

Reinforcement and Extension

Worksheets

**• Essential
Science 6**

Science, Geography and History

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1 Ecosystems

REINFORCEMENT

Name _____ Date _____

1. Complete the sentences.

algae	aquatic	ecosystem	environment	
fauna	flora	fungi	habitat	terrestrial

- 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 _____.

2. Label the photographs.

decomposer	producer	primary consumer
tertiary consumer	secondary consumer	

(a)



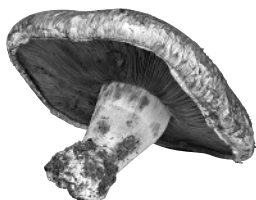
(b)



(c)



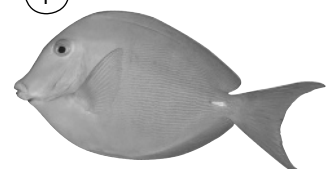
(d)



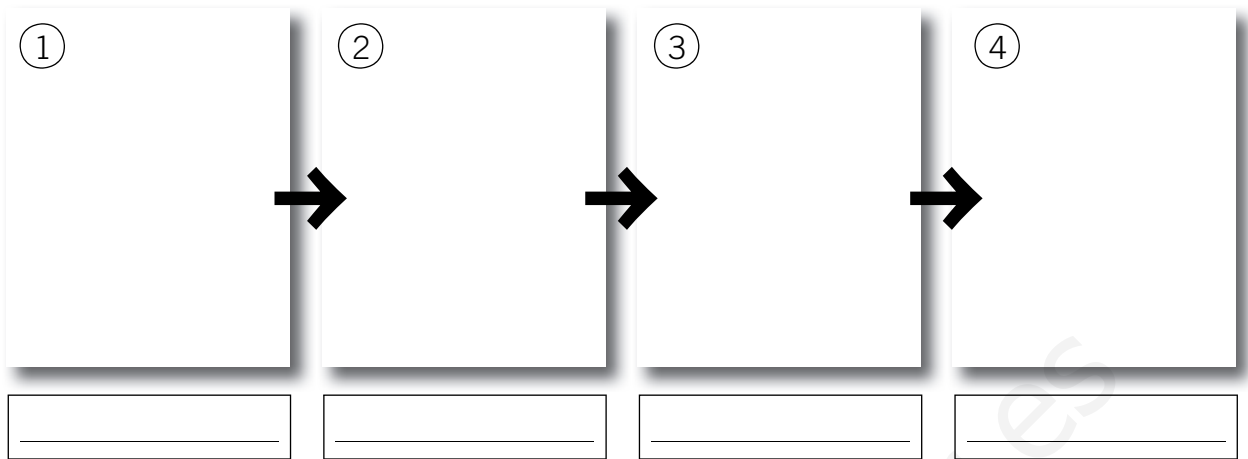
(e)



(f)



3. Draw and label a food chain.



4. Complete the definitions.

- a. Parasitism: a parasite is a living thing which _____
_____.
- b. Mutualism: a living thing eats the parasites which _____
_____.
- c. Competition: several species _____
_____.

5. Answer the questions.

- a. What human activities can be harmful to the environment? _____
_____.
- b. What is the greenhouse effect? _____
_____.
- c. What is global warming? _____
_____.

6. Choose an endangered species and write about it.

2 The body

REINFORCEMENT

Name _____ Date _____

1. Complete the definitions.

- a. Joints are _____.
- b. Cartilage is _____.
- c. Ligaments _____.
- d. Tendons _____.

2. Label the photos and describe the arm movements.

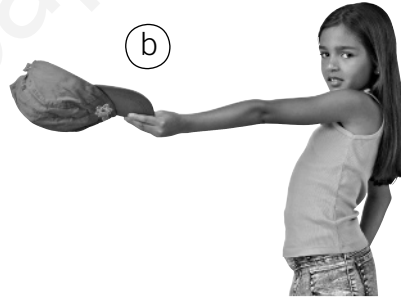
- a. _____

a



- b. _____

b



3. Match the two columns.

a. The brain

1. has three parts.

b. The cerebrum

2. maintains balance.

c. The cerebellum

3. controls reflex movements.

d. The brain stem

4. regulates internal organs.

e. The spinal cord

5. controls voluntary movements.

f. The peripheral nervous system

6. consists of nerves.

4. Answer the questions. Give an example of each type of movement.

a. What are reflex movements? _____

b. What are voluntary movements? _____

5. Cross out the odd word.

- a. heart lungs brain joints
- b. movable bones fixed gliding
- c. cartilage ligaments joints tendons
- d. cerebellum spinal cord brain stem cerebrum



6. Are the sentences true (T) or false (F)? Correct the false sentences.

- a. The nervous system controls the endocrine system.
- b. We can control involuntary muscles with our decisions.
- c. The endocrine system is responsible for growth and reproduction.
- d. The endocrine glands secrete hormones into the nervous system.
- e. The thyroid gland produces thyroxin; the pancreas produces insulin.
- f. Insulin controls the amount of salt in the bloodstream.
- g. The pituitary gland coordinates other endocrine glands.

- Why do we need involuntary muscles?

3 Sexual characteristics

REINFORCEMENT

Name _____ Date _____

1. Answer the questions.

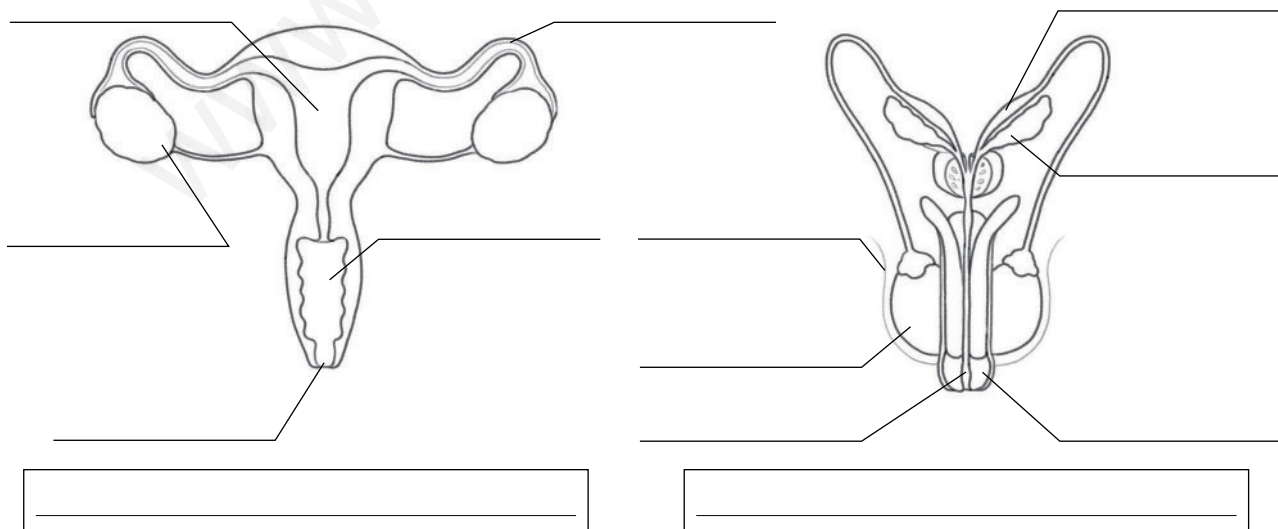
- a. When does puberty start? _____

- b. When do girls reach puberty? _____
- c. When do boys reach puberty? _____

2. Match the two columns.

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

3. Label the illustrations.



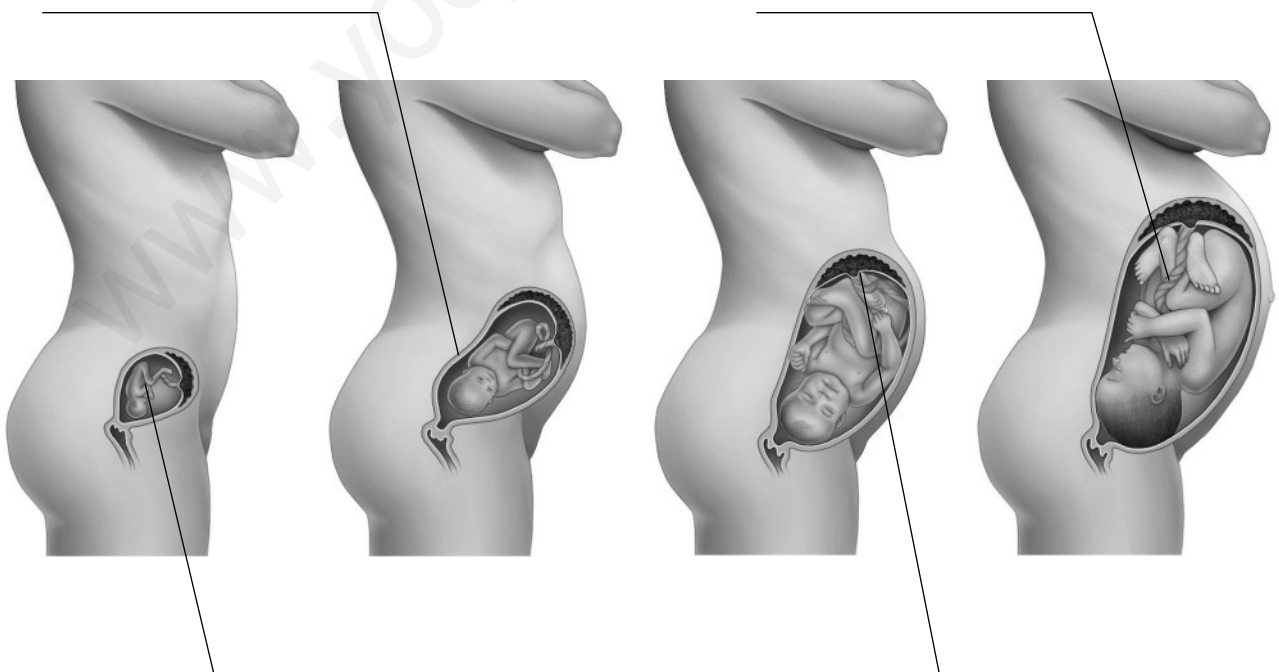
4. Circle the correct alternative.

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

5. Find 6 words in the wordsearch. Then use them to label the drawings.

B	Z	T	S	P	L	A	C	E	N	T	A
I	E	U	M	B	I	L	I	C	A	L	C
R	A	F	T	E	R	B	I	R	T	H	O
T	H	Z	F	H	T	S	E	Q	R	Q	R
H	S	D	I	L	A	T	I	O	N	Z	D

6. Label the illustrations.



Name _____ Date _____

1. Complete the sentences and give examples.

- a. There are two types of energy sources: _____

- b. Non-renewable energy cannot _____

- c. Renewable energy sources can _____

2. Complete the sentences.

nuclear	mechanical	electrical
thermal	light	chemical

- a. _____ energy is the energy found in light.
- b. _____ energy is the energy released as heat.
- c. _____ energy is the energy produced by fossil fuels and biomass.
- d. _____ energy is the energy produced by the flow of electric charge.
- e. _____ energy is the energy produced by things in motion.
- f. _____ energy is the energy found in elements such as uranium.

3. Describe these two examples of energy conversion.

- a. In a light bulb _____



- b. In a fan, _____

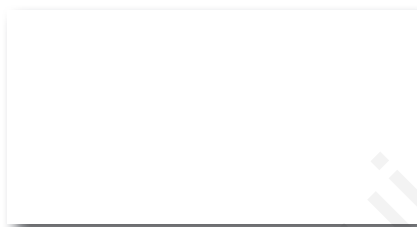


4. Complete this text about light.

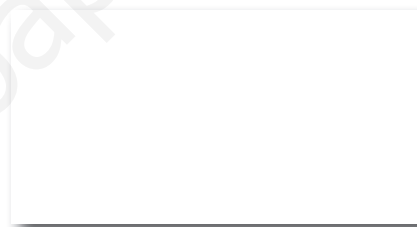
Light is a form of energy which enables us _____. Light moves at _____ per second. It travels in _____ directions. It always travels in a _____ line. If light meets an obstacle and the obstacle blocks it, a _____ is formed. When light hits an opaque object, it is _____ and changes direction.

