s colour depends on its luminosity and its distance from the Earth.
- A star’s luminosity is its temperature.
- A star’s brightness depends on the amount of energy produced in its nucleus.

6. Look at the pictures. Why can’t you always see the same constellations at night? Complete the text.

Constellations appear and disappear throughout the night. However, the stars do not move. It happens because the Earth revolves on its tilted axis and orbits the Sun. The constellations are different ones depending on the season and whether you are in the Northern or the Southern hemisphere.
MARS

Mars is the fourth planet from the Sun in the Solar System. It has two tiny moons, Phobos and Deimos, which orbit very close to the planet.

The planet is named after Mars, the Roman god of war. It is also known as the 'red planet.' Its red colour comes from iron oxide which covers the planet with fine red dust.

The geographical features of Mars are similar to those of Earth. It has craters, volcanoes, valleys, deserts and polar ice caps. It has the highest known mountain in the Solar System – Olympus Mons – and also the largest canyon, Valles Marineris.

Mars is a terrestrial planet with a thin atmosphere. There is some evidence that Mars has liquid water and may have had some form of life in the past.

Mars has approximately half the radius of Earth. Its average distance from the Sun is about 230 million kilometres. The Solar day on Mars is only slightly longer than an Earth day: 24 hours, 39 minutes, 35.244 seconds. A Martian year is equal to 1 year, 320 days and 18.2 hours.

QUESTIONS ON THE TEXT

1. Correct the information

   a. Mars is the closest planet to the Sun. 

   b. Mars has three moons. 

   c. The planet is named after a Greek god. 

   d. Mars looks red because of its sunsets. 

   e. Mars is a very flat planet. 

2. Choose the best answer.

   The moons of Mars travel very near:

   1. the Earth  2. the Sun  3. Mars 

   Photographs of Mars show:

   2. a varied landscape  2. old ruins  3. early forms of life
To sustain life, a planet needs:

3. craters  2. a thin atmosphere  3. water

f. Mars takes over a year:

1. to go round the Sun  2. to go round the Earth  3. to turn round completely

3. Write complete sentences.

a. Galileo / look at Mars / telescope / 1609

b. lot of storms / Mars.

c. NASA has sent / many space missions / Mars

d. nobody / sure / life on Mars.

4. Investigate.

Find out some information about another planet. Write a paragraph about it.

Use the text about Mars to help you.
Globes are the most accurate way to represent the surface of the Earth. However, because it is not practical to carry a globe into the field, map makers must figure out how to represent a round map on a flat piece of paper, or on a flat screen.

**Types of maps**

- **Political maps** show how people have divided land on the Earth into countries, states, cities and other units for the purpose of governing them.
- **Physical maps** show what the surface of the Earth looks like.

**Map scale**

Is the ratio of the distance on the map to the distance on the ground. Maps represent actual geographical features in a much smaller version.

There are two ways in which the scale can be shown on a map:

1. **Graphical:**

2. **Numerical, representative fraction or ratio:** 1:24,000
In order to find any place on Earth, a system of imaginary lines is used. These lines are called parallels and meridians.

**Parallels** are imaginary lines that circle the Earth. These lines are parallel to the equator. The equator is the principal parallel. Parallels are numbered from the equator to the poles in degrees from 0° to 90°. Parallels measure latitude. Latitude is the distance between any point on the Earth and the equator. Any place north of the equator is in the northern hemisphere. Any place south of the equator is in the southern hemisphere. Look at point Z on globe C below. The latitude of point Z is expressed like this:

![Parallels diagram](image)

**Meridians** are imaginary lines that run from pole to pole. The Greenwich meridian is meridian zero or the principal meridian, sometimes called the Prime meridian. Meridians are numbered in degrees from 0 to 180°, east and west of the Greenwich meridian. Meridians enable us to measure longitude. Longitude is the distance between any point on the Earth and the Greenwich meridian. Points west of the Greenwich meridian are in the western hemisphere. Points east of the Greenwich meridian are in the eastern hemisphere. The longitude of point Z is expressed like this:

![Meridians diagram](image)

When we put the longitude and latitude of a place together, we have the co-ordinates of the location. So, the co-ordinates of point Z are: 40° N, 10° W.
UNIT 2: REPRESENTING THE EARTH

ACTIVITIES

1.- Complete the text. Use the words.

map  stretched  sphere  bigger  globe  accurately  flat

We often need to find out where places are or how far away they are.
It is not always practical to use or carry a ____________, so we use a map. However, it is impossible to draw the Earth accurately on a piece of paper: the Earth is a ____________, but a map is ____________.
Imagine what happens when you peel an orange and lay the orange peel flat on a table: the peel splits. When we transform the information from the globe into a ____________, the same thing happens.
It does not lie flat, so it does not fit ____________. Some places on the map are ________________ and others are squashed.
Greenland, for example, appears much ____________ on a map.

2.- Look at the scale. Measure and calculate the distance in kilometres between...

a. Madrid and Zaragoza.
________________________
b. Valencia and Murcia.
________________________
c. Seville and Badajoz.
________________________
d. A Coruna and Malaga.
________________________

3.- Look at the map and:

Equipo de Bilingüismo
Andrés Egea
A. - Answer the questions.
Moscow is located at 55 degrees North (55°N) and 37 degrees East (37°E). Name the cities located at these points.
30°N 31°E
34°S 18°E

Match the cities with the co-ordinates.
Tokyo 15°S 47°W
Seattle 41°W 174°E
Wellington 35°N 139°E
Brasilia 47°N 122°W

B. - Label the continents and the main oceans.

C. - Label the Greenwich Meridian

4. - Name the modern system that uses these co-ordinates via satellites

5. - Complete the definitions:

Political maps

Physical maps

The map scale is
The roof of the world

People who climb mountains are called mountaineers. They like climbing mountains because it is a challenge.

High mountains are the most difficult and challenging to climb. This means some mountaineers like to climb only the highest mountains.

On Earth there are 14 mountains that are more than 8000 m high. The Highest is called Mount Everest. 8,884.0 m high and is in the Himalayas, on the border between Nepal and Tibet.

It is named Everest in honour of an English geographer called George Everest. In the 19th century he drew many maps of the Himalayas.

But the people of Tibet and Nepal have different names for the mountain.

