

The landforms of Spain



Track 1

Spain's main geographical features

Spain's territory consists of a large part of the Iberian Peninsula, the Canary Islands in the Atlantic Ocean, the Balearic Islands in the Mediterranean Sea and the autonomous cities of Ceuta and Melilla, located on the north coast of Africa.

All of Spain's territory is located in the Northern Hemisphere. Peninsular Spain shares a border with France and Andorra to the north and with Portugal, which is also on the Iberian Peninsula, to the west. The Cantabrian Sea and the Atlantic Ocean border the north and west coast of the Peninsula and the Mediterranean Sea borders the south and east coast.

The Balearic Islands are an archipelago in the Mediterranean Sea. The Canary Islands, however, are an archipelago located almost 1000 kilometres southwest of the Peninsula, in the middle of the Atlantic Ocean, just north of the coast of Africa.

Spain is a country with varied terrain and a high average altitude. Spain's high average altitude is due to the numerous mountain ranges and systems located throughout the country and the fact that a high inner plateau occupies a large part of the Peninsula. The islands are also mostly mountainous and have got significant elevations, especially in the Canary Islands.



1 What countries and seas border peninsular Spain?



2 Is Spain a mostly flat or mountainous country? Is its average altitude high or low? Explain your answer in your notebook.

3 Look at the map and answer the questions in your notebook.

- 1 What kind of map is it?
- 2 What does the map show?
- 3 List the peaks that appear on the map, their altitude, and the mountain range to which they belong. Order them according to height, from highest to lowest.
- 4 Where are the three tallest peaks in Spain located?



Track 2

The Meseta

The Meseta's interior

The Meseta is the plateau at the centre of the Peninsula. Its average altitude is 650 metres. It is the most extensive (400 000 km²) and highest plateau in Europe. It covers Castilla y León, Castilla-La Mancha, Madrid and Extremadura. The rivers that travel through it drain their waters into the Atlantic Ocean. Two mountain systems are located within the Meseta.

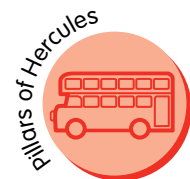
- **The Central System** stretches from the Iberian System to central Portugal. It divides the Meseta in two: the northern sub-plateau, home to the Duero Valley, and the southern sub-plateau, home to the Tajo and Guadiana valleys. It is divided into the mountains of Somosierra, Guadarrama, Gredos (which includes Almanzor, the highest peak that rises to 2592 metres) and Gata.
- **The Toledo Mountains** are a smaller system. They separate the Tajo Valley from the Guadiana Valley in the southern sub-plateau. Notable mountains ranges are the San Pedro Mountains and the Guadalupe Mountain, where Villuercas, the highest peak (1 601 metres), is located.

The Meseta's borders

- **The Mountains of León** form the northwestern edge of the Meseta. The Mountains of León include the Teleno Mountains and the Segundera Mountains, where elevation rises to around 2 000 metres.
- **The Cantabrian Range** runs parallel to the coast on the northern edge of the plateau. Its highest summit is Torrecerredo (2 648 metres, in the Picos de Europa).
- **The Iberian System** is located on the Meseta's eastern edge. It includes the Picos de Urbión, the Albarracín Mountains and the Moncayo Mountains, with its highest peak, Moncayo (2 313 metres).
- **The Sierra Morena** is located on the southern edge of the Meseta. Its most notable mountains are the Aracena Mountains, the Hornachuelos Mountains and the Madrona Mountains, which include the highest peak, Bañuela (1 323 metres).

1 Which mountain systems do the following mountains belong to?

- | | | |
|--------------|----------|-------------|
| 1 Somosierra | 2 Gredos | 3 San Pedro |
| 4 Guadalupe | 5 Gata | |





Track 3

Mountain ranges outside the Meseta

Six mountain ranges are located outside the Meseta. Four of them are in the north of Spain and two are in the south.

Mountain ranges of northern Spain

The four mountain ranges of northern Spain are very different.

- **The Galician Massif** is located in the northwest corner of the country. The notable Cabeza de Manzaneda peak, in the middle of the Massif, rises to 1 778 metres.
- **The Basque Mountains** are located in the north of Spain. They are between the Cantabrian Range and the Pyrenees. One of the highest peaks is the Aizkorri (1 528 metres).
- **The Pyrenees** are a large chain of mountains in the northeast of Spain. They stretch from the Cantabrian Sea (Gulf of Bizkaia) to the Mediterranean Sea (Cape Creus). It is a natural border between Spain to the south and France to the north. The Aneto is the highest peak (3 404 metres).
- **The Catalan Coastal Range**, runs parallel to the Mediterranean coast. It is between the Pyrenees and the mouth of the Ebro River. Its highest peak is the Turó de l'Home (1 712 metres).