5. Answer the questions.

- a. How many colours make up white light? _____
- b. When do rainbows occur? _____
- c. What colours does a red object absorb? _____
- Draw lines to show how lenses refract light.



convex lens



concave lens

6. Complete this text about sound.

Sound is a form of _____. Sound is produced by the _____ of an object. Sound travels in _____. It travels through air at _____ per second. An _____ is the _____ of sound from the surface of an obstacle.

7. What happens when we speak?

Name _____ Date _____

1. Complete the sentences.

- There are two types of electrical charge: _____.
- If an object has more positive than negative charges, it is _____.
- If an object has more negative than positive charges, it is _____.
- If an object has the same number of positive and negative charges, it is _____.
- Objects with opposite charges _____.
- Objects with the same charges _____.

2. Answer the questions and label the photograph.

- What is electrical current? _____

- What is a conductor? _____

- What is an insulator? _____



3. Write about electric circuits.

An electric circuit has four basic components: _____
 _____. They are connected to each other to allow
 _____.

A switch controls the flow of electrical current.

In the *on* position, _____

In the *off* position, _____

4. Answer the questions.

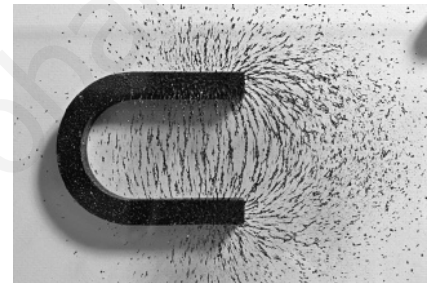
a. What is a magnet? _____

b. What happens when the opposite poles of two magnets are placed together?

c. What happens if the same poles of two magnets are placed together?

d. How are magnets used? _____

e. Describe the magnetic field generated by the magnet.



5. Match the two columns.

a. Electricity is produced <input type="radio"/>	1. is connected to a generator.
b. Water, wind or steam <input type="radio"/>	2. through conducting wires to substations.
c. The turbine <input type="radio"/>	3. moves a turbine.
d. When the turbine rotates <input type="radio"/>	4. at power stations or power plants.
e. The electricity is transmitted <input type="radio"/>	5. the generator converts mechanical energy into electricity.

6. Give examples of how electricity is used:

a. To produce heat: _____

b. To produce movement: _____

c. To produce light: _____

d. To produce sound: _____

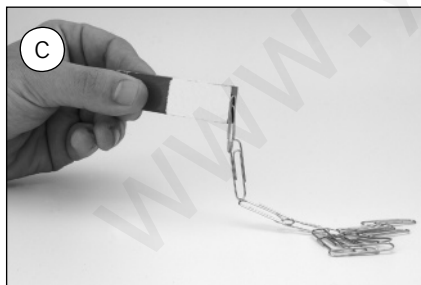
Name _____ Date _____

1. Complete these sentences about types of forces.

- a. _____ affects magnets and some metal objects.
- b. _____ slows or stops moving objects.
- c. _____ makes objects fall to the ground.
- d. _____ force is found between electrically charged objects.

2. Write about the difference between an elastic object and a non-elastic object.

3. Study the photos. Describe the forces which are at work.



4. Give examples of machines which use these energy sources.

- a. Human energy: _____
- b. Water or wind: _____
- c. Fuel: _____
- d. Electricity: _____

5. Answer the questions.

- a. When do we say that a machine is complex? _____
- b. What do thermal machines do? _____
- c. Why does a machine have a casing? _____
- d. What is a mechanism? _____
- e. What energy do combustion engines use? _____
- f. What is an electronic circuit? _____
- g. What are microchips? _____

6. Explain how a bicycle converts human energy into mechanical energy.



7 The Solar System

REINFORCEMENT

Name _____ Date _____

1. Cross out the odd word. Then explain your choices.

- a. yellow planet enormous star
- b. moons asteroids poles comets
- c. Mercury Venus Saturn Mars
- d. Mars Saturn Uranus Neptune
- e. ice liquid dust rock



2. Label the drawing.

sunlight day night rotational axis North Pole South Pole



3. Circle the correct alternative.

- a. There are two groups of planets: terrestrials and *gas giants / natural satellites*.
- b. *Asteroids / Satellites* are tiny, rocky celestial bodies.
- c. Comets have bright tails which point *away from / toward* the Sun.
- d. The Earth's orbit is called *an axis / an ellipse*.
- e. The Sun always rises in the *east / west* and sets in the *east / west*.

4. Explain what causes the seasons.



5. Complete this text about eclipses.

Sometimes during their orbits, _____,
 and an eclipse occurs. During a _____, the Earth passes between the Sun
 and the Moon. The Earth's shadow moves _____.

During a solar eclipse, _____
 _____ and projects a shadow
 on the Earth. A total eclipse occurs when



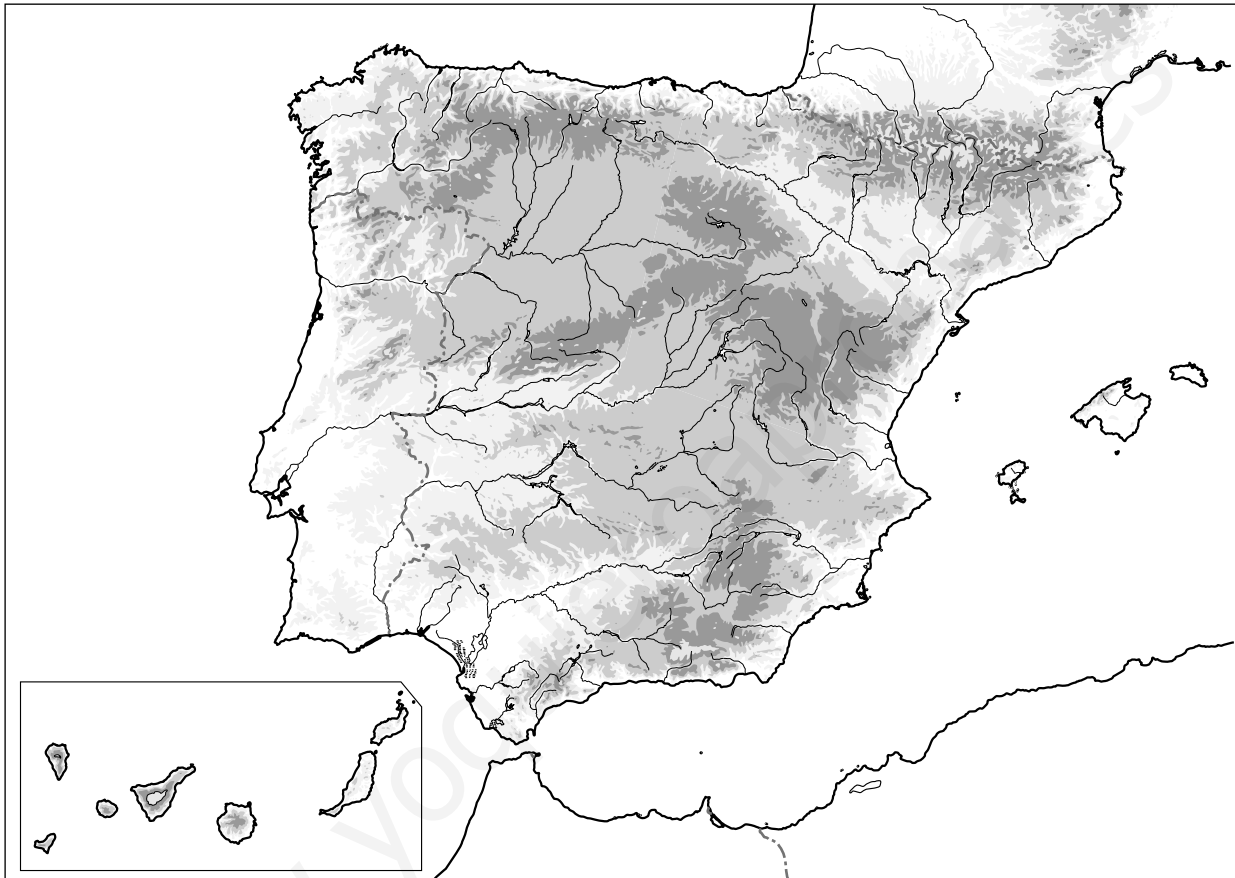
6. Match the columns.

- | | |
|---|--|
| a. A star <input type="radio"/> | <input type="radio"/> 1. different colours and sizes and different luminosity. |
| b. Most stars <input type="radio"/> | <input type="radio"/> 2. are groups of stars. |
| c. Stars have <input type="radio"/> | <input type="radio"/> 3. is a cloud of dust and gas. |
| d. Constellations <input type="radio"/> | <input type="radio"/> 4. are enormous groups of stars, gases and dust. |
| e. A nebula <input type="radio"/> | <input type="radio"/> 5. is a spherical body which generates light and heat. |
| f. Galaxies <input type="radio"/> | <input type="radio"/> 6. three shapes: elliptical, spiral and irregular. |
| g. Galaxies have <input type="radio"/> | <input type="radio"/> 7. consist of helium and hydrogen. |
| h. Our Solar System <input type="radio"/> | <input type="radio"/> 8. is on the edge of the Milky Way. |

Name _____ Date _____

1. Identify and label these plateaus and mountain ranges on the map.

Northern Plateau	Southern Plateau	Central Mountain Chain	
Pyrenees	Betic Chain	Cantabrian Chain	Iberian Chain



2. Compare the landscapes of these places.

a. The Canary Islands and the Balearic Islands: _____

b. The Galician coast and the Atlantic coast of Andalusia: _____

c. The Cantabrian coast and the Mediterranean coast: _____

3. Complete this text about the Mediterranean climate.

There are three types of Mediterranean climate: _____.

The continental climate is found on the Central Plateau, in _____.

The summers are _____ and the winters are _____.

The dry climate is found in the _____ of mainland Spain. All year round, temperatures are _____.

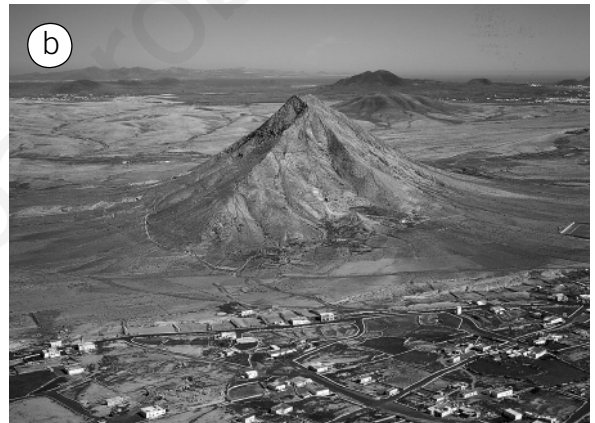
The typical climate is found in _____.

In summer, the temperatures are _____, and in winter they are _____.

4. Give examples of the flora and fauna in these two areas.



Galicia



The Canary Islands

a. Flora: _____

Fauna: _____

b. Flora: _____

Fauna: _____

5. What type of climate is there in your area? What flora and fauna are common?

Name _____ Date _____

1. Complete these sentences about the population of Spain.

- a. Spain had a population of about _____ in 1900.
- b. The population has increased since then for two reasons: _____

- c. The population is ageing because _____

- d. The population density of Spain is _____.
- e. The most populated areas are _____.
- What is the population density of your Autonomous Community?

2. Find 8 words in the wordsearch. Classify them and add two activities to each sector.



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



Primary sector	Secondary sector	Service sector

3. Identify and label the Autonomous Communities and Autonomous Cities.



- Colour your Autonomous Community and add the capital city.

4. Match the columns.

a. The Monarch

1. is the Head of State.

b. The monarchy

2. is the highest court of justice.

c. *Las Cortes*

3. are appointed by the president.

d. The parliament

4. is hereditary.

e. The ministers

5. are the Spanish parliament.

f. The Supreme Court

6. consists of the Congress of Deputies and the Senate.