The Tibetan name for Mount Everest is Chomolungma. This means "Holy mother of the world". The Nepalese name is Sagarmatha. This means "Head that touches the sky".

QUESTIONS ON THE TEXT

1.- Investigate the meaning of challenge.

2.- What do you think the phrase "in honour of" means?

3.- What are the three different names in for the highest mountain in the world in the text?
LET'S ASK QUESTIONS

1.- Mountain Everest was first climbed in 1953. Find out the names of the two mountaineers who climbed it for the first time.

2.- What do you think of mountaineering? Does it sound fun or does it sound scary? Debate in class.

NEW WORDS

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Equipo de Bilingüismo

Andrés Egea
What is climate?
If we observe and record the weather in a specific place over a period of years, we know the climate. Climate is the characteristic state of the atmosphere in a place: the temperature, precipitation and winds over a number of years. Thus, climates can be warm or cold, dry or humid.

Factors which affect climate
Certain factors affect climate and these explain why climates differ from one region to another. These factors are:

- **Distance from the sea.** Water heats up and cools down more slowly than land. As a result, temperatures on the coast are milder. Consequently, in inland areas, summers are much hotter and winters are much colder than on the coast.

- **Altitude.** The climate of a mountain region is colder than on the plains. This is because temperatures fall as altitude increases. Mountain climates are also more humid because clouds collide with the mountains and it rains or snows.

- **Proximity to the Equator.** Not all the Earth receives an equal amount of heat from the Sun. Regions near the Equator receive more heat, while the Poles receive less. This is because of the tilt of the Earth’s axis. The regions between these hot and cold areas are called temperate zones. Spain is located in the temperate zone in the Northern Hemisphere.

Atlantic Climate
On the Cantabrian coast and in Galicia, summers are cool and winters are mild. Rainfall is abundant all year round.
These areas have abundant flora, with many forests and meadows. Foxes, wolves, wild boar and deer are the most common fauna.

Subtropical climate
In the Canary Islands, temperatures are mild all year. Rainfall is low and occurs mainly in winter. The flora includes dragon trees and tabaiba spurge. The fauna includes giant lizards and canaries.
► Mediterranean climate

There are three types of Mediterranean climate.

- **Continental**: on the Central Plateau, in the Ebro valley and part of Andalusia. The summers are hot and the winters are cold. Rainfall is light.
- **Dry**: in the southeast of mainland Spain. Temperatures are mild all year round. Rainfall is light, especially in summer.
- **Typical**: in coastal areas. Temperatures are mild in winter and hot in summer. Rainfall is irregular, with most rain in autumn.

Holm oaks, pines and shrubs grow in these climates. Lynx, partridges and rabbits are the most common fauna.

► Mountain climate

In the highest mountain areas, winters are very cold, but summers are mild. It rains and snows a lot.

There are meadows and forests with fir trees. The fauna includes vultures and goats.
UNIT 3: CLIMATES OF SPAIN

ACTIVITIES

1.- Use the words to complete the text.

The climate of an area is affected by how far it is from the ______________. Temperatures on the coast are ______________ than temperatures inland. This is because water cools down and heats up more __________ than land. In inland areas, summers are much ______________ and winters are much __________ than on the coast. Climate is also affected by ______________.

Temperatures fall as altitude ______________. Mountain regions are ______________ than areas on the plains. The climate in mountain regions is also more ______________ because clouds collide with the mountains, causing rain or snow.

2.- What is climate?

________________________________________

________________________________________

3.- Cross out the plants that are not typical of Mediterranean forests.

holm oak  tabaibas  eucalyptus  fir tree  lavender  oak tree  rosemary

4.- Complete the chart.

<table>
<thead>
<tr>
<th>Mediterranean climate</th>
<th>Continental Mediterranean climate</th>
<th>Oceanic climate</th>
<th>Subtropical climate</th>
<th>Mountain climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperatures</td>
<td>mild</td>
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<td></td>
</tr>
<tr>
<td>Precipitation</td>
<td>little rain</td>
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</tbody>
</table>
5.- What is the climate? Use the key and colour.

Red: Mediterranean climate  Yellow: Continental Mediterranean climate
Green: Oceanic climate     Blue: Mountain climate
Orange: Subtropical climate

6.- Label the temperature and precipitation charts. Write Oceanic, Subtropical or Mountain.
READ AND LEARN

Climate change

On Earth there are many different climates influenced by many different circumstances. The Iberian Peninsula has a mild climate because of a current of eater that comes from America. If one day this current does not arrive, our winters will be much colder than they are now.

The action of human beings can affect different climates. About a century ago, human beings started to emit many polluting gasses into the atmosphere. Some scientists say these gasses are affecting the Earth’s climates, meaning that the Earth is warming up. This is called global warming and it provokes what we understand as climate change.

The consequences of these changes may be serious.

Because of his, human beings must take care of the Earth and not to do things they may change the natural equilibrium of our planet.

QUESTIONS ON THE TEXT.

1.- Why is the climate of Spain mild?

2.- Are climates influenced by one circumstance or many?

3.- What possible effect on the climate might some gasses have?
1.- If some scientists are right and the planet is warming up, what might happen with the ice at the poles of the Earth?

2.- "Human beings must take care of the planet and not to do things..." Write a short composition using this sentence as the beginning.
Mountains and plains in Spain

The Iberian peninsula has many different landscapes. The map shows the mountains and plains. Central Spain is dominated by a large plateau, called the Central Plateau. This is divided into two parts by the Central Mountain Chain. There are mountains to the north, east and south of the Central Plateau:

- The Pyrenees is a mountain chain to the north of the Central Plateau.
- The Betic Chain is a mountain chain to the south of the Central Plateau. The highest peaks on the peninsula are in these chains. The Iberian peninsula has narrow coastal plains. There are two extensive depressions:
  - The Guadalquivir depression is in the south.
  - The Ebro depression is in the north.
Spanish coasts

Spain has more than 6,000 kilometres of coastline in the peninsula. There are five types of coast:

- The **Cantabrian coast** has rocky cliffs, estuaries and gulfs.
- The **Atlantic coast** is very varied. In the northwest, it is high and rocky. There are many estuaries. In the south, it is low-lying and sandy.
- The **Mediterranean coast** is low-lying and sandy. There are many long beaches.
- The coastline in the **Canary Islands** varies greatly.
- In the **Balearic Islands**, high coasts alternate with long beaches.
UNIT 4: SPANISH LANDSCAPES

ACTIVITIES

1.- Draw and colour the map as follows:

* Inner Plateau: Green
* Mountains on the Plateau: Blue
* Mountains surrounding the Plateau: dark brown
* River basins: Green
* Mountains beyond the Plateau: Red
* Archipelagos: Yellow

2.- Complete the map with the names of the relief features.
3.- Write T (true) or F (false). Then, correct the false sentences.

