

6 Spain's natural environment



 In this unit you will learn the answers to these questions:

- Where is Spain? What territories does it consist of?
- What is the geographical **relief** of Spain?
- Where do Spain's rivers flow?
- What are the main features of Spain's **landscape** and **climate**?
- What **natural hazards** are there in Spain?
- What **environmental** problems are there in Spain and how can we solve them?

Before you start, check you understand the meaning of the words in blue.

KEY WORDS

relief: the differences between the high and low areas of a section of land

landscape: the physical elements of the land

climate: the typical weather conditions of an area

natural hazards: risks or dangers such as floods or earthquakes which occur naturally

environmental: relating to the area and conditions in which people, animals and plants live (the 'environment')

KEY WORDS

peninsula: an area of land almost surrounded by water

hemisphere: one of the halves into which the Earth is divided

1 Location, relief and rivers

1.1. Geographical location

Spain occupies most of the Iberian **Peninsula**, the Balearic Islands (in the Mediterranean), the Canary Islands (in the Atlantic), Ceuta and Melilla (on the north coast of Africa).

- **Location:** Northern **hemisphere**, south-west Europe
- **Area:** 505 370 km² (five hundred and five thousand, three hundred and seventy square kilometres)
- **Seas:** Atlantic Ocean, Mediterranean Sea, Cantabrian Sea
- **Fact:** Spain is the fourth largest country in Europe after Russia, Ukraine and France.



Activities

- 1 Listen to the names of the countries and say which ones share a border with Spain.
- 2 Use a ruler and the map above to work out the distance in kilometres between the Punta de Estaca de Bares and the Cabo de Creus. The scale bar on the map will help you work out your answer.

1.2. Relief

The Peninsula

- **In the centre:** the Meseta, a **plateau**, is divided into two regions – Submeseta Norte and Submeseta Sur.
- **Around the Meseta:** **mountain ranges** – the Cordillera Cantábrica, the Macizo Galaico-Leonés, the Sistema Ibérico and the Sierra Morena.
- **Beyond the Meseta:** the Ebro and Guadalquivir Valleys and mountain ranges: the Pyrenees, the Cordilleras Costero-Catalanas and the Sistemas Béticos.
- **The coast:** the Cantabrian and north-west Atlantic coasts are high and rocky with **cliffs** and tidal inlets (*rías*). The Mediterranean and south-west Atlantic coasts are usually low and sandy with long beaches.

KEY WORDS

plateau: a high, flat area of land

mountain range: a chain of mountains

cliff: a steep rock face, often found at the edge of the sea



Activities

- 3 Find the places listed below on the map. Then use compass directions (such as south-west or north-east) to say where they are.

Example: Cabo Ortegal is in the north-west.

- | | |
|-----------------|---------------------|
| a) Cabo Ortegal | c) Golfo de Vizcaya |
| b) Cabo de Gata | d) Golfo de Cádiz |

KEY WORDS

island: an area of land with water all around it

navigable: wide or deep enough to be sailed on or through safely

vertiente: the area of land containing all the rivers that flow into the same sea or ocean

flow (noun): the amount and speed of water in a river

Island relief

- The **Canary Islands** consists of seven islands: Tenerife, Gran Canaria, Lanzarote, Fuerteventura, La Palma, El Hierro and La Gomera. There are **volcanoes** on the islands, including Teide on Tenerife (3715 m), which is the highest point in Spain.
- The **Balearic Islands** consist of Mallorca, Menorca, Ibiza, Formentera and Cabrera. The main mountain range is the Sierra de Tramontana on the island of Mallorca.
- The coastlines of the Balearic Islands and the Canary Islands consist of cliffs and beaches.

1.3. Rivers

Most rivers in Spain flow irregularly and are not **navigable** except for the River Guadalquivir between Sevilla and the Atlantic Ocean.