Name _____ Date _____

1. Answer the questions.

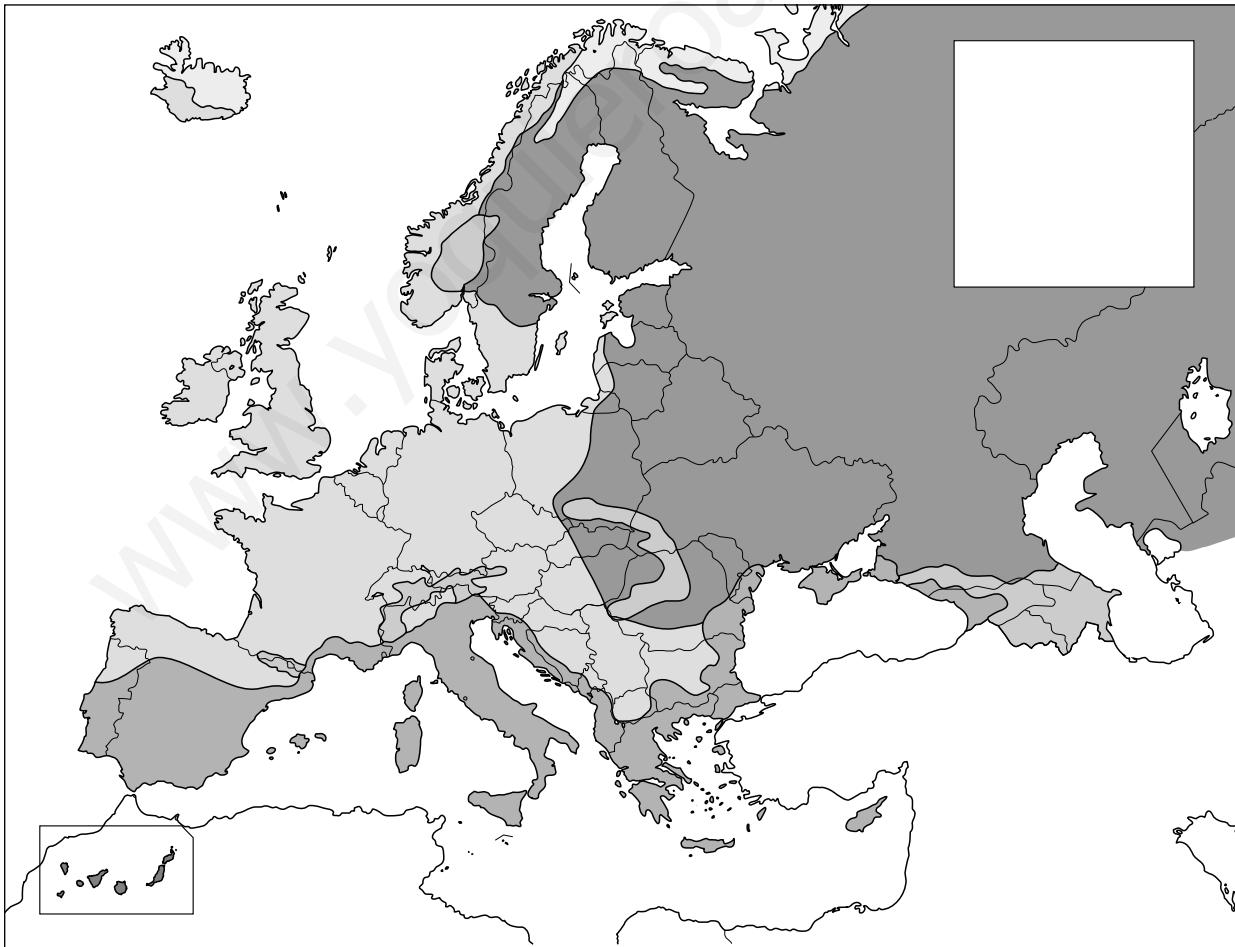
a. Where is the Great European Plain located? _____

b. Where are most of the mountain chains in Europe located? _____

c. Which are the largest peninsulas in Europe? _____

d. Which is the longest river in Europe? How long is it? _____

2. Make the key. Colour this map of European climates.



3. Complete this text about the population of Europe.

Europe is the third most populated continent after _____.

About _____ million people live in Europe – around _____ % of the world’s population. Most Europeans live in _____. The largest _____ cities are _____. There are _____ independent nations in Europe. There is a great diversity of _____.

4. Circle the correct alternative.

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

5. Draw and colour the flag of the European Union. Then describe it.



11 Prehistory and Antiquity

REINFORCEMENT

Name _____ Date _____

1. Classify the words.

villages	settlements	caves	clans	chieftains
sedentary	metals	tribes	huts	nomads

Palaeolithic period	Neolithic period	Metal Ages

2. Are the sentences true (T) or false (F)? Correct the false sentences.

- a. Early human beings were called nomads.
- b. Modern people appeared in Spain about 35,000 years ago.
- c. Nomads obtained their food by cultivating the land.
- d. In the Neolithic period, they built the first cities.
- e. About 6,000 years ago, people learned to use copper.
- f. In the Metal Ages, villages were surrounded by walls for protection.

3. Answer the questions.

- a. What is this? _____
- b. What was it used for? _____
- c. How was it made? _____



4. Write descriptions of the economic and cultural activities of two of these peoples.

Iberians Celts Phoenicians Tartessians Carthaginians

- a. _____

- b. _____

5. Answer the questions.

- a. When did the Romans defeat the Carthaginians? _____
- b. When did the Romans complete their conquest of Iberia? _____
- c. What did the Romans call the Iberian Peninsula? _____
- d. What language did the people speak? _____
- e. When did German tribes invade the peninsula? _____

6. Identify these examples of Roman architecture. Describe their purpose.



- _____
- _____
- _____
- _____

- Are there any Roman ruins in your Autonomous Community? _____

Name _____ Date _____

1. Match the columns.

a. The Vandals, Alans and Suevi

b. They invaded Hispania

c. The Romans asked

d. The Visigoths

e. King Leovigild

f. The Visigothic kingdom

g. In 711 A.D., Roderic

1. was defeated by the Muslims.

2. were tribes from northern Europe.

3. established their own kingdom.

4. in 409 A.D.

5. lasted until 711 A.D.

6. made Toledo the Visigothic capital.

7. the Visigoths for help.

- Name two examples of Visigothic heritage.

2. Draw a map of Al Andalus. Label the cities. Colour the Caliphate territories.



3. What happened in these years?

a. 711 A.D.: _____ c. 929 A.D.: _____

b. 756 A.D.: _____ d. 1031 A.D.: _____

4. Answer the questions.

- a. Which religious groups lived in Al Andalus? _____

- b. What were some of the Muslim contributions to society? _____

- c. Which four large Christian kingdoms existed in 1230? _____

- d. Who were the Catholic Monarchs? _____

- e. What did they do in 1492? _____

5. Describe these two buildings.



- a. _____

- b. _____

Name _____ Date _____

1. Match the columns. Add the dates.

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

2. Classify the works of art and people.

El Greco Lope de Vega Monastery of El Escorial Miguel de Cervantes
 Murillo Cathedral of Seville Diego Velázquez Luis de Góngora

Architecture	Literature	Painting

3. Answer the questions.

- a. When did the three Habsburg kings reign? _____
- b. What were their names? _____
- c. Where did revolts take place? _____
- d. What was was one of the economic consequences? _____

4. Identify the building. Describe its significance.



5. Number the reigns of these monarchs in chronological order.

- | | | | | | |
|------------|--------------------------|------------------|--------------------------|---------------|--------------------------|
| Charles II | <input type="checkbox"/> | Joseph Bonaparte | <input type="checkbox"/> | Charles III | <input type="checkbox"/> |
| Charles IV | <input type="checkbox"/> | Philip V | <input type="checkbox"/> | Ferdinand VII | <input type="checkbox"/> |

6. Write a short summary of the reforms introduced by the Bourbon kings.

7. Complete the sentences.

- a. During _____ the Spanish parliament took refuge in Cádiz.
- b. In _____, the Constitution of Cádiz was written.
- c. This constitution limited _____ and established _____.
- d. In 1833, Ferdinand's daughter, _____, came to the throne.
- e. During her reign there were conflicts between _____.
- f. Between _____, there was a period of great political instability.

8. Identify this painting and explain what it shows. Do you like it? Why? / Why not?



14 The 20th century

REINFORCEMENT

Name _____ Date _____

1. Write about change in the twentieth century. Invent a title and a date for each photo.





Explain how life changed for the people in the photographs. Mention the historical events which were important in their lives.

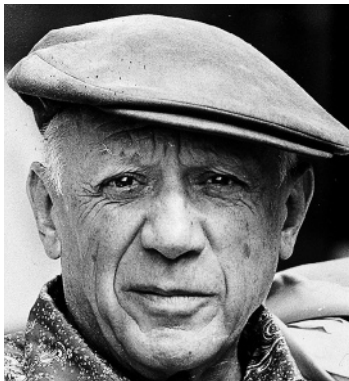
2. Complete the sentences.

a. Since 1982, two political parties have governed Spain: _____.

b. Since 1986, Spain has been a member of _____.

c. Today the Constitution organizes the Spanish State into _____.

3. Find out about the people. Classify them and then add more names.



Juan Gris

Joan Miró

Antoni Gaudí

Luis Buñuel

Pablo Picasso

Ana María Matute

Santiago Calatrava

Vicente Aleixandre

Salvador Dalí

Fernando Trueba

Núria Espert

Jorge Guillén

Federico García Lorca

Literature	Architecture	Painting / Sculpture	Cinema

4. Describe some of the changes in Spanish society under democracy.

a. The position of women: _____

b. Immigration: _____

Name _____ Date _____

Greenpeace ♦ About sixty years ago, environmentalists began to realise that the environment was in danger. There were fewer wildlife areas and many more endangered species. These people started the first environmental organisations. Today, many people belong to organisations which work to protect the environment. One of the most famous organisations is Greenpeace.

The organisation was started by a group of Canadian environmentalists in 1971. It has more than 3 million members in over 40 different countries. Greenpeace uses non-violent action to stop environmental abuse. Its first success was to stop some underground nuclear testing.

Its activists sometimes do dangerous things. For example, they have used small boats to stop whalers using their harpoons to kill whales. They have also sailed near drums of dangerous waste in the sea.

Greenpeace tries to influence politicians. It asked the European Union to ban the import of seal skins. It also asked governments to protect Antarctica from exploitation by mining. Greenpeace is worried about global warming. It wants to protect the bio-diversity of forests and oceans. It also wants to stop toxic pollution from nuclear waste and other pollutants.



1. Find words in the text which mean the following:

- a. People who want to protect the environment: _____
- b. Something that you manage to do or achieve: _____
- c. People who try to change things through their actions: _____
- d. Metal objects used to kill whales: _____
- e. Big, round metal containers: _____
- f. Material that you can't or don't want to use: _____
- g. To stop or prohibit: _____
- h. A big sea animal which also lives on land: _____
- i. Excavating for coal, minerals, etc.: _____
- j. The variety of plants and animals in a habitat: _____

2. Complete the chart about the members of Greenpeace.

They are in favour of <i>saving the forests</i>	They are against <i>killing whales</i>

3. What do you think?

a. What examples of 'non-violent action' are described in the text? _____

b. Do you think this is a good way to protect the environment? Why? / Why not? _____

4. Read the clues and complete the words.

E _____: this describes a species which has disappeared

E _____: a community of living things

N _____: a type of energy

P _____: contamination

E _____: our surrounding conditions

A _____: a type of ecosystem

5. Write about an environmental group.

Which environmental groups are there in your country? What do they do? Choose a group in your country or abroad and write about it. Use the text on Greenpeace to help you. Include the following information:

*When was the group started? How popular is it?
What does it want to achieve? What has it achieved? What is your opinion of the group?*



Name _____ Date _____

Hands and feet ◆ More than half the bones in your body are in your hands and feet.

The human hand is a very versatile instrument. It can carry out jobs which need great delicacy such as playing a musical instrument or threading a needle. Hands can also be used to exert great pressure when necessary, for example when pressing down earth in the garden. The hand has 27 small bones and 37 skeletal muscles. The bones and muscles are connected by tendons which give the hand a wide range of movement. For example, it is possible for humans to touch the tip of each finger with their thumb. The tips of our fingers are extremely sensitive because they contain a dense area of nerve endings. In humans, the sense of touch is highly developed.

The human foot with its ten toes, forms an essential part in the movement of the body. Only two bones in the foot carry most of our weight. Our feet support our weight when we run or walk and help us to keep our balance when we change position. Each foot has 26 bones, 100 ligaments and 33 muscles. The sole of our foot acts as a cushion, protecting us from the vibrations of our own footsteps.