☐ The average height of the land on the Inner Plateau is 6,000 metres above sea level.
☐ The Duero, the Tagus and the Miño are the main rivers that cross the Inner Plateau.
☐ There is more than one type of flat land on the Inner Plateau.
☐ The Paramo Leones and La Alcarria are fertile flood plains on the Inner Plateau.
☐ Farmland dominates the Inner Plateau.
☐ The largest towns are located near the main rivers.

4.- Match the mountain ranges to their highest peaks.

The Galician Massif
- Mulhacen – 3,482 metres

The Basque Mountains
- Aneto – 3,404 metres

The Pyrenees
- Cabeza de Manzaneda – 1,778 metres

The Catalan Coastal Chain
- Aitzkorri Peak – 1,544 metres

The Baetic Mountain Chain
- Turo de l’Home – 1,712 metres

5.- Solve the riddles. Write Galician coast, Andalusian coast or Canary Islands.

a. I am a high and rocky coast with many inlets. __________________

b. I go from the Portuguese border to Gibraltar. __________________

c. I am a flat, low coast with sandy beaches, wetlands and dunes. __________________

d. On the islands in the west, I am high and rocky. __________________

e. I go from Estaca de Bares Point to the Miño estuary. __________________

f. My principal capes are Cape Finisterre and Cape Ortegal. __________________

g. My main landforms are the Gulf of Cadiz, Cape Trafalgar and Tarifa Point. __________________

h. On the islands in the centre, I am rocky in the north and made up of sandy beaches in the south. __________________
Today, many people go to Spain for their holidays. One reason is the great variety of landscape and climate. Some people want sun, sea and beaches. Others prefer mountains, cool air and long walks.

Some visitors to Spain have written about their travels. Gerald Brenan, an English writer, visited Spain in the early decades of the 20th century. In his book *The Face of Spain*, he writes about his stay in Madrid. He describes the landscape from his hotel room which overlooked the Royal Palace. Beyond the palace, he could see the ‘bare, yellow plain that rises from the Manzanares and stretches to the snow-covered Guadarrama.’ Another writer from England, Laurie Lee, visited Spain in the 1930’s when he was nineteen years old. He walked down through Spain and it took him three months to reach Cádiz. He described the town from a distance as a white mark on the blue of the Mediterranean and ‘sparkling with African light.’

Various writers have travelled the Pilgrim Route in the north of Spain, which finishes in the city of Santiago de Compostela. Some have walked and others have gone by bike. All of them have commented on the changes in landscape from the foot of the Pyrenees in Spain, through Navarra, Logroño and Burgos, across the Castilian plain to Leon and finally over the Leon Mountains and into Galicia. The travellers experienced all kinds of weather: snow and frost in winter, fog and rain in autumn and extreme heat in the summer months. But they all agreed that it was a fascinating journey.

**QUESTIONS ON THE TEXT**

1. Answer the questions.
   
   a. What are the two types of holiday described in paragraph 1? 
   
   b. Where were Gerald Brenan and Laurie Lee from? 
   
   c. When did Brenan and Lee travel to Spain? 
   
   d. Which river and which mountain range does Brenan describe? Where are they?  
   
   e. Which phrase tells us that Lee travelled from the north to the south of Spain?  
   
   f. Where is Cádiz? Is Lee’s reference to the Mediterranean correct?  
   
   g. Where is Santiago de Compostela?
2. Read the part of the text about the Pilgrim Route. Where does it start and finish? Which areas does it go through? Make notes about the following:

<table>
<thead>
<tr>
<th>Area</th>
<th>Landscape</th>
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3. Complete the text about the Pilgrim Route.

When is the best time of year to walk the Pilgrim Route? It is ____________ to say. The route travels through many different ____________ and takes several weeks. In winter it is cold and in ____________ it can be very hot. The final part of the route, through Galicia is often ____________. Galicia is famous for its rain!

You must be fit to walk the route. There are high mountains as well as long stretches of flat ____________. Strong shoes and ____________, waterproof clothing are essential. A hat is important too. In some places, there are very few ____________ to protect you from the sun.
Spanish borders
Spain is located in the northern hemisphere in south-west Europe. It borders:
- France, Andorra and the Bay of Biscay in the north.
- The Mediterranean Sea and the Atlantic Ocean in the south.
- The Mediterranean Sea in the East.
- Portugal and the Atlantic Ocean in the West.

Spanish territory
Spanish territory includes most of the Iberian Peninsula, the Balearic Islands, the Canary Islands and the cities of Ceuta and Melilla in North Africa.
The Iberian Peninsula is connected to the European continent by the Pyrenees. It is separated from Africa by the Strait of Gibraltar.

The Autonomous Communities

In 1978, Spain was divided into seventeen Autonomous Communities and two Autonomous Cities, Ceuta and Melilla.

Each community has a Statute of Autonomy, and its own government and parliament. Autonomous communities consist of one or more provinces. Each province is divided into municipalities.
Political institutions

Spanish Constitution

The Constitution is the most important law in Spain. The Constitution establishes the form of government and basic institutions, and it defines the rights and duties of citizens. All laws must follow the Constitution.

A constitutional monarchy

Spain is a constitutional monarchy. The monarch is the Head of State, but cannot make political decisions. The Spanish monarchy is hereditary: it is transmitted from parent to child.

Parliament

Las Cortes is the name of the Spanish parliament. It creates and approves laws and controls government actions. The members of parliament are elected in general elections. These are held up to four years after the previous elections. Parliament consist of two houses: the Congress of Deputies, with 350 deputies, and the Senate, with a variable number of senators.

The government

The government is responsible for governing the country in accordance with the laws approved by parliament. The government is made up of the President and his ministers:

The Courts of Justice

The Courts of Justice are responsible for ensuring that laws are obeyed and for judging anyone accused of committing a crime. They are made up of judges and magistrates. The Supreme Court is the highest court in Spain. It has authority to accept or reject laws passed in the lower courts.