The rivers of mainland Spain can be classified into different **vertientes** according to the sea or ocean they flow into:

■ Cantabrian

- Main rivers: Bidasoa, Nervión, Nalón
- River description: short, regular **flow**

■ Atlantic

- Main rivers: Miño, Duero, Tajo, Guadiana, Guadalquivir
- River description: long, irregular flow, except for the river Miño

■ Mediterranean

- Main rivers: Ebro, Turia, Júcar, Segura
- River description: short, light, irregular flow (except for the Ebro)



Activities

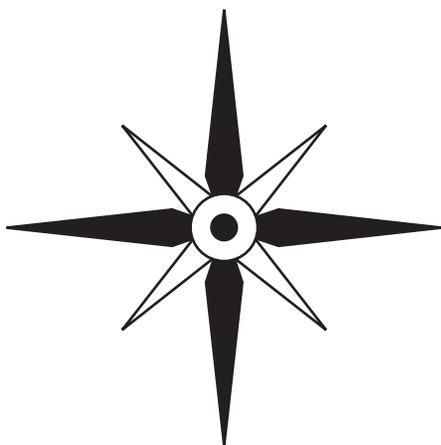
4  Listen, repeat and, in your exercise book, underline the stressed syllables.

- a) Mediterranean
- b) Atlantic
- c) peninsula
- d) hemisphere
- e) kilometre

5 Copy and complete the sentences in your exercise book.

- a) The Canary Islands are in the _____ Ocean.
- b) The Balearic Islands are in the _____ Sea.

6 a) Copy the compass into your exercise book. Then add these compass points: *north, south, east, west, north-east, north-west, south-east, south-west*.



b)  Listen, repeat and point.

7 What latitude is Spain: north or south? What longitude are the Canary Islands and the Balearic Islands: east or west?

8 Match each place on the map showing the location of Spain to its coordinates.

Punta de Estaca de Bares	36° 00' 08" N
Isleta de Tarifa	3° 19' 05" E
Cabo de Creus	43° 47' 36" N
Cabo Touriñán	9° 17' 46" W

9 Tell your partner about some places you have visited in Spain. Then, using the map showing the relief of Spain, point to their approximate locations.

Example:

A: *I've been to (Sevilla).*

B: *Where is it?*

A: *Here, in the south-west.*

10 Look at the map showing the relief of Spain. In which range of mountains are these peaks?

- a) Almanzor
- b) Aneto
- c) Mulhacén
- d) Las Villuercas
- e) Moncayo
- f) Sierra Nevada

11 Copy and complete the sentences in your exercise book.

- a) The highest peak in Spain is *Mulhacén / Teide* _____.
- b) The highest point in the Iberian Peninsula is *Mulhacén / Teide* _____.

12 Are these islands in the Balearic Islands or the Canary Islands?

- a) Mallorca
- b) La Gomera
- c) Menorca
- d) Lanzarote
- e) La Palma
- f) Ibiza

13 In your exercise book, match each adjective to the word that means the opposite.

high	short
regular	small
large	low
long	irregular

14 Using information from the map showing the rivers of Spain, copy and complete the sentences in your exercise book.

- a) The River Bidasoa is *longer / shorter* _____ than the Duero.
- b) The Turia and the Júcar are *Mediterranean / Atlantic* _____ rivers.
- c) The River Tajo is *longer / shorter* _____ than the Nalón.
- d) The River Nalón has a *more / less* _____ regular flow than the Segura.
- e) The Duero and the Tajo have *a lot of / not many* _____ tributaries.

15 Name three tributaries of the River Duero and three of the Ebro.

16 Which sea or ocean do these rivers flow into?

- a) Miño
- b) Tajo
- c) Ter
- d) Júcar
- e) Nalón
- f) Ebro

KEY WORDS

temperate climate: a mild or moderate climate that is neither too hot nor too cold

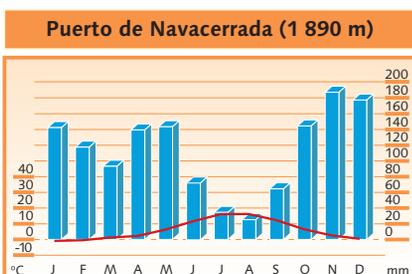
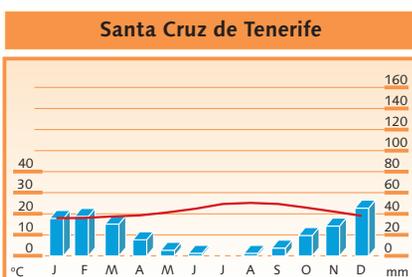