If someone loses a hand or a foot in an accident, it is sometimes possible to attach it again. This is a very long and complicated operation. In 1985, surgeons in Australia reattached the hands and one foot of a 10 year old boy after an accident. The operation took 7 hours.



1. Match the words and definitions.

a. versatile ○

○ 1. able to do many different things

b. tendon ○

○ 2. the round or pointed end of something

c. tip ○

○ 3. quick to feel something

d. sensitive ○

○ 4. the underside of someone's foot

e. sole ○

○ 5. flexible tissue which connects a muscle to a bone

f. cushion ○

○ 6. to fix something to another thing

g. attach ○

○ 7. a soft object which gives support or protects from impact

2. Answer the questions.

a. Why is the hand described as a versatile instrument?

b. What gives the hand the ability to move in different ways?

c. Why are the tips of our fingers so sensitive?

d. Which two functions of feet are described?

e. Where are the soles of our feet? What function do they have?

3. Complete the sentences.

a. The human hand and foot have a similar number of _____.

b. The hand has more _____ than the foot.

c. The hand has ten fingers and the foot has ten _____.

d. If we touch a cactus with the _____ of our fingers we feel pain.

**4. Investigate.**

Use the internet or an encyclopaedia to find out more about another part of the body, such as the eye, the ear, the nose or the knee. Write a short paragraph and include the following information:

- the different parts of the organ or joint
- its function
- its importance and what happens if it goes wrong

Use the text about hands and feet to help you.

Name _____ Date _____

Ultra-sound scans ♦ When a woman is expecting a baby, she sometimes has an ultrasound scan. Ultrasound pictures are formed using sound waves. These sound waves cannot be heard by the human ear. A machine sends the waves through the mother's body. These waves bounce off her body and create echoes. The machine analyses the echoes and it transforms them into images of the baby. The images, or scans, are 3D (three dimensional) or 4D (four dimensional). They are black, white and grey and are usually displayed on a TV screen.

Ultrasound scans can be carried out at different stages during pregnancy. Even embryos a few millimetres long are visible on the TV monitor. Early scans – before 10 weeks – are usually done to check the location of the embryo in the uterus and to confirm the number of babies.

Scans carried out at 11-14 weeks show the baby's heart, arms, legs, eyes and mouth. They also show whether the baby is a boy or a girl. Scans carried out later in pregnancy are usually used to check that the baby is developing normally. They can help doctors to decide if a natural birth or a Caesarean section is the better option for mother and baby.



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

- a. All pregnant women have ultrasound scans.
- b. The ultrasound machine transforms images into sounds.
- c. A scan is an image, or picture.
- d. The images of the baby are two dimensional.
- e. It is possible to see the images on a screen.
- f. Ultrasound scans can be done at different times during pregnancy.
- g. Before 10 weeks, an embryo cannot be seen using ultrasound.
- h. At about 3 months, it is possible to know the baby's sex.
- i. Scans can help doctors to check for abnormalities.

2. What information can we obtain from an ultrasound scan? Tick the correct boxes.

- a. the baby's sex
- b. the number of babies
- c. the development of the baby's organs
- d. the colour of the baby's eyes
- e. the position of the baby
- f. the size of the baby
- g. the baby's intelligence
- h. the baby's personality

**3. Complete the text.**

sounds organs head second grow pregnancy

The development of the foetus in the uterus takes 40 weeks and follows a certain pattern. In the _____ month, the baby's internal organs are developing. In the third month, the baby is completely formed and begins to _____ rapidly. By the fifth month, the baby is active: it moves a lot and responds to _____. By the seventh month the baby's internal _____ have developed and it is preparing for life outside the uterus. There is now less room for it to move. In the last weeks of _____, the baby prepares for birth and its _____ moves into a downward position.

4. Investigate.

How does a woman's body change during pregnancy? Find out and make notes. Think about the following:

- menstruation
- weight
- the uterus
- general health

What should a woman do during pregnancy? Think about the following:

- diet
- smoking
- alcohol
- exercise

Name _____ Date _____

Energy alert ♦ Most of the energy that we use every day comes from fossil fuels. These are substances which have been deposited and stored under the earth's surface for millions of years. The major fossil fuels – coal, oil and natural gas – consist of the remains of trees, plants or creatures that lived long ago.

Modern society uses up these fossil fuels very fast and one day they will disappear. Fortunately, nature's alternative forms of energy from the sun, wind and water can also power our machines and generate heat and light. Today, many people are worried about future shortages of fossil fuels. They say that we must find and use alternative forms of power. More and more people are asking questions like these: How do we use our energy? How much do we use each day? What can we do to save energy?

Think about the energy that is needed to make all the things you use each day – for example, things made of paper (books) or metal (cars). Think about the energy needed to get to school if you travel by car or bus. Could you walk to school and save energy? Could you share a car with some friends?

Now think about your school and the sources of energy used there. The school has probably got photocopiers, computers, water heaters, coffee machines, and electric clocks. How are all these things powered? What is the main source of energy in your school? Could you do anything to help your school to save energy?



1. Match the sentence halves.

a. Fossil fuels

b. Coal, oil and natural gas

c. We need an alternative

d. Sunlight, wind and water

e. Every day, we use

f. We can save energy by

g. A school has a lot of things

h. We are responsible

1. walking to school

2. a lot of energy

3. that use energy

4. are renewable sources of energy

5. for using as little energy as possible

6. cannot be renewed

7. to fossil fuels

8. are important fossil fuels

2. Complete the sentences with 'and', 'but' or 'because'.

- Fossil fuels come from plants _____ creatures that lived long ago.
- We cannot depend on fossil fuels _____ they are non-renewable.
- Fossil fuels are running out _____ fortunately, there are other forms of energy.
- Some people walk to work or school _____ in this way, they save energy.
- A school usually needs a lot of power _____ it has machines, lighting and heating.
- We know how to save energy _____ we don't always behave responsibly.



3. Strange but true: complete the sentences.

battery	heat	potato	light	wind
---------	------	--------	-------	------

- Cassop Primary School was the first school in England to be powered by a _____ turbine.
- You can use a lemon as a _____ to light a small bulb.
- You can use a _____ as a battery to run a clock.
- A traditional light bulb transforms 80% of its energy into _____.
- An energy-saving light bulb produces 80% more _____.

4. What can we do to save energy?

What can you do at school to use less energy? Think about heating, lighting, and machines. Make a list. Then use your list to write a paragraph.

Name _____ Date _____

Thomas Edison ♦ Thomas Edison was a famous inventor. He was particularly interested in electricity and he invented many things that we still use today. Edison was born in Ohio in the United States of America in 1847. He was a curious boy and he always wanted to know how things worked. When he was a young man, he set up a laboratory where he could experiment with his ideas. He invented many things there, including the phonograph. Before the phonograph, if you wanted to hear music, you had to play it yourself or go to a concert.

Edison's most famous invention was the light bulb. At the time, people used oil or gas lamps to light their homes. Edison knew that it would be cheaper and more efficient to use electricity. He worked on his idea for a long time and one day he succeeded in making a light bulb that worked. Today as a result we can simply turn on a switch and have light any time we want it. Edison also built the first power plant. Pearl Street Power Station opened in 1882 in New York City. It sent electricity to 85 customers and made enough power to light 5,000 lamps. The movie camera was another of Edison's inventions. It is partly thanks to Edison's ideas and hard work that we can watch TV and go to the cinema.

Edison said that invention was 'one percent inspiration and ninety-nine percent perspiration.' He spent his life thinking of new ideas and working to improve them.



1. Choose the best answer.

a. Edison's inventions:

1. are old fashioned 2. affect our lives today 3. are not practical

b. Edison wanted to know:

1. more about history 2. more about music 3. more about electricity

c. A phonograph:

1. played music 2. was like a telephone 3. recorded concerts

d. The light bulb:

1. was easy to invent 2. took time to invent 3. was cheaper than electricity

2. Match the invention with its description.

- | | |
|---------------------------------------|--|
| a. phonograph <input type="radio"/> | <input type="radio"/> 1. a place where electricity is produced |
| b. light bulb <input type="radio"/> | <input type="radio"/> 2. an invention for playing records |
| c. movie camera <input type="radio"/> | <input type="radio"/> 3. an object that uses electricity to give light |
| d. power plant <input type="radio"/> | <input type="radio"/> 4. an object for taking moving pictures |

3. Complete the sentences.

a. Before the phonograph _____

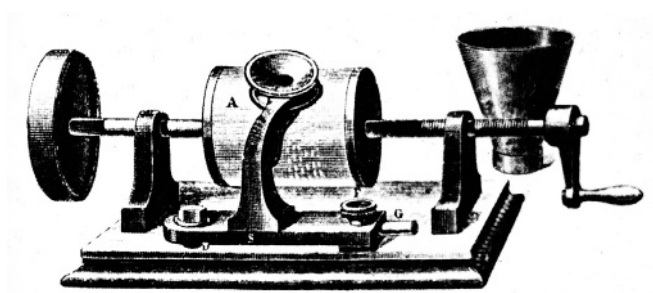
After the phonograph _____

b. Before the light bulb _____

After the light bulb _____

c. Before the movie camera _____

After the movie camera _____



A phonograph

4. Investigate.

Another famous inventor who was also interested in electricity was Michael Faraday.

Use the Internet and books to find out more about him. When did he live?

Why is he famous? Make notes and write a paragraph. Use the text about Thomas Edison to help you.

Name _____ Date _____

The astronaut ♦ In 2008, a crew of seven astronauts flew into space. Their destination was the international space station, 250 miles above Earth. This was NASA'S 124th shuttle mission on board the spaceship Endeavour.

What happens to an astronaut on a space flight like this? As the shuttle leaves Earth's gravity, the body becomes weightless. This can cause space sickness which is a form of motion sickness. The spine stretches uncomfortably and the bones and muscles begin to waste away because they aren't needed to carry the body's weight.

Walking in space is also very hard on the body. Space-walking does not use the same muscles as walking on Earth. The stresses on your legs, lower back and muscles are different. In addition, a space suit is thick and heavy, so astronauts must be strong in order to walk around in space and perform difficult operations using heavy tools.

When astronauts train for their space flights, they learn how to survive in high and low-pressure environments wearing a space suit. They have to pass a swimming test: they must swim three lengths of the pool wearing their spacesuit and shoes. They also prepare their bodies in the gym by using weights, running on a treadmill and cycling. Astronauts can lose 1.5% of their bone mass if they don't exercise.

Astronauts who spend long periods of time on a space station have to exercise for two hours every day on specially designed machines. This is reduced to 30 minutes for shorter flights.



1. Find words in the text that mean the following:

- a. the people who work on a spaceship, plane or boat _____
- b. An organisation in the USA in charge of space missions _____
- c. a form of transport which travels regularly between two places _____
- d. a force which attracts a body towards the centre of the earth _____
- e. without weight _____
- f. the long bone in your back _____
- g. to lose strength _____
- h. pressures or tension _____

2. Match the sentence halves.a. The force of gravity b. Weightlessness puts c. Walking in space is d. A space suit e. When they train, astronauts f. When they are in space, 1. is different in space and on earth. 2. they do exercise every day. 3. makes movement more difficult. 4. swim in their space suits. 5. not like walking on Earth. 6. different pressures on the body.**3. Complete the text.**

stress	muscle	pedal	standing	position	machines
--------	--------	-------	----------	----------	----------

Astronauts prepare for spacewalks by training every day in a specially designed space gym. NASA has designed three _____ to provide an effective exercise area.

- *The cycle ergometer*

This looks like a box with a _____ on each side. The astronauts push their feet into the pedals to stop them floating out of _____

- *The space treadmill*

The astronauts use cords attached to a waist harness to keep them on the treadmill. The treadmill is on a soft cushion to prevent _____ damage to the structure of the space station.

- *The resistance device*

This machine uses a pair of vacuum cylinders attached to pulleys to build _____. The astronaut can do exercises which involve sitting and _____, or pushing and pulling.

4. Investigate.

Why do people go into space? Use the Internet and books to find out the reasons for space travel. Is space travel a good idea or not? Compare your ideas with those of your partner.