The Constitutional Court decides if laws passed by Parliament or the Autonomous Parliaments are in accordance with the Constitution.
UNIT 5: INSTITUTIONS OF SPAIN

ACTIVITIES

1. Use the words to complete the text.

Spain is located in the___________ Hemisphere, in___________ Europe. Spain’s territories include the majority of the Iberian Peninsula, the___________ Islands, the___________ Islands, and the cities of Ceuta and___________. The Iberian Peninsula starts___________ of the Pyrenees, and is surrounded by___________. There are___________ main islands in the Canary Islands, which are located in the___________ Ocean, off the coast of Africa. The Balearic Islands are situated in the___________ Sea. There are___________ main islands in the archipelago. The cities of Ceuta and Melilla are located in___________ Africa, on the Mediterranean coast.

2. Look at the map. Write Spain’s borders for each compass point.

North:

East:

West:

South:

3. Find and circle the mistakes in the sentences. Write correct sentences.

a. The most important law in Spain is called the Statutes of Autonomy.

b. The Constitution was approved by the Spanish citizens in 1798.

c. Autonomous Community laws do not need to be in accordance with the Constitution.
4.- Use the words to complete the text.

The main ______________ of Spain are the Parliament, the ____________, the Courts of ______________ and the Head of State. Spain’s Head of State is King Juan Carlos I. He is the Commander-in-Chief of the Spanish ________, and he represents Spain internationally. However, the King does not make __________ decisions or establish ______________; he must accept the decisions made by ____________. This is because Spain is a Parliamentary ________________. The Spanish Monarchy is ____________ and the heir to the throne is the Prince of ____________, Felipe de Borbon.

5.- Write T (true) or F (false). Correct the false sentences.

☐ Parliament is responsible for making and approving laws.

☐ Members of parliament are elected every two years.

☐ Anyone aged 16 and over can vote.

☐ Members of parliament represent all Spanish citizens.

☐ The Congress of Deputies has 250 deputies.

☐ The Senate has 259 senators.

6.- Match the sentence halves. Then, write complete sentences.

The Parliament of Spain is called ____________

The lower chamber of parliament is ____________

The upper chamber of parliament is ____________

the Senate.

Las Cortes.

the Congress of Deputies.
READ AND LEARN
Studying in London

My sister is studying for a year in London. She is very excited and says it is very interesting. She says if you live in another country for a few months you experience a lot of new things, but best of all you make a lot of new friends! She says that even though she still feels very Spanish she now also feels very European.

When I am older I also want to study in another European country. I want to have the opportunity to experience different cultures and customs. Of course I also want to make new friends and see how their lives are different to mine.

My sister and I think that because we belong to the European Union it is important to appreciate your own culture but also to understand and appreciate other cultures.

QUESTIONS ON THE TEXT

1.- Where is the girl’s sister studying?

2.- What is the best things about living in another country?

3.- What does the girl want to do when she is older?
LET'S ASK QUESTIONS

1.- The sister thinks living in other country is very exciting and interesting. What do you think you could learn living for a time in another European country?

2.- We all form part of society. Do you think we need other people around to help us live our lives?
5th GRADE. MINIMUM CONTENTS
UNIT 6: POPULATION AND ECONOMY IN SPAIN

► Population
The population of a place changes continually because of the birth rate, the death rate, emigration and immigration.
The birth rate is the number of people born in a place every year. The death rate is the number of people who die in a place every year.
The natural growth rate is the difference between the birth and death rates. It can be positive or negative.
We obtain the real growth rate by adding and subtracting immigration and emigration to the natural growth rate.

► The population of Spain
The population of Spain has increased a lot because of a decrease in the death rate and an increase in the rate of immigration.

► Population density in Spain
Population density tells us if a territory has a lot of inhabitants or a few. We calculate it by dividing the number of inhabitants of the territory by the surface area of the territory.
Spain has a population density of 91 inhabitants per square kilometre.


► Population and jobs
Population can be divided into two groups related to work: active and inactive.

Active population. This includes people who are of legal working age (between 16 and 67) and are healthy and able to work. The active population can be employed or unemployed. People who
are employed are working and earn money in exchange. People who are unemployed are looking for work.

Inactive population. This includes people who are not of legal working age (children under 16 and retired people) and people who do not receive a salary (students, people who are ill, etc.). The active population works in three economic sectors: primary, secondary and tertiary.

► The active population

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, mining and fishing)

* About 30%, around 6 million people, work in the secondary sector. This sector includes industry and construction. The three most important types of industry are:
  - Primary industries transform raw materials into other materials.
  - Equipment and machinery industries produce tools and machinery which other industries need
  - Consumer industries manufacture products to sell directly to consumers.

* About 60%, around 12 million people, work in the tertiary sector. The tertiary sector is also called the service sector. The tertiary sector does not provide us with material goods. Instead, it includes activities which provide services such as educational, health, financial, administrative, trade, tourism, transport and communications services.
UNIT 6: THE POPULATION AND THE ECONOMY OF SPAIN
ACTIVITIES

1.- Use the words to complete the text.

The population of Spain today is over ______________. At the beginning of the 20th century, the population was only around ______________. The population has ______________ due to positive natural growth and ______________. At the beginning of the 20th century, many babies were ______________. However, the population only grew slowly because the death rate was also ______________. Over time, the death rate slowed down because the ______________ developed, nutrition improved and ______________ advances were made. This meant that the population increased.

2.- Write international emigration, international immigration or internal migration.

a. Martin moved from Jaen to the Community of Madrid because the work was better paid.
   __________________________________________________________

b. Irene's grandfather left Spain and went to live in Germany.
   __________________________________________________________

c. Claudia came to Spain with her family from Columbia to find work.
   __________________________________________________________

3.- Are these people part of the active or the inactive population? Write.

a. John is 32. He is a lawyer. _________________________________

b. Peter is 10. He goes to primary school. _________________________________

c. Alice is 70. She used to be a teacher, but she is now retired. _________________

d. Jane is 42. She is currently unemployed and looking for a job. ________________
4.- Label the pie chart of Spain in 2008. Write Primary sector, Secondary sector or Tertiary sector.