The Baetic System

The Baetic System is a large mountain system in the southeast of the Iberian Peninsula. It is made up of two mountain ranges: the Penibaetic and the Subbaetic Ranges. Between these two ranges, a series of small valleys, form the Intrabaetic Basin.

- **The Penibaetic Range** is closer to the southern coast of the Mediterranean Sea. It contains the Ronda Mountains, the Baza Mountains and the Sierra Nevada. The highest peaks, such as the Veleta (3 396 metres) and the Mulhacén (3 478 metres), are in the Sierra Nevada. The Mulhacén is the highest peak on the Peninsula.
- **The Subbaetic Range** is located, next to the southern edge of the Meseta. The Cazorla Mountains, the Segura Mountains and La Sagra Mountains are among its most notable mountains.

A mountain system is a group of mountain ranges.



1 Look at the map on page 5 and locate the mountain ranges outside of the Meseta.



Depressions outside the Meseta

- Depressions are low, flat areas of land. Because of their low elevation, it is common for rivers to run through them. There are
- two large depressions located between the border of the Meseta and the outer mountain systems: the **Ebro Depression** and the **Guadalquivir Depression**.

The Ebro Depression

- The Ebro Depression is the larger of the two depressions. It covers an approximate area of 40 000 km² and is 900 kilometres long.
- The Pyrenees lie to the north, the Catalan Coastal Range to the east, and the Iberian System to the south and west.
- The Ebro Depression is made up of different terrain, due to the various materials deposited by the river and the region's varied climate.
 - **Somontanos** or **pedemontes** are flat, moderately sloped terrain, found between the bordering mountains and the depression's centre.
 - **Muelas** or **planas** are formed in the depression's centre and are composed of hard limestone and clay and soft marl and gypsum.
 - The Ebro Delta is the mouth of the Ebro River on the Mediterranean Sea. The delta is formed by materials that were dragged along the course of the river and deposited.

The Guadalquivir Depression

- The Guadalquivir Depression covers an area of approximately 35 000 km² and is 600 kilometres long.
- The Sierra Morena lies to the north and northwest of the depression, the Subbaetic Range to the northeast and the Penibaetic Range to the southeast.
 - The Guadalquivir River leaves clay deposits throughout most of the depression, forming gently rolling hills, also known as **campiñas**.
 - At the mouth of the Guadalquivir River, the sea floods the low-lying coastal area, forming salt marshes (highly fertile land).



1 Define *somontanos*, *planas* and *campiñas*.



Track 5

Coastal landforms

The Spanish coastline

- Spain has got about 7 880 kilometres of **coastline**. Peninsular Spain and its islands are mostly surrounded by rocky cliffs.
- The coast of peninsular Spain can be divided into five sections.
 - The Atlantic coast of Cantabria
 - The Atlantic coast of Galicia
 - The Atlantic coast of Andalucía
 - The Mediterranean coast of Andalucía
 - The Eastern Mediterranean coast
- Ceuta and Melilla are autonomous cities found south of the Mediterranean Sea.



Track 6

Spain's archipelagos

- **The Balearic Islands** are mostly mountainous, as they are an extension of the Subbaetic Range. The highest altitude is the peak of Puig Major (1 445 metres), which is in the Tramuntana Range.
- **The Canary Islands** are mountainous and volcanic in origin. The highest peak in Spain is the Teide, measuring 3 718 metres.

1 What are the origins of...

- 1 ... the Canary Islands?
- 2 ... the Balearic Islands?



Track 7

The relief of Andalucía

Andalucía occupies more than 17% of Spain's surface. It is the largest and most southerly autonomous community on the peninsula. Its relief is varied and includes several of the landforms that can be found on the peninsula. The majority of the territory is flat, but there are also two large mountainous zones to the north and the southeast.

Mountainous zones

The Sierra Morena occupies the north zone. Its mountains are of moderate height.

The Baetic System extends across the south and east and it is made up of two large mountain ranges.

- The Subbaetic Range. Its maximum height is at the peak of La Sagra (2 391 metres).
- The Penibaetic Range. The peak of the Mulhacén, in the Sierra Nevada, is the highest peak in Andalucía (3 478 metres).

There are small depressions found between both of these mountain ranges, such as Antequera, Ronda, Baza and Granada, which form the Intrabaetic Basin.

The Guadalquivir Valley

The Guadalquivir Valley extends between the Sierra Morena and the Iberian System. It is a large, fertile, lowland plain, which occupies 65% of Andalucía's surface. Fertile *campiñas* can be found throughout the valley.

The coasts of Andalucía

There are two coastal regions in Andalucía: the Atlantic and the Mediterranean.