Name _____ Date _____

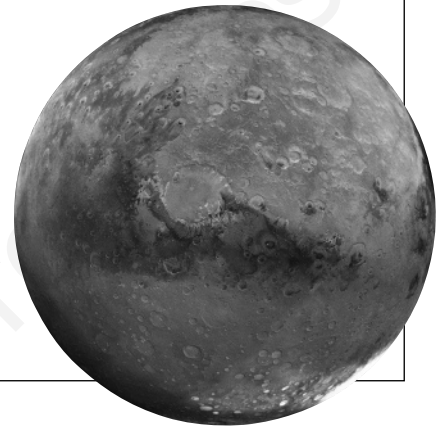
Mars ♦ Mars is the fourth planet from the Sun in the Solar System. It has two tiny moons, Phobos and Deimos, which orbit very close to the planet.

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.



1. Match the words and definitions.

a. tiny



1. a very big hole



b. to orbit



2. a permanent area of ice



c. iron oxide



3. very small



d. dust



4. in a small way



e. crater



5. connected with the Earth



f. ice cap



6. a chemical compound



g. canyon



7. to go around



h. terrestrial



8. fine powder



i. slightly



9. a very deep valley



2. 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. _____

3. Choose the best answer.

- a. The moons of Mars travel very near:
1. the Earth
 2. the Sun
 3. Mars
- b. Photographs of Mars show:
1. a varied landscape
 2. old ruins
 3. early forms of life
- c. To sustain life, a planet needs:
1. craters
 2. a thin atmosphere
 3. water
- d. Mars takes over a year:
1. to go round the Sun
 2. to go round the Earth
 3. to turn round completely

4. 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. _____

5. Investigate.

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

Use the text about Mars to help you.

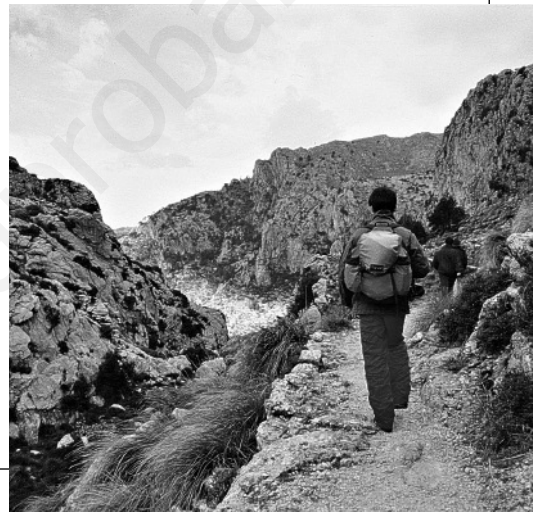


Name _____ Date _____

A country of contrasts ♦ 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.



1. Answer the questions.

- What are the two types of holiday described in paragraph 1? _____
- Where were Gerald Brenan and Laurie Lee from? _____
- When did Brenan and Lee travel to Spain? _____
- Which river and which mountain range does Brenan describe? Where are they? _____
- Which phrase tells us that Lee travelled from the north to the south of Spain? _____
- Where is Cádiz? Is Lee's reference to the Mediterranean correct? _____
- Where is Santiago de Compostela? _____
- Where do many people begin the Pilgrim Route? _____

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:

Pyrenees
Landscape:
Climate:
Castilian Plain
Landscape:
Climate:
Leon Mountains
Landscape:
Climate:
Galicia
Landscape:
Climate:

3. Complete the text about the Pilgrim Route.

landscapes light wet plains trees difficult weeks summer

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.



Name _____ Date _____

The Constitution ◆ The Spanish Constitution was written by seven elected members of the Spanish Parliament. These men are known as the ‘fathers’ of the Constitution. Parliament approved the Constitution in October 1978. On December 6th, it was approved by the Spanish people in a special referendum. Since then, December 6th has been a national holiday in Spain. On this day every year, Parliament opens its doors to the public. People queue in order to enter the Parliament building. Inside, they can sit in the seats which are normally occupied by the elected members of parliament. They can also see a copy of the Constitution which is signed by King Juan Carlos.

The Constitution defines the rights and duties of citizens. It establishes the form of government and basic institutions. It also defines national symbols such as the flag and the national anthem.

The Constitution can be changed if necessary. Up to now, it has been modified once, in 1992. This change enabled non-Spanish citizens of the European Union to vote and become candidates in local elections. The Constitution may be changed again in the future. For example, some people want to change the law which says that men are first in line to the throne. A new law would make it possible for age to be more important than gender.



1. Find words in the text that mean the following:

a. Chosen by the people in an election.

b. Say that you agree with something.

c. A vote on a particular topic.

d. To form a line.

e. To write your name.

f. A piece of cloth fixed to a pole.

g. A piece of music which represents a country.

h. To make something possible.

i. The place where a king or queen sits.

j. Male or female.

2. Classify the following into rights or duties.

Rights	Duties



- | | |
|--|-------------------------------------|
| a. Take care of your children | f. Look after the environment |
| b. Have somewhere to live | g. Give your opinion on any subject |
| c. Defend the territory of Spain | h. Respect your neighbours |
| d. Choose the person you want to marry | i. Receive an education |
| e. Receive medical care | j. Pay taxes |

3. Complete the text with the words in the box.

daughters political throne boys queen king defend son

King Juan Carlos 1 is the head of state but he does not make _____ decisions. He must accept the decisions taken by parliament and he must _____ the Constitution.

The first person in line to the _____ is Juan Carlos's son, Prince Felipe. He will be the next _____. At the moment, the Constitution says that _____ must come before girls in inheriting the throne. If Prince Felipe has a _____ the boy will be king after his father. Prince Felipe's _____ will succeed to the throne after their brother, or brothers. However, if the Constitution changes, Spain could have a _____ when Felipe dies.

Name _____ Date _____

Living in Europe

Reporter: Hello and welcome to the programme Europe Today. This morning we are going to speak to Ana Neil as part of our series Young Europeans. Good morning, Ana.

Ana: Good morning.

Reporter: We're talking in our studio in London, but you aren't English, are you?

Ana: Well, I'm half English. My father is from Manchester and my mother is from Spain.

Reporter: And what about you? Do you feel more English or Spanish?

Ana: That's difficult. When I'm in England, I feel English and when I'm in Spain I feel Spanish! I have family and friends in both countries.

Reporter: Right. Where did you study, Ana?

Ana: My parents lived in Germany when I was little so I went to primary school in Munich. Then we lived in Madrid for a while. I did my university studies there and then I went to Paris.

Reporter: Paris! Did you go there to work?

Ana: Yes, I worked in an office there where I used my languages. I learned French too. Then I met my husband.

Reporter: Is he French?

Ana: No, he's from Denmark. He was studying in Paris when we met.

Reporter: What language do you speak together?

Ana: French and English – and occasionally Spanish!

Reporter: So where are you living now?

Ana: We're living in England at the moment but we'll be moving soon. We're going to work in Sweden.

Reporter: Sweden! So, you'll have to learn *another* language....

Ana: Yes, probably. I don't mind. I think it's important to know the language of the country where you live.

Reporter: Well good luck, Ana. You certainly have an interesting life.

Ana: Thank you.



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

a. The interview takes place in England.

b. Ana feels Spanish.

c. We don't know where Ana was born.

d. She went to school in Germany.

e. She went to university in London.

2. Complete the chart.

Country	Language
Britain	
France	
Germany	
Denmark	
Sweden	
Holland	
Poland	
Norway	
Ireland	

3. Answer the questions.

- a. Which countries have borders with your country? _____
- b. Which language (s) do you speak? _____
- c. What nationality are you? _____
- d. Which countries in Europe have you visited? _____
- e. Which countries in Europe would you like to visit? _____
- f. Would you like to live in another European country? Which one? _____

4. Read the notes about Franz and write an interview.

Name: *Franz Wegmüller*

Born: *Austria*

Parents: *Austrian mother and German father*

Education: *Germany and Switzerland*

Lives: *Brussels*

Works: *for the European Parliament*

Languages: *German, French, English*

Future plans: *wants to marry a Belgian girl*

Name _____ Date _____

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 soldiers 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.



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

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.

food girlfriend soon well weather camp cold wool

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.



Name _____ Date _____

The Alhambra ♦ 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.



1. Match the words with their definitions.

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

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?

Name _____ Date _____

Christopher Columbus ♦ Christopher Columbus, the famous sailor and explorer, was born in Genoa in Italy in 1451. His father was a wool merchant. Christopher first went to sea when he was a teenager. He found sea journeys very exciting. In 1476, he was sailing near the coast of Portugal. Christopher had a brother in Lisbon and he decided to stay there. Between 1477 and 1482, Columbus was a merchant and he sailed to many countries, such as Iceland and Ghana.

He tried for many years to persuade kings and queens to give him money so he could find a new trade route to Asia. Eventually, the Catholic Monarchs, Queen Isabella I of Castile and King Ferdinand II of Aragon, agreed to finance an expedition. In return, Columbus promised to give them new lands, spices and new people to become Christians.

On 3rd August, 1492, he sailed from Seville in Spain. He had three boats: the Niña, the Pinta and the Santa María. On October 12th, the Pinta saw what Columbus called San Salvador, now known as the Bahamas. He called the local people 'indios' because he thought he was in Asia. Next, he arrived in Cuba. Finally, he went to a place he called Hispaniola. Today, this land is shared by the Dominican Republic and Haiti. He had found the New World – not Asia, as he expected, but the land that was later known as America. Columbus claimed Hispaniola for Spain. His voyage was the beginning of the Early Modern period. By the 16th century, the Spanish Empire included territories in Europe, America, Asia and Africa.

Columbus died near Valladolid, Spain in 1506. Italians, Spanish, and Portuguese all claim that Columbus was a citizen of their country. In Spain there are monuments to Columbus in various places. In Barcelona, for example, a statue of Columbus stands on top of a tall column near the port. Columbus is pointing towards the New World.



1. Find words in the text that mean the following:

- a. someone who buys and sells things _____
- b. someone between the ages of 13 and 19 _____
- c. to provide money for something _____
- d. substances that give flavour to food _____
- e. a journey by sea _____
- f. someone who belongs to a nation or a country _____

2. Are the sentences true (T) or false (F)?

- a. Columbus was born in the 15th century.
- b. Columbus hated travelling by ship when he was young.
- c. Columbus did the same job as his father.
- d. Columbus needed money to pay for his explorations.
- e. When Columbus arrived in America, he thought he was in Asia.
- f. Columbus claimed Hispaniola for Italy.
- g. After Columbus's expedition, the Spanish Empire expanded.
- h. There is one monument to Columbus in Spain.

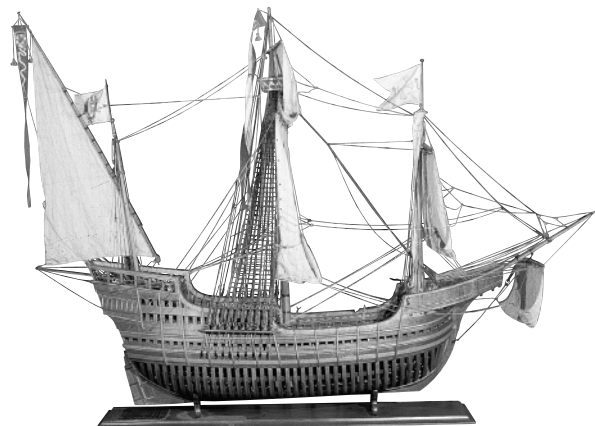
3. A sailor's life.

Read this page from the diary of one of Columbus's sailors. Some of the words are incomplete. Write the words in full.

Life is very hard here on the P_____ . We sleep on deck and last night, when we left the C_____ Islands, the weather became much colder. The food is not very good and there isn't very much. If we don't reach land in a few weeks, we will soon be very hu_____. Every morning, we say our prayers and then we work hard all day. The Captain is very ex_____ about our journey. The King and Queen have given him a lot of mo_____ for this trip and he mustn't fail them. They want new la_____ and riches for Spain. I just want to return home safely.

4. Write a short text.

Imagine you are a sailor on the Pinta. Describe the moment when you first saw land. How did you feel? What happened when you got off the boat?



Name _____ Date _____

Victoria Kent and prison reform ♦ In 1931, the Second Republic was established and various reforms were introduced. Victoria Kent, a lawyer, became a member of the first parliament. At the age of 33, she was made Director General of prisons. The prisons were badly in need of reform. The first thing Kent did was order more money to be spent on food. She then replaced all the beds, which were dirty and broken.