5.- Match the columns.

a. The active population includes

1. people who work but receive no money.

b. The primary sector includes

2. is also called the tertiary sector.

c. In the secondary sector

3. fishing and forestry.

d. The service sector

4. natural resources are transformed.

e. Schools and tourism are

5. in the service sector.

f. The inactive population includes

6. unemployed people who are looking for work.

6.- Match the columns.

a. Tourism is

1. come from abroad.

b. Success in the tourist industry

2. is much less important than tourism.

c. Many Spanish cities

3. one of Spain’s most important industries.

d. Not all tourists in Spain

4. from tourism in other countries.

e. Spain is facing competition

5. have efficient public transport.

f. Spain’s agricultural industry

6. depends in part on good transport.
The tourist industry in Spain is very important. It provides a lot of jobs in the service sector – in hotels, restaurants and bars. It also creates work in the area of transport. Most tourists visit Spain’s coasts. They come to relax on the beaches in the Sun. Some tourists travel inland to the mountains or visit cities such as Barcelona or Salamanca. Many tourists come from abroad, but Spanish people also take holidays in their own country.

A good transport system is essential for successful tourism. In Spain, there are airports in most of the major cities and good rail and road systems. In the cities, there is quick, inexpensive underground transport.

A lot of people depend on tourism for employment. Today, there is competition from other countries which want to attract tourism. Some of these countries are cheaper than Spain and some are less exploited - they have not yet built too many holiday resorts. Some Spanish resorts are half-empty in the winter months, so income from tourism decreases. The decline of agriculture in Spain is also partly connected with tourism. Land previously used in agriculture has been used for building tourist apartments and hotels. This could be a bad thing. If tourist numbers fall, many apartments will stay empty and it will be too late to use the land for agriculture.

QUESTIONS ON THE TEXT

1. Match the columns

| a. Tourism is | 1. come from abroad. |
| b. Success in the tourist industry | 2. is much less important than tourism. |
| c. Many Spanish cities | 3. one of Spain’s most important industries. |
| d. Not all tourists in Spain | 4. from tourism in other countries. |
| e. Spain is facing competition | 5. have efficient public transport. |
| f. Spain’s agricultural industry | 6. depends in part on good transport. |
2 Answer the questions.

a. Why is tourism important in Spain? ________________________________
   __________________________________________________________________

b. Why is good transport important? ________________________________
   __________________________________________________________________

c. Why are some tourists going to other countries instead of Spain? ______________
   __________________________________________________________________

d. What happens to some Spanish resorts in the winter months? ______________
   __________________________________________________________________

3. Tick (√) the jobs which belong to the tourist industry

a. waitress          f. fisherman
b. coach driver      g. lawyer

c. engineer          h. cook

d. tour guide        i. nurse

e. cleaner           j. journalist

4. Write descriptions of two jobs.

Example: A waitress works in a restaurant and serves food.

________________________________________________________________________
________________________________________________________________________

5. Investigate. Write about tourism in your area.

Use these questions to help you: How important is tourism in your area? What do tourists visit? Where do they stay? Does anyone you know work in the tourist industry? What do they do? Would you like to work in the tourist industry? Why (not)?

Tourism is important / not important in, Tourists come to visit

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Prehistory

Prehistory is the first period in history and also the longest. On the Iberian Peninsula, it starts with the appearance of human beings, about a million years ago, and ends with the appearance of writing, about 3,000 years ago.

Prehistory is divided into three periods: the Palaeolithic Age, the Neolithic Age and the Metal Ages.

The Paleolithic period

About a million years ago, Spain was inhabited by hominids, or early human beings. Modern people appeared in Spain about 35,000 years ago. They were nomads, and moved from place to place. They lived in caves or huts. They obtained their food by hunting, fishing and gathering wild plants. People lived in family groups, called clans. They lived short lives, and many babies died at birth.

The Neolithic period

Later the population of the peninsula and the Balearic Islands became sedentary. They built the first settlements. People lived in tribes, which were larger than clans. Each tribe member had a specific job, such as cultivating the land, looking after the animals or making tools and weapons.

The Metal Ages

About six thousand years ago, people learned to use metals. First, they used copper and, later, bronze and iron, which were more resistant. Settlement became villages, which were surrounded by walls for protection. Every village was run by a chieftain.

New inventions
In the Metal Ages, three very important things were invented: the wheel, the sail and the plough. The wheel enabled people to transport heavier goods by cart. The sail enabled boats to move using wind energy. In time, boats became larger and could transport more people and goods. The plough was pulled by animals. Therefore, people could plough larger areas of land much faster.

► Prehistoric heritage
Prehistoric people were the first to:
* Use fires to cook their food and protect themselves from the cold.
* Make clay pots.
* Use animal hair and looms to make cloth.
* Create art forms, such as cave paintings.

► Megalithic monuments

The people who lived during this period built monuments with huge stones called megaliths. For this reason, they are called megalithic monuments. Many people were needed to build these monuments. The enormous stones were rolled on tree trunks by people pulling on ropes.
UNIT 7: PREHISTORY
ACTIVITIES

1.- Are the sentences true or false? Write T (true) or F (false).

a. Prehistory is the long period before the invention of the wheel.  

b. The Stone Age began about five million years ago.  

c. In the Palaeolithic period, people moved from place to place.  

d. In the Neolithic period, people made pots and cloth.  

e. In the Neolithic period, people built the first cities.  

f. The Metal Ages began about ten thousand years ago.  

g. The wheel and the plough were invented during the Metal Ages.  

h. During the Metal Ages, craftsmen made weapons and jewellery.  

2.- Match

<table>
<thead>
<tr>
<th>Polished stone tools</th>
<th>Palaeolithic</th>
<th>They made more sophisticated tools such as hoes and sickles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple tools from wood, bones and stone</td>
<td>Neolithic</td>
<td>They hit one stone against another until they obtained the shape they wanted.</td>
</tr>
</tbody>
</table>

3.- Use the words to complete the text.

During the Neolithic Age, people learned to________________________ stone. Polished stone tools were more __________ than the roughly-made stone tools used during the Palaeolithic Age. Because of this, tools became more __________. Neolithic people invented __________ to turn the soil __________________, to cut grain and hand ______________ to grind it. Another important development during the Neolithic Age was the making of _________________. Cloth was made from the ________ of animals and was woven on machines called _________________.