The Atlantic coast corresponds to the flat zones of the Guadalquivir Valley. It is a low, sandy coast, with large beaches that form sand dunes such as those found on the Cádiz and Huelva coast. The Mediterranean coast is influenced by its proximity to the Penibaetic Range. It is predominantly straight, with high cliffs.

Andalucía's terrain



The National Park of the Cazorla, Segura and Las Villas Mountains in the Subbaetic Mountain range



Sand dunes on the Valdevaqueros beach in Tarifa



- 1 Look for pictures on the Internet of the *campiñas* in Andalucía and explain what features they have in common.



Track 8

Protected spaces

These areas are protected by the European Union, the Spanish state or one of the autonomous communities. In order to become a protected space, the area has to be a unique ecosystem, have suffered little human impact or changes and not upset the balance of its ecosystems.

There are different types of protected spaces:

- **National and natural parks.** These are spaces that have not been transformed very much by human beings. In Spain, there are fifteen national parks and numerous natural parks.
- **Nature reserves.** These are unique ecosystems such as lagoons, groves, dunes and marshes.
- **Natural monuments.** These are unique natural formations of great beauty or rarity, such as waterfalls and caves.
- **Protected landscapes.** These areas are normally conserved for their aesthetic and cultural value.



- 1 Study the map and locate the national parks in Spain.
- 2 Investigate on the Internet and find three examples of nature reserves, natural monuments and protected landscapes.



Apply your skills

Project Connect the terrain

Let's build our own board game (with the help of an adult).

You will need:

- electric cable
- electric tape
- coloured felt, tip-pens
- metal thumbtacks
- a light socket for a 5 V light bulb
- two screws
- two test probes
- a nine-volt battery
- a wood panel (thin enough for a thumbtack to stick out the other side)
- a 5 V light bulb

Step 1 Trace an outline of Spain onto the wood panel.

Step 2 Beside your outline, list the names of the mountain systems, ranges and peaks you have studied.

Step 3 Place a thumbtack next to each name on the list.

Step 4 Place thumbtacks in the corresponding locations on the blank map of Spain.

Step 5 Flip the board over and connect the thumbtacks with electric cable, joining the name on the list with the correct location on the map.

Step 6 Fasten the light socket to the wood panel with the screws.

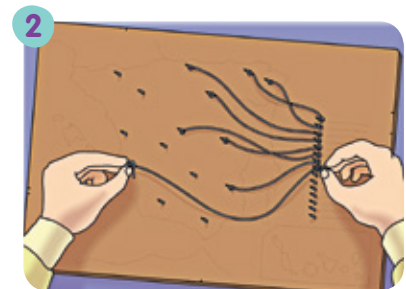
Step 7 Connect a long piece of electric cable to one of the screws with a test probe.

Step 8 Connect the other screw to one of the terminals of the nine-volt battery with electric cable.

Step 9 Connect another long piece of electric cable to the remaining terminal on the nine-volt battery with the other test probe.

Step 10 Screw the light bulb into the socket.

Once the board is built, test your knowledge! Choose a landform and touch its thumbtack with one probe. Find its location on the map and touch its thumbtack with the other probe. If the bulb lights up, you're correct!



Check what you know!

Work in your notebook

- 1 Name the two important depressions on the Iberian Peninsula. Where are they located? What is their elevation?
- 2 Are the following mountains located in the interior, on the border, or outside of the Meseta?
 - 1 Cabeza de Manzaneda
 - 2 Cazorla Mountains
 - 3 Moncayo Mountains
 - 4 Guadarrama Mountains
 - 5 Picos de Europa
- 3 Answer the questions in your notebook. Use picture a, which shows the relief of Spain, to help you.
 - 1 Which major landform covers most of the Iberian Peninsula?
 - 2 Which mountain range is in the south of the peninsula?
 - 3 Which mountain range separates Spain from France?
 - 4 Which mountain range divides the Meseta in two?
- 4 Where does each coastal section begin and end?
 - 1 Atlantic coast of Cantabria
 - 2 Atlantic coast of Galicia
 - 3 Atlantic coast of Andalucía
- 5 What are the differences between the Atlantic and Mediterranean coasts of Andalucía? Why?
- 6 Which regions make up each of the following coasts?
 - 1 The Mediterranean coast of Andalucía
 - 2 The East coast
 - 3 The Catalan Coast



My Word list

Meseta interior

Central System
Toledo Mountains

Meseta's borders

Cantrabrian Range
Iberian System
Mountains of León
Sierra Morena

Meseta's exterior

Basque Mountains
Beatic System

- Penibaetic/
Subbaetic

campiñas
Catalan Coastal Range
Ebro Depression
Galician Massif
Guadalquivir
Depression
mueles/planas
piedemontes
Pyrenees