Kent knew that all letters of complaint written by the prisoners had to be given to the managers of the prison so they could read them first. She introduced boxes where letters could be sent privately to the Head of prisons. Another change introduced was freedom of religious worship. Before this, prisoners had to go to Mass and only Catholicism was recognised. Kent made attendance at Mass voluntary.

In the area of culture, Kent encouraged prison managers to allow more conferences and concerts. She also encouraged them to authorise the delivery of newspapers. Before this, prisoners had to smuggle newspapers into the prisons. Kent visited as many prisons as she could to see conditions for herself. In Madrid, she laid the first stone of a new prison for women. This prison had more individual cells and bathrooms, workshops, a library and a special open area with light and air for those women who had children under three years old. The prison was built, though it was not run in the way Kent wanted. Kent created the Prison Corps for Women, where prison workers received special training. She also created the Institute of Penal Studies.

Kent resigned from her post after government opposition to her reform of the Prison Corps for men. After the republican defeat at the end of the Civil War in 1939, she went into exile, first in France and then in Mexico where she continued her work in prison reform. She died in New York in 1977.



1. Match the words and definitions.

a. reform ○

b. complaint ○

c. conference ○

d. cell ○

e. resign ○

f. exile ○

○ 1. living abroad, unable to return to your own country

○ 2. to leave a job

○ 3. the action of changing something

○ 4. a small room in a prison

○ 5. the action of saying that something is wrong

○ 6. a special meeting to talk about a subject

2. Answer the questions.

- a. What had Victoria Kent studied before she entered parliament? _____
- b. What was prison food like? How do you know? _____
- c. What were prison beds like? _____
- d. What was wrong with the old system of prisoners' complaints? _____

- e. Which kind of religious worship was in place before the reforms? _____
- f. Which newspapers were allowed before the reforms? _____
- g. What did Kent introduce for women prisoners with children? _____
- h. Which institutions did Kent create? _____
- i. Why did she resign from her job? _____
- j. Why did she go into exile? _____

3. Choose the best word (or words).

- a. Kent was General Director of Prisons for a *short / long* time.
- b. She wanted to make prison life *harder / more humane*.
- c. She tried to give prisoners more *dignity / money*.
- d. She wanted to give prisoners the opportunity to *teach / learn* more.
- e. She thought that *culture / punishment* would improve prisoners' lives.
- f. She *never / often* went to visit different prisons.
- g. *All / not all* of the people in government agreed with her reforms.
- h. She *was not / was still* interested in prison reform after she left Spain.

4. Match the sentence halves.

- | | |
|--|---|
| a. Kent closed down | 1. they reached 70 years of age. |
| b. She removed chains and handcuffs | 2. many small prisons in the villages. |
| c. The chains were melted down | 3. to visit their families. |
| d. She released all prisoners when | 4. and asked all prisoners to hand in knives. |
| e. She gave permits to certain prisoners | 5. from the punishment cells. |
| f. She visited the prison in Santander | 6. and made into a statue. |

Answer key

REINFORCEMENT ACTIVITIES

UNIT 1: ECOSYSTEMS

1. Complete the sentences.

- An ecosystem consists of all the living things in a specific environment and their interaction with their habitat.
- The plants in an ecosystem are called flora.
- The animals are called fauna.
- There are also bacteria, algae and fungi.
- The environment refers to the surrounding conditions which affect living things.
- There are two types of ecosystems, aquatic and terrestrial.

2. Label the photographs.

- secondary consumer; **b.** producer; **c.** tertiary consumer;
- decomposer; **e.** primary consumer; **f.** primary consumer.

3. Draw and label a food chain.

Open answer.

4. Complete the definitions.

- Parasitism: a parasite is a living thing which lives in or on another living thing.
- Mutualism: a living thing eats the parasites which live in or on another living thing.
- Competition: several species compete for the same thing.

5. Answer the questions.

Model answers:

- What human activities can be harmful to the environment? Industrial production and road construction can be harmful. (There are many other possible answers.)
- What is the greenhouse effect? It is when the atmosphere does not let heat escape.
- What is global warming? It is the increase in the Earth's temperature, which may have important consequences such as the melting of the polar ice caps.

6. Choose an endangered species and write about it.

Model answer:

The Iberian lynx is an endangered species. It is becoming extinct because of illegal hunting, because there are fewer rabbits for lynxes to eat, and because of construction which causes loss of habitat.

UNIT 2: THE BODY

1. Complete the definitions.

- Joints are the places where two bones meet.
- Cartilage is a flexible tissue which covers the ends of the bones.
- Ligaments are strong elastic tissues which connect the bones of a joint.
- Tendons are tissues which connect muscles to bones.

2. Label the photos and describe the arm movements.

Model answers:

- When the arm bends, the biceps contracts. It becomes shorter and thicker. The triceps relaxes.
- When the arm straightens, the triceps contracts. It becomes shorter and thicker. The biceps relaxes.

3. Match the two columns.

- 1; **b.** 5; **c.** 2; **d.** 4; **e.** 3; **f.** 6.

4. Answer the questions. Give an example of each type of movement.

Model answers:

- What are reflex movements? They are involuntary movements in response to external stimuli.
Example: blinking when you are suddenly exposed to a bright light.
- What are voluntary movements? They are movements which are the result of decisions.
Example: picking up a pen.

5. Cross out the odd word.

- heart lungs brain joints
- movable bones fixed gliding
- cartilage ligaments joints tendons
- cerebellum spinal cord brain stem cerebrum

6. Are the sentences true (T) or false (F)? Correct the false sentences.

True sentences: a; c; e; g.

Corrected false sentences:

- We cannot control involuntary muscles with our decisions.
- The endocrine glands secrete hormones into the bloodstream.
- Insulin controls the amount of sugar in the bloodstream.
- Why do we need involuntary muscles?
Model answer: We need involuntary muscles, such as the heart, for our body to function properly.

UNIT 3: SEXUAL CHARACTERISTICS

1. Answer the questions.

- a. When does puberty start? It starts when the reproductive system matures, and secondary sexual characteristics appear.
- b. When do girls reach puberty? Girls reach puberty between the ages of 11 and 14.
- c. When do boys reach puberty? Boys reach puberty between the ages of 13 and 15.

2. Match the two columns.

- a. 5; b. 7; c. 2; d. 1; e. 6; f. 3; g. 4.

3. Label the illustrations.

The female reproductive system, clockwise, from bottom left: vulva, ovary, uterus, Fallopian tube, vagina.

The male reproductive system, clockwise, from bottom left: urethra, testicle, scrotum, vas deferens, seminal vesicle, penis.

4. Circle the correct alternative.

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

5. Find 6 words in the wordsearch.

Across: placenta, umbilical, afterbirth, dilation

Down: birth, cord

6. Label the illustrations.

From the left: foetus, uterus, placenta, umbilical cord.

- d. Electrical energy is the energy produced by the flow of electric charge.
- e. Mechanical energy is the energy produced by things in motion.
- f. Nuclear energy is the energy found in elements such as uranium.

3. Describe these two examples of energy conversion.

- a. In a light bulb, electrical energy is converted into light energy and thermal energy.
- b. In a fan, electrical energy is converted into mechanical energy.

4. Complete this text about light.

Light is a form of energy which enables us to see. Light moves at 300,000 km per second. It travels in all directions. It always travels in a straight line. If light meets an obstacle and the obstacle blocks it, a shadow is formed. When light hits an opaque object, it is reflected and changes direction.

5. Answer the questions.

- a. How many colours make up white light? White light is made up of an infinite number of colours.
- b. When do rainbows occur? A rainbow occurs when white light is separated into different colours.
- c. What colours does a red object absorb? A red object absorbs every colour of light except red.
- Draw lines to show how lenses refract light. Students draw two illustrations.

6. Complete this text about sound.

Sound is a form of mechanical energy. Sound is produced by the vibration of an object. Sound travels in waves. It travels through air at 340 metres per second. An echo is the reflection of sound from the surface of an obstacle.

7. What happens when we speak?

Model answer:

When we speak, air passes through the larynx. The vocal cords vibrate and make a sound. The tongue, teeth, mouth and lips modify the sound.

UNIT 4: ENERGY

1. Complete the sentences and give examples.

Model answers:

- a. There are two types of energy sources: non-renewable energy and renewable energy.
- b. Non-renewable energy cannot be replenished in a short period of time. Examples: fossil fuels (oil, coal, natural gas) and uranium.
- c. Renewable energy sources can be replenished naturally in a short period of time. Examples: sunlight, wind, water and biomass.

2. Complete the sentences.

- a. Light energy is the energy found in light.
- b. Thermal energy is the energy released as heat.
- c. Chemical energy is the energy produced by fossil fuels and biomass.

UNIT 5: ELECTRICITY AND MAGNETISM

1. Complete the sentences.

- a. There are two types of electrical charge: positive and negative.
- b. If an object has more positive than negative charges, it is positively charged.
- c. If an object has more negative than positive charges, it is negatively charged.
- d. If an object has the same number of positive and negative charges, it is neutral.
- e. Objects with opposite charges attract each other.
- f. Objects with the same charges repel each other.

REINFORCEMENT

2. Answer the questions and label the photograph.

Students label the photograph: conductor, insulator.

- What is electrical current? It is the flow of electrical charges.
- What is a conductor? Material / an object which allows electrical current to flow through it easily.
- What is an insulator? Material / an object which does not allow electrical current to flow through it easily.

3. Write about electric circuits.

An electric circuit has four basic components: a generator, an electrical component, conducting wires and a switch. They are connected to each other to allow the flow of an electrical current. A switch controls the flow of electrical current. In the *on* position, it closes the circuit and allows the flow of the electrical current. In the *off* position, it opens the circuit and breaks the flow.

4. Answer the questions.

Model answers:

- What is a magnet? It is an object which can attract objects made of iron or mixtures of iron, such as steel.
- What happens when the opposite poles of two magnets are placed together? The magnets attract each other.
- What happens if the same poles of two magnets are placed together? The magnets repel each other.
- How are magnets used? Model answer: strips on credit cards, in televisions, and in hard disks.
- Describe the magnetic field generated by the magnet. Open answer.

5. Match the two columns.

- a. 4; b. 3; c. 1; d. 5; e. 2.

6. Give examples of how electricity is used.

Model answers:

- To produce heat: radiators.
- To produce movement: washing machines.
- To produce light: computers.
- To produce sound: doorbells.

UNIT 6: FORCES

1. Complete these sentences about types of forces.

- Magnetic force affects magnets and some metal objects.
- Friction slows or stops moving objects.
- Gravity makes objects fall to the ground.
- Electric force is found between electrically charged objects.

2. Write about the difference between an elastic object and a non-elastic object.

Model answer:

When a force stops acting upon an elastic object, it returns to its original shape. When a force stops acting upon a non-elastic object, it remains distorted.

3. Study the photos. Describe the forces which are at work.

Model answers:

- Gravity: a water drop falls.
- Electric force: amber attracts paper.
- Magnetic force: a magnet attracts metallic objects / paper clips.
- Friction: the grass slows the movement of the golf ball.

4. Give examples of machines which use these energy sources.

- Human energy: a bicycle, a hammer, a skateboard, scissors.
- Water or wind: a windmill, a watermill, a sailing boat.
- Fuel: a car, a gas stove, a gas heating system.
- Electricity: a light bulb, a mobile phone, a washing machine.

5. Answer the questions.

- When do we say that a machine is complex? When it has many components.
- What do thermal machines do? They produce heat or cold.
- Why does a machine have a casing? To protect it from dust, moisture and damage.
- What is a mechanism? It is a group of operating parts which work together to perform a specific task.
- What energy do combustion engines use? They use chemical energy from fuel.
- What is an electronic circuit? It is an electrical circuit with very small components.
- What are microchips? They are the smallest electrical circuits.

6. Explain how a bicycle converts human energy into mechanical energy.

Model answer:

The person riding the bicycle uses his or her feet to push the pedals down. The pedals move the gears. The gears move the chain. The chain moves the wheels which move the bicycle.

UNIT 7: THE SOLAR SYSTEM

1. Cross out the odd word. Then explain your choices.

- a. planet; b. poles; c. Saturn; d. Mars; e. liquid.

Model answers:

- “Planet” does not describe the Sun. b. Poles are not celestial bodies. c. Saturn is not a terrestrial planet. d. Mars is not a gas giant. e. “Liquid” does not describe a comet.