4.- Write Palaeolithic, Neolithic or Metal Ages.
People lived in towns.
People lived in villages.
People lived in caves.
People hunted and gathered fruit.
People farmed and kept animals.
People became soldiers and traders.
People built megalithic monuments.
People painted human figures on cave walls.
People painted animals on cave walls.
They made tools from polished stone
They made tools from metal.
They made simple tools from stone.

5.- Write T (true) or F (false).

The Metal Ages began around 3,000 years ago.  
The first metal objects were made using copper.  
People later used bronze and iron.  
People made objects including weapons, tools and ornaments.  
Metal objects were less resistant than objects made of stone.

6.- Name the metal objects in the photographs.

____________     ______________    ______________
Eva is a student. Last summer, she spent part of her summer holidays working on a 'dig' (or archaeological excavation). Her favourite subject is History and she loves finding things which bring the past to life.

The site where Eva worked last summer is near Alicante. The government had started to build a new road. Then, one of the excavating machines uncovered some old stones. These stones were ruins which belonged to a very old building. The government stopped building the road and put up a fence to protect the area. Archaeologists came with helpers such as Eva. Carefully, they began to take away the earth and slowly the remains of ancient civilisations began to emerge.

‘It’s very interesting,’ says Eva. ‘The first layer looks like the remains of a Roman villa or bath house. But under that, we found objects from earlier periods. There are fish hooks and other tools. They are probably from the Phoenician or Carthaginian civilisations. We also found some pots and jewellery which are definitely from Iberian times: some of the decoration is like that on the Lady of Elche.

I hope the government doesn’t start building the road again. This is a very important site. It can teach us a lot about the people who lived here before us and their way of life. Who knows? If we continue to dig, we could find something from prehistoric times.’

QUESTIONS ON THE TEXT

1. Match the words and the definitions

| a. Dig      | ☐ 1. a barrier around an area |
| b. Subject  | ☐ 2. we make things with this |
| c. Site     | ☐ 3. an archaeological excavation |
| d. Fence    | ☐ 4. something we study at school |
| e. Remains  | ☐ 5. an area of land |
| f. Tool     | ☐ 6. rings and bracelets |
| g. Pot      | ☐ 7. a container, sometimes used for cooking |
| h. Jewellery| ☐ 8. historical ruins |

2. Answer the questions

a. What did Eva do last summer? ____________________________________________
b. When was the site discovered? _________________________________

c. What remains are in the first layer? ________________________________

d. What remains are under the first layer? ________________________________

e. What does Eva hope to find in the future? ________________________________

f. What must the government do to preserve the site? ________________________________

3. Complete the table

<table>
<thead>
<tr>
<th>Civilization</th>
<th>Discoveries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iberian</td>
<td>Iberian</td>
</tr>
<tr>
<td></td>
<td>Iberian</td>
</tr>
<tr>
<td>Carthaginian and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Roman</td>
<td>remains of a villa or</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Write a letter.

Imagine that you are working on a dig. Write a short letter to your English pen pal about your experience. Use these questions to help you.

Where was the dig? What ruins did you find there? What objects did you find? Which civilisations are they from? How do you feel about your discoveries?

Dear ____________________,

I am writing to tell you about the dig where I worked this summer. It was in / near

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Best wishes,

_________________________
The Iberians and the Celts

In pre-Roman times, two main groups of tribes inhabited the peninsula:

- The **Iberians** lived in the east and south of Spain. They were warriors, herders, farmers, craftsmen, merchants and slaves.
- The **Celts** entered Spain from the north, and generally settled in the north and centre of Spain. Their tribes were divided into family clans. They were herders and farmers. They were also expert metalworkers, who made jewellery, weapons and tools.

The Celts mixed with the Iberians to form the Celtiberians.

Early colonists

The **Phoenicians** were traders from Asia. They settled on the south coast. In 1100 B.C. they founded Gades (now Cádiz), the oldest city in Western Europe. They became important trading partners of the Tartessians.

The **Greeks** settled on the Mediterranean coast. They came to trade ceramic objects for metals. They founded the cities of Denia and Ampurias.

The **Carthaginians** came from North Africa to trade metals and cloth. They also settled on the Mediterranean coast and founded the city of Cartagena. These colonising civilisations lived and traded with the Celtiberians for centuries. They left cultural legacies, such as the alphabet and metal coins.
In 218 B.C. the Romans defeated the Carthaginians in a war for the control of the Mediterranean Sea. However, the Romans did not complete their conquest of the Iberian Peninsula until 19 B.C. because of resistance from peoples in the interior, north and west.

The peninsula became part of the Roman Empire and was now called Hispania.
Its inhabitants gradually adopted Roman customs, and they were ruled by Roman law.
They spoke Latin, the language of the Romans. Later, they became Christians.
The governor of Hispania was a Roman. He was responsible for keeping order and collecting taxes.
Iberian leaders joined the Roman aristocratic class, and participated in government.

Hispano-Roman society

There were two groups of people in Hispano-Roman society: free people and slaves.
Free people were very rich men and women, such as important merchants, landowners and families from Rome, and other more humble people, such as craftsmen and small merchants and farmers. Free people had rights and could take part in government.
Slaves were owned by another person. They worked on the land, in domestic service or as gladiators at the circus. Slaves had no rights.

Roman art

The Romans were excellent builders. They used two new materials for building: cement and concrete, which is a mixture of stones, cement and sand. They built bridges, as well as aqueducts to carry water to the cities. To decorate floors and walls, the Roman used paintings or made mosaics with tiles made of stone or coloured glass.
UNIT 8: ANCIENTE HISTORY

ACTIVITIES

1.- Unscramble the letters and write the words.

There were two groups of people living on the Iberian Peninsula in the first millennium B.C.; the _______ and the _________. Then, the first colonists arrived from the Mediterranean Sea: the ____________, the ____________, and the _____________.

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

a. The Iberians lived in the south and east / north and west of the Iberian Peninsula.
b. They lived in hill forts, which were fortified villages built in high places / by the sea.
c. Their houses were rectangular / round and organised in streets.
d. The Iberians lived in tribes / alone.
e. Many of the tribes were governed by a chieftain / a king.
f. Most of the population worked in farming and stockbreeding / fishing.
g. The Iberians were expert craftsmen / sailors.

3.- Write Iberian village or Celtic village.