2. Label the drawing.

Clockwise from bottom left: South Pole, sunlight, day, rotational axis, North Pole, night.

3. Circle the correct alternative.

- a. There are two groups of planets: terrestrials and gas giants.
- b. Asteroids are tiny, rocky celestial bodies.
- c. Comets have bright tails which point away from the Sun.
- d. The Earth's orbit is called an ellipse.
- e. The Sun always rises in the east and sets in the west.

4. Explain what causes the seasons.

Model answer:

The Earth's axis is tilted. Therefore, one hemisphere is always closer to the Sun. This hemisphere receives more sunlight, and it is summer here. It is winter in the other hemisphere.

5. Complete this text about eclipses.

Sometimes during their orbits, the Moon, the Sun and the Earth align, and an eclipse occurs. During a lunar eclipse, the Earth passes between the Sun and the Moon. The Earth's shadow moves across the surface of the Moon. During a solar eclipse, the Moon passes between the Earth and the Sun and projects a shadow on the Earth. A total eclipse occurs when the Moon and the Sun are in a perfect line.

6. Match the columns.

- a. 5; b. 7; c. 1; d. 2; e. 3; f. 4; g. 6; h. 8.

UNIT 8: LANDSCAPES OF SPAIN

1. Identify and label these plateaus and mountain ranges on the map.

Students identify and label: Northern Plateau, Southern Plateau, Central Mountain Chain, Pyrenees, Betic Chain, Cantabrian Chain, Iberian Chain.

Optional: ask the students to colour the plateaus and mountain ranges.

2. Compare the landscapes of these places.

Model answers:

- a. The Canary Islands are very mountainous, but the Balearic Islands are not.
- b. The Galician coast is high and rocky, but the Atlantic coast of Andalusia is low and sandy.
- c. The Cantabrian coast is generally high and rocky, but the Mediterranean coast is generally low and sandy.

3. Complete this text about the Mediterranean climate.

There are three types of Mediterranean climate: continental, dry and typical. The continental climate is found on the Central Plateau, in the Ebro valley and part of Andalusia. The summers are hot and the winters are cold. The dry climate is found in the southwest of mainland Spain. All year round, temperatures are mild. The typical climate is found in coastal areas. In summer, the temperatures are hot, and in winter they are mild.

4. Give examples of the flora and fauna in these three areas.

Model answers:

- a. Flora: many forests and meadows.
Fauna: foxes, wolves, wild boar and deer.
- b. Flora: dragon trees and tabaiba spurge.
Fauna: giant lizards and canaries.

5. What type of climate is there in your area? What flora and fauna are common?

Open answers.

UNIT 9: THE POPULATION OF SPAIN

1. Complete these sentences about the population of Spain.

- a. Spain had a population of about 18 million in 1900.
 - b. The population has increased since then for two reasons: there has been a positive natural increase and many immigrants have come.
 - c. The population is ageing because people are living longer and the birth rate is decreasing.
 - d. The population density is 89 inhabitants / km².
 - e. The most populated areas are the Autonomous Communities on the coast and the Autonomous Community of Madrid.
- What is the population density of your Autonomous Community?
Open answer.

2. Find 8 words in the wordsearch. Classify them and add two activities to each sector.

Across: chemical, agriculture, trade, construction, automobile.

Down: mining, textile, food.

Primary sector	Secondary sector	Service sector
agriculture mining + livestock farming + fishing	chemical construction automobile textile + manufacturing + telecommunications	trade tourism + transport + insurance

3. Identify and label the Autonomous Communities and Autonomous Cities.

- Colour your Autonomous Community and add the capital city.

Students label the map. Optional: ask the students to identify and colour specific Autonomous Communities.

4. Match the columns.

- a. 1; b. 4; c. 5; d. 6; e. 3; f. 2.

REINFORCEMENT

UNIT 10: EUROPE

1. Answer the questions.

- Where is the Great European Plain located? It extends from the Pyrenees to the Ural Mountains in Russia.
- Where are most of the mountain chains in Europe located? Most are in the south of Europe near the Mediterranean Sea.
- Which are the largest peninsulas in Europe? The Scandinavian, Iberian and Italian peninsulas are the largest.
- Which is the longest river in Europe? How long is it? The River Volga is the longest. It is over 3,500 km long.

2. Make the key. Colour this map of European climates.

Students make the key and colour the map.

3. Complete this text about the population of Europe.

Europe is the third most populated continent after Asia and Africa. About 730 million people live in Europe – around 11% of the world's population. Most Europeans live in cities. The largest cities are London, Moscow and St Petersburg. There are 48 independent nations in Europe. There is a great diversity of origins, religious beliefs, cultural traditions and languages.

4. Circle the correct alternative.

- The European Union is a confederation of countries.
- The EU is a space without political frontiers.
- France and Italy were some of the first member states.
- Today there are 490 million citizens in the EU.
- The euro is the official currency in most EU countries.
- Many EU institutions are based in Brussels and Strasbourg.
- What are the four main institutions of the European Union?

The Council of the European Union; The European Parliament; The European Commission; The Court of Justice.

5. Draw and colour the flag of the European Union. Then describe it.

Students draw and colour the flag.

Model answer: The flag of the European Union is blue. In the centre there is a large circle of twelve gold stars.

UNIT 11: PREHISTORY AND ANTIQUITY

1. Classify the words.

Palaeolithic period: nomads, caves, huts, clans.

Neolithic period: sedentary, settlements, tribes.

Metal Ages: metals, villages, chieftains.

2. Are the sentences true (T) or false (F)? Correct the false sentences.

True sentences: b; e; f.

- Early human beings were called hominids.
- Nomads obtained their food by hunting, fishing and gathering wild plants.
- In the Neolithic period, they built the first settlements.

3. Answer the questions.

- What is this? It's an arrowhead.
- What was it used for? It was used for hunting.
- How was it made? It was made by hitting one stone against another.

4. Write short descriptions of the economic and cultural activities of two of these peoples.

Open answers.

5. Answer the questions.

- When did the Romans defeat the Carthaginians? In 218 B.C.
- When did the Romans complete their conquest of Iberia? In 19 B.C.
- What did the Romans call the Iberian Peninsula? Hispania.
- What language did the people speak? Latin.
- When did German tribes invade the peninsula? After about 400 A.D.

6. Identify these examples of Roman architecture. Describe their purpose.

Model answers:

- It's a circus. For entertainment.
- It's a triumphal arch. To commemorate a military victory.
- It's an aqueduct. To provide water for the city.
- It's a Roman road. For travel. / To improve transportation.
- Are there any Roman ruins in your Autonomous Community?

Open answer.

UNIT 12: THE MIDDLE AGES

1. Match the columns.

- a. 2; b. 4; c. 7; d. 3; e. 6; f. 5; g. 1.
- Name two examples of Visigothic heritage.

Model answer:

Small stone churches and jewellery made with gold, silver and precious stones.

2. Draw a map of Al Andalus. Label the cities. Colour the Caliphate territories.

Students draw and colour the map.

3. What happened in these years?

- a. 711 A.D.: Muslims from northern Africa invaded Visigothic Spain.
- b. 756 A.D.: Abd ar-Rahman I established Al Andalus as an emirate.
- c. 929 A.D.: Al Andalus became a caliph under Abd ar-Rahman III.
- d. 1031 A.D.: The caliphate ended.

4. Answer the questions.

- a. Which religious groups lived in Al Andalus? Muslims, Christians and Jews.
- b. What were some of the Muslim contributions to society? New crops (rice), instruments (the compass) and irrigation systems.
- c. Which four large Christian kingdoms existed in 1230? The Kingdom of Portugal, the Kingdom of Navarre, the Crown of Aragon and the Crown of Castile.
- d. Who were the Catholic Monarchs? Isabella I of Castile and Ferdinand II of Aragon.
- e. What did they do in 1492? They conquered Granada, the only remaining Muslim kingdom.

5. Describe these two buildings.

Model answers:

- a. It is a Romanesque church. It has thick walls and small windows.
- b. It is a Gothic cathedral. It has pointed arches and stained-glass windows.

UNIT 13: SPAIN AFTER 1492

1. Match the columns. Add the dates.

- a. 2 (1492); b. 4 (1516); c. 3 (1556); d. 1 (1571).

2. Classify the works of art and people.

Architecture: Monastery of El Escorial, Cathedral of Seville.

Literature: Lope de Vega, Miguel de Cervantes, Luis de Góngora.

Painting: El Greco, Murillo, Diego Velázquez.

3. Answer the questions.

- a. When did the three Habsburg kings reign? In the 17th century.
- b. What were their names? Philip III, Philip IV and Charles II.
- c. Where did revolts take place? In the Netherlands, Catalonia and Portugal.
- d. What was one of the economic consequences? People were hungry in many parts of Spain.

4. Identify the building. Describe its significance.

It is the Monastery of El Escorial. Open answer.

5. Number the reigns of these monarchs in chronological order.

- 1, Charles II; 2 Philip V; 3 Charles III; 4 Charles IV; 5 Ferdinand VII; 6 Joseph Bonaparte.

6. Write a short summary of the reforms introduced by the Bourbon kings.

Open answers.

7. Complete the sentences.

- a. During the Spanish War of Independence the Spanish parliament took refuge in Cádiz.
- b. In 1812, the Constitution of Cádiz was written.
- c. This constitution limited the king's power and established the rights of citizens.
- d. The political chaos in Spain caused an independence movement in the Spanish colonies in America.
- f. In 1833, Ferdinand's daughter, Isabella II, came to the throne.
- e. During her reign there were conflicts between conservatives and liberals.
- f. Between 1868 and 1874, there was a period of great political instability.

8. Identify this painting and explain what it shows.

It is *The Third of May*, a famous painting by Goya. Open answer.

UNIT 14: THE 20TH CENTURY

1. Write about change in the twentieth century.

Open answers.

2. Complete the sentences.

- a. Since 1982, two political parties have governed Spain: the Socialist party and the Popular party.
- b. Since 1986, Spain has been a member of the European Union.
- c. Today the Constitution organizes the Spanish State into seventeen Autonomous Communities and two Autonomous Cities.

3. Find out about the people. Classify them and then add more names.

Literature: Ana María Matute, Federico García Lorca, Jorge Guillén, Vicente Aleixandre.

Architecture: Antoni Gaudí, Santiago Calatrava.

Painting / Sculpture: Pablo Picasso, Joan Miró, Salvador Dalí, Juan Gris.

Cinema: Luis Buñuel, Núria Espert, Fernando Trueba.

4. Describe some of the changes in Spanish society under democracy.

Open answers.

EXTENSION ACTIVITIES

UNIT 1: ECOSYSTEMS

1. Find words in the text which mean the following:

- People who want to protect the environment: environmentalists.
- Something that you manage to do or achieve: success.
- People who try to change things through their actions: activists.
- Metal objects used to kill whales: harpoons.
- Big, round metal containers: drums.
- Material that you don't want or can't use: waste.
- To stop or prohibit: ban.
- A big sea animal which also lives on land: seal.
- Excavating for coal, minerals, etc.: mining.
- The variety of plants and animals in a habitat: bio-diversity.

2. Complete the chart about the members of Greenpeace.

They are in favour of...	They are against...
banning the import of seal skins. protecting Antarctica from exploitation by mining. protecting the bio-diversity of forests and oceans.	underground nuclear testing. killing whales. dumping dangerous waste in the sea. toxic pollution from nuclear waste.

3. What do you think?

- What examples of 'non-violent action' are described in the text?
Greenpeace activists used small boats to stop whalers. They also sailed near drums of dangerous waste in the sea.
- Do you think this is a good way to protect the environment? Why? / Why not?
Model answer: Yes, I do. The actions of Greenpeace draw the attention of the public to important environmental issues.

4. Read the clues and complete the words.

- E** XTINCT: this describes a species which has disappeared
E COSYSTEM: a community of living things
N UCLEAR: a type of energy
P OLLUTION: contamination
E NVIRONMENT: our surrounding conditions
A QUATIC: a type of ecosystem

5. Write about an environmental group.

Open answer.

UNIT 2: THE BODY

1. Match the words and definitions.

- versatile: able to do many different things (1).
- tendon: tissue which connects a muscle to a bone (5).
- tip: the round or pointed end of something (2).
- sensitive: quick to feel something (3).
- sole: the underside of someone's foot.
- cushion: a soft object which gives support or protects from impact (7).
- attach: to fix something to another thing (6).