[Images of villages labeled A and B]

__________________________  __________________________
4.- Complete the chart.

<table>
<thead>
<tr>
<th></th>
<th>Phoenicians</th>
<th>Greeks</th>
<th>Carthaginians</th>
</tr>
</thead>
<tbody>
<tr>
<td>They came from</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They settled on</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Founded colonies such as</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.- Write free person or slave.

a. I trade in gold and silver and am very rich. __________

d. I am owned by a rich lady. I cook, clean and sew and do everything she asks. __________

b. I own a lot of land near Rome. __________

e. I am a gladiator at the circus. I have no rights. __________

c. I cannot see my family. I have to work in the fields all day. I have no rights. __________

f. I look after my animals and sell them at the market. I live with my family. __________

6.- Use the words to complete the text.

Hispania provinces governor Tarraconense laws

Cartaginense Baetica Gallaecia Lusitania

Once they had conquered ____________, the Romans made it part of the Roman Empire.

They divided Hispania into ____________. At first, there were three provinces: ____________, ____________ and ____________. Later, in the 3rd century A.D., there were two more provinces ____________ and ____________. Each province was ruled by a ____________.
The Romans introduced the **laws** of the Roman Empire throughout Hispania. Many of today’s laws are based on these.

**READ AND LEARN**

**The Roman Army**

The Roman Army was made up of men from all over the Empire. Women could not join the army. The men were professional soldiers. Their job was to fight and to defend Rome. The soldiers had to stay in the army for at least 25 years and they could not marry until they left the army.

If a soldier was brave and fought well, he could become a centurion in charge of about 100 legionaries. Each group of men was called a century. There were 50 centuries in a legion and about 30 legions in an army. Centurions carried a special stick to show who they were. They also wore special armour to show their importance.

A Roman soldier carried a short sword and a spear called a *pilum*. He wore armour and a helmet on his head made of metal. He also carried a large shield of wood or leather which curved around his body. In battle, the soldiers marched in flexible lines. If the enemy shot arrows at them, they lifted their shields over their heads to form a protective roof. This was known as a *testudo*, which means ‘tortoise’.

Roman soldiers had to be strong. They sometimes had to march more than 30 kilometres a day wearing their armour. They also had to carry their shield, some food and camping equipment. Life for a Roman soldier was often hard and lonely. Some Roman mothers sent their sons letters and parcels of food and clothes from Italy. Some of these letters have survived and we can see them today in museums.

**QUESTIONS ON THE TEXT**

1. Choose the best answer

   a. Roman soldiers were from:
      1. Italy  
      2. different countries  
      3. Europe  

   b. Roman soldiers:
      1. travelled with their wives  
      2. married in the army  
      3. were single  

   c. A centurion was:
      1. more important than a legionary  
      2. below a legionary  
      3. the same as a legionary  

   d. In a Roman army there were approximately:
      1. 100 men  
      2. 300 men  
      3. 150,000 men  

   e. A centurion carried a stick:
      1. to show the importance of his men  
      2. to show his own importance  
      3. in order to fight his enemies  

   *Equipo de bilingü*
2. Complete the sentences with a word from the text.

a. The Roman army was made up of well-trained, ________________ soldiers.

b. The Roman ________________ had armies in many countries.

c. The soldiers who made up a century were called ________________.

d. A legion had about 50 ________________ in it.

e. An army had about 30 ________________.

f. A ________________ was someone in charge of other soldiers.

g. Roman soldiers carried a ________________, a spear and a shield.

h. A Roman soldier's helmet was made of ________________.

3. Complete this letter from a mother to her son in the Roman army.

Dear Aulus,

I hope you are ________________. We are all well here. I hear that the ________________ is very cold where you are now. I am sending you some gloves made of ________________. I'm sure your hands get very ________________ when you are guarding the ________________. I'm also sending you some cheese because I know that you miss our delicious ________________. I hope that you receive it. We all miss you.

Your ________________ Flavia is very sad and thinks about you all the time. Take care of yourself, son, and come back to us ________________.

Your loving mother

---

Equipo de bilingüismo

Andrés Egea
5th GRADE. MINIMUM CONTENTS
UNIT 9: THE MIDDLE AGES

► The Visigothic kingdom

Initially, the peninsula was controlled by both the Visigoths and the Suevi, who inhabited the north-west. The Visigothic kingdom was ruled by a king. One of the most important Visigothic kings, Leovigild, made Toledo the capital of the kingdom and conquered the Suevi. The Visigothic kingdom lasted until 711 A.D. when Roderic, the last Visigothic king, was defeated by the Muslims.

► The Muslim invasion

Muslims from northern Africa invaded Visigothic Spain in 711 A.D. It only took them a few years to defeat the Visigoths. They occupied most of the peninsula and the Balearic Islands. This territory was called Al Andalus, and its capital was Cordoba. Al Andalus became a province of the Muslim Empire and was governed by the caliph of Damascus in Asia.

► The end of Al Andalus

The taifas fought among themselves and this helped the Christians kingdoms to gain territory. New groups of Muslims came from Africa to reunite the taifas. However, in 1212 the Christians defeated the Muslims at the Battle of Las Navas de Tolosa. In 1492 the Catholic Monarchs conquered the only remaining Muslim kingdom, the Kingdom of Granada.

► The Christian kingdoms

The long period of expansion of the Christian kingdoms started only eleven years after the Muslim invasion. It is called the Reconquest. By around 1230, there were four large kingdoms in the Christian territory:
* The Kingdom of Portugal, which declared its independence from the Kingdom of Leon.
* The Kingdom of Navarre, which included Navarre and part of La Rioja.
* The Crown of Aragon, which was formed by the Catalanian Counties, the Kingdom of Aragon, Valencia and Majorca.

* The Crown of Castile, which included the Kingdom of Castile and the kingdom of Leon. It later included part of Andalusia.

In 1479, Isabella I of Castile married Ferdinand II of Aragon, and the Crowns of Castile and Aragon were united. In 1492, the Catholic Monarchs conquered Granada, the last Muslim Kingdom on the peninsula.

► Society in Al-Andalus

After conquering the Peninsula, the Moors were tolerant towards Christians and Jews and allowed them to continue to practise their religions and customs. As a result, many Christians stayed in Al-Andalus. Only a few left and went to the north of the Peninsula.