2. Answer the questions.

- Why is the hand described as a versatile instrument? Because we can use it to carry out many different tasks.
- What gives the hand the ability to move in different ways? The tendons. Humans can touch each finger with their thumbs.
- Why are the tips of our fingers so sensitive? Because they have a lot of nerve endings.
- Which two functions of feet are described? They support our weight and help us to keep our balance.
- Where are the soles of our feet? What function do they have? They are the bottom surface of our feet. They protect us from the impact of our movements.

3. Complete the sentences.

- The human hand and foot have a similar number of bones.
- The hand has more muscles than the foot.
- The hand has ten fingers and the foot has ten toes.
- If we touch a cactus with the tips of our fingers we feel pain.

4. Investigate. Open answer.

UNIT 3: SEXUAL CHARACTERISTICS

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

True sentences: c; e; f; h; i.

Corrected false sentences:

- They sometimes have a scan.
- The ultrasound machine transforms sounds into images.
- The images of the baby are 3D or 4D.
- Before 10 weeks, very small embryos can be seen.

2. What information can we obtain from an ultrasound scan? Tick the correct boxes.

Correct answers: a; b; c; e; f.

3. Complete the text.

The development of the foetus in the uterus takes 40 weeks and follows a certain pattern. In the second month, the baby's internal organs are developing. In the third month, the baby is completely formed and begins to grow rapidly. By the fifth month, the baby is active: it moves a lot and responds to sounds. By the seventh month the baby's internal organs have developed and it is preparing for life outside the uterus. There is now less room for it to move. In the last weeks of pregnancy, the baby prepares for birth and its head moves into a downward position.

4 Investigate.

Model answers:

Body change: Menstruation stops. Weight increases with the weight of the baby and the liquid around it. The uterus dilates as the baby grows.

Health: A woman may feel sick or dizzy. She should eat healthy food. She should not smoke because it is harmful to her and the baby. She should not drink very much alcohol. She should do gentle exercise; swimming and walking are good exercises.

UNIT 4: ENERGY

1. Match the sentence halves.

a. 6; b. 8; c. 7; d. 4; e. 2; f. 1; g. 3; h. 5.

2. Complete the sentences with 'and' 'but' or 'because.'

- Fossil fuels come from plants and creatures that lived long ago.
- We cannot depend on fossil fuels because they are non-renewable.
- Fossil fuels are running out but, fortunately, there are other forms of energy.
- Some people walk to work or school and, in this way, they save energy.
- A school usually needs a lot of power because it has machines, lighting and heating.
- We know how to save energy but we don't always behave responsibly.

3. Strange but true: complete the sentences.

- Cassop Primary School in the north was the first school in England to be powered by a wind turbine.
- You can use a lemon as a battery to light a small bulb.
- You can use a potato as a battery to run a clock.
- A traditional light bulb transforms 80% of its energy into heat.
- An energy-saving light bulb produces 80% more light.

4 What can we do to save energy?

Model answer:

To save energy, we can wear warmer clothes in winter. This means that we can turn down the heating and the bills will be cheaper.

UNIT 5: ELECTRICITY AND MAGNETISM

1. Choose the best answer.

a. 2; b. 3; c. 1; d. 2.

2. Match the invention with its description.

a. 2; b. 3; c. 4; d. 1.

3. Complete the sentences.

- Before the phonograph people went to concerts or played instruments. After the phonograph, they could listen to music at home.
- Before the light bulb people used gas and oil lamps. After the light bulb people turned on a switch to obtain light.
- Before the movie camera people didn't go to the cinema. After the movie camera people went to the cinema and watched TV.

4. Investigate.

Open answers.

UNIT 6: FORCES

1. Find words in the text that mean the following:

- the people who work on a spaceship, plane or boat: a crew.
- An organisation in the USA in charge of space missions: NASA (National Aeronautics and Space Administration).
- a form of transport which travels regularly between two places: shuttle.
- a force which attracts a body towards the centre of the earth: gravity.
- without weight: weightless.
- the long bone in your back: spine.
- to lose strength: waste away.
- pressures or tension: stresses.

2. Match the sentence halves.

a. 1; b. 6; c. 5; d. 3; e. 4; f. 2.

3. Complete the text.

Astronauts prepare for spacewalks by training every day in a specially designed space gym. NASA has designed three machines to provide the most effective exercise within a small area.

- The cycle ergometer*

This looks like a box with a pedal on each side. The astronauts push their feet into the pedals to stop them floating out of position.

- The space treadmill*

The astronauts use cords attached to a waist harness to keep them on the treadmill. The treadmill is on a soft

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cushion to prevent stress damage to the structure of the space station.

- *The resistance device*

This machine uses a pair of vacuum cylinders attached to pulleys to build muscle. The astronaut can do exercises which involve sitting and standing, or pushing and pulling.

4. Investigate.

Open answers.

UNIT 7: THE SOLAR SYSTEM

1. Match the words and definitions.

a. 3; b. 7; c. 6; d. 8; e. 1; f. 2; g. 9; h. 5; i. 4.

2. Correct the information.

- Mars is the fourth planet from the Sun.
- It has two moons.
- It is named after a Roman god.
- It looks red because it is covered in iron oxide dust.
- Mars has valleys, mountains, craters and canyons.

3. Choose the best answer.

a. 3; b. 1; c. 3; d. 1.

4. Write complete sentences.

- Galileo looked at Mars through a telescope in 1609.
- There are a lot of storms on Mars.
- NASA has sent many space missions to Mars.
- Nobody is sure that there is life on Mars.

5. Investigate.

Open answer.

UNIT 8: LANDSCAPES OF SPAIN

1. Answer the questions.

- A beach holiday and walking in the mountains.
- England.
- In the early decades of the 20th century.
- The Manzanares in Madrid and the Guadarrama to the north of the city.
- He 'walked down through Spain'.
- On the south coast of Spain. It is on the Atlantic coast.
- In Galicia, the north-west of Spain.
- At the foot of the Pyrenees.

2. Read the part of the text about the Pilgrim Route.

The route starts in the Pyrenees and finishes in Santiago de Compostela, Galicia. It goes through Navarra, Logroño, Burgos, Leon and over the Leon Mountains.

Pyrenees:

Landscape: mountainous; downhill if you start in Spain.

Climate: cold in winter, cool or warm in summer.

Castilian Plain:

Landscape: flat with few trees.

Climate: very cold in winter and very hot in summer.

Leon mountains:

Landscape: hills and mountains, rocky.

Climate: cold in winter with rain or snow, hot in summer.

Galicia:

Landscape: hills and valleys, green.

Climate: mild winters, cool summers, rain all year round.

3. Complete the text about the Pilgrim Route.

When is the best time of year to walk the Pilgrim Route? It is difficult to say. The route travels through many different landscapes and takes several weeks. In winter it is cold and in summer it can be very hot. The final part of the route, through Galicia is often wet – 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 plains. Strong shoes and light, waterproof clothing are essential. A hat is important too. In some places, there are very few trees to protect you from the sun.

UNIT 9: THE POPULATION OF SPAIN

1. Find words in the text that mean the following:

- Chosen by the people in an election: elected.
- Say that you agree with something: approve.
- A vote on a particular topic: referendum.
- To form a line: queue.
- To write your name: sign.
- A piece of cloth fixed to a pole: flag.
- A piece of music which represents a country: national anthem.
- To make something possible: enable.
- The place where a king or queen sits: throne.
- Male or female: gender.

2. Classify the following into rights or duties.

Model answers:

Rights: b, d, e, g, i.

Duties: a, c, f, h, j.

3. Complete the text.

King Juan Carlos 1 is the head of state but he does not make political decisions. He must accept the decisions taken by parliament and he must defend the Constitution.

The first person in line to the throne is Juan Carlos's son, Prince Felipe. He will be the next king. At the moment, the Constitution says that boys must come before girls in inheriting the throne. If Prince Felipe has a son, the boy will be king after his father. Prince Felipe's daughters will succeed to the throne after their brother, or brothers. However, if the Constitution changes, Spain could have a queen when Felipe dies.

UNIT 10: EUROPE

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

True sentences: a, c, d.

Corrected false sentences:

- b. She feels Spanish and English.
e. She went to university in Madrid, Spain.

2. Complete the chart.

English, French; German; Danish; Swedish; Dutch; Polish;
Norwegian; English / Irish (or Gaelic).

3. Answer the questions.

Open answers.

4. Read the notes about Franz and write an interview.

Open answer.

2. Answer the questions.

- a. The Muslims.
b. Al Andalus.
c. It was a fortress, a palace and a city.
d. It is a tourist attraction.
e. After the red clay around the building.
f. The Muslim rulers.
g. The Spanish/Christian rulers.
h. It was neglected.
i. Because people protested about its bad condition.

3. Find the following in the text:

- a. Yusuf I and Muhammed V; b. Ferdinand and Isabella;
c. fortress, palace, castle; d. coloured tiles, delicate arches; e. Sophisticated irrigation system;
f. Sierra Nevada.

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

Open answer.

UNIT 11: PREHISTORY AND ANTIQUITY

1. Choose the best answer.

- a. 2; b. 3; c. 1; d. 3; e. 2.

2. Complete the sentences with a word from the text.

- a. The Roman army was made up of well-trained, professional soldiers.
b. The Roman Empire had armies in many countries.
c. The soldiers who made up a century were called legionaries.
d. A legion had about 50 centuries in it.
e. An army had about 30 legions.
f. A centurion was someone in charge of other soldiers.
g. Roman soldiers carried a sword, a spear and a shield.
h. A Roman soldier's helmet was made of metal.

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

Dear Aulus,

I hope you are well. We are all well here. I hear that the weather is very cold where you are now. I am sending you some gloves made of wool. I'm sure your hands get very cold when you are guarding the camp. I'm also sending you some cheese because I know that you miss our delicious food. I hope that you receive it. We all miss you. Your girlfriend Flavia is very sad and thinks about you all the time.

Take care of yourself, son, and come back to us soon.
Your loving mother.

UNIT 12: THE MIDDLE AGES

1. Match the words with their definitions.

- a. 2; b. 5; c. 9; d. 8; e. 1; f. 10; g. 7; h. 4; i. 6; j. 3.

UNIT 13: SPAIN AFTER 1492

1. Find words in the text that mean the following:

- a. someone who buys and sells things: a merchant.
b. someone between the ages of 13 and 19: teenager.
c. to provide money for something: finance.
d. substances that give flavour to food: spices.
e. a journey by sea: voyage.
f. someone who belongs to a nation or a country: citizen.

2. Are the sentences true (T) or false (F)?

True sentences: a, c, d, e, g.

Corrected false sentences:

- b. He found it very exciting.
f. He claimed it for Spain.
h. There are various monuments throughout Spain.

3. A sailor's life.

Life is very hard here on the Pinta. We sleep on deck and last night, when we left the Canary Islands, the weather became much colder. The food is not very good and there isn't very much. If we don't reach land in a few weeks, we will soon be very hungry. Every morning, we say our prayers and then we work hard all day. The Captain is very excited about our journey. The King and Queen have given him a lot of money for this trip and he mustn't fail them. They want new lands and riches for Spain. I just want to return home safely.

4. Write a short text.

Open answer.

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UNIT 14: THE 20th CENTURY

1 Match the words and definitions.

a. 3; b. 5; c. 6; d. 4; e. 2; f. 1.

2. Answer the questions.

- a. Law.
- b. It was poor. Kent assigned more money to it.
- c. They were dirty and broken.
- d. They had to give them to the managers of the prison, who could destroy them and take reprisals.
- e. Catholicism.
- f. None.
- g. A special open area with light and air.
- h. Prison Corps for Women; Institute of Penal studies.
- i. There was opposition to her reforms.
- j. The Republicans were defeated in the Civil War.

3. Choose the best words.

- a. Kent was General Director of Prisons for a short time.
- b. She wanted to make prison life more humane.
- c. She tried to give prisoners more dignity.
- d. She wanted to give prisoners the opportunity to learn more.
- e. She thought that culture would improve prisoners' lives.
- f. She often went to visit different prisons.
- g. Not all of the people in government agreed with her reforms.
- h. She was still interested in prison reform after she left Spain.

4. Match the sentence halves.

a. 2; b. 5; c. 6; d. 1; e. 3; f. 4.

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