Al-Andalus society was very diverse. It was made up of people from different religions. The Moors were the most powerful group. They occupied government posts and owned the best lands. The Muladi were Christians who accepted the Muslim religion. Some of them converted so they would not have to pay taxes. The Mozarabs were Christians who continued to practise their religion. The Jews were a minority. They lived in districts separated from the other inhabitants.

► Society in the Christians Kingdoms

There were two large groups of people in the Christian kingdoms: the privileged and the non-privileged.

Privileged people were the noblemen and the clergy. These groups did not pay taxes. Noblemen lived in castles, owned great properties and were very rich. The clergy were the monks and nuns who lived in monasteries, and the priests and bishops who looked after the churches.

The non-privileged had to pay taxes. This group was made up of peasants, craftsmen and merchants. The peasants formed the largest group. They lived in villages near the castles. The majority of them cultivated the noblemen’s land. The craftsmen and the merchants lived in the cities.
UNIT 9: THE MIDDLE AGES

ACTIVITIES

1.- Circle the correct answer. Then, write the sentence.

The Visigoths were…

- a. Muslims.
- b. a Germanic tribe.

The capital of the Visigoth kingdom was…

- a. Toledo.
- b. Cordoba.

2.- Match the people to the descriptions.

- Prince Abd-ar-Rahman I
  An emir who established the caliphate of Cordoba in 929.

- Emir Abd-ar-Rahman III
  A Moorish soldier who was responsible for many victories in Al-Andalus.

- Recceswirth
  A Visigoth king who tried to unify the kingdom.

- Almanzor
  He proclaimed himself an independent emir in 756, and Al-Andalus separated from Damascus.

3.- Look at the map of the Iberian Peninsula around 1200. Write the numbers next to the places.

- [ ] Almohads
- [ ] Kingdom of Castille
- [ ] Crown of Aragon
- [ ] Kingdom of Navarre
- [ ] Kingdom of Portugal
- [ ] Kingdom of Leon

Equipo de bilingüismo

Andrés Egea
4. Circle the correct option.

a. The highest authority of the Muslims was the king / caliph.

b. The religion of the Muslims was Latin / Islam.

c. The Christians lived in the countryside / cities in the north of the peninsula.

d. The Muslims built mosques / churches to practise their religion.

e. The first Christian kingdom was in Navarre / Asturias.

f. After the year 1000, Al Andalus broke up into small caliphs / taifas.

g. The Christian kingdoms prospered / weakened.

h. The Catholic Monarch conquered Córdoba / Granada in 1492.

5.- Match the sentence halves about life in Al-Andalus.

- The Moorish conquerors were Christians who accepted the Muslim religion.
- The Jews were the most powerful people. They held government posts and owned the best land.
- The Mozarabs were Christians who continued to practise their religion.
- The Muladi were people who lived in districts separated from the other inhabitants.

6.- Write T (true) or F (false).

☐ The privileged people in the Christian kingdoms paid taxes.
☐ Noblemen lived in castles and were very rich.
☐ The clergy were non-privileged people.
☐ The monks and nuns lived in monasteries and the priests and bishops looked after churches.
☐ The non-privileged people were the peasants, craftsmen and merchants.
☐ The peasants lived inside castles.
The Alhambra in Granada was built by the Muslims when Spain was known as Al Andalus. Originally it was a fortress, a palace and a small city all in one. Today, it is one of the most popular tourist attractions in Spain. The name ‘alhambra’ comes from an Arabic word and means ‘red castle.’ This probably refers to the colour of the clay used to build the walls and towers.

The Alhambra was completed in the 14th century by Yusuf I and Muhammed V, Sultan of Granada. Until the end of Al Andalus, it was the home of the Muslim rulers and their court. In 1492, the Catholic Monarchs, Ferdinand and Isabella conquered Granada, the last Muslim kingdom on the peninsula. The Christian court was established and the Muslims had to leave their beautiful palace.

During the 18th and 19th centuries, the Alhambra fell into neglect. Its walls began to fall down and its gardens became overgrown. After public protests, it was declared a national monument in 1870. Since then, a lot of work has been done to preserve the building for future generations.

The Alhambra contains some wonderful examples of Moorish architecture and engineering. Coloured tiles cover the walls and delicate arches surround the many patios. The gardens are watered by a sophisticated irrigation system. One of the most impressive aspects of the Alhambra is its position. It is built on a hill on the south-eastern border of the city and behind it are the mountains of the Sierra Nevada.

QUESTIONS ON THE TEXT

1. Match the words with their definitions

<table>
<thead>
<tr>
<th>a. fortress</th>
<th>1. kings and queens</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. palace</td>
<td>2. a strong building used for defence</td>
</tr>
<tr>
<td>c. clay</td>
<td>3. the system of bringing water to crops and land</td>
</tr>
<tr>
<td>d. rulers</td>
<td>4. thin squares used for covering roofs, walls or floors</td>
</tr>
<tr>
<td>e. monarchs</td>
<td>5. a building where kings and queens live</td>
</tr>
<tr>
<td>f. neglect</td>
<td>6. curved structures in an opening or supporting a wall</td>
</tr>
<tr>
<td>g. engineering</td>
<td>7. the design and building of machines and structures</td>
</tr>
<tr>
<td>h. tiles</td>
<td>8. the people in charge of a nation</td>
</tr>
<tr>
<td>i. arches</td>
<td>9. earth used for building and making pottery</td>
</tr>
<tr>
<td>j. irrigation</td>
<td>10. in a bad condition as a result of poor care</td>
</tr>
</tbody>
</table>
2. Answer the questions

a. Who built the Alhambra?

b. What was Spain called when the Alhambra was built?

c. What was its original function?

d. What is its function today?

e. Why was the Alhambra given its name?

f. Who lived in the Alhambra until 1492?

g. Who lived in the Alhambra after 1492?

h. What happened to the Alhambra in the 18th and 19th centuries?

i. Why was the Alhambra made a national monument?

3. Find the following in the text:

a. The names of two Moorish kings.

b. The names of two Spanish monarchs.

c. Three types of building.

d. Two examples of Moorish art and architecture.

e. An example of Moorish engineering.

f. The name of a mountain chain.

4. Find out about another place or monument of Muslim origin.

Write a short paragraph. Use these questions to help you:

Where is it? When was it built? Who built it? What was its function?

What is its function today? Is it in a good condition?

What are its characteristics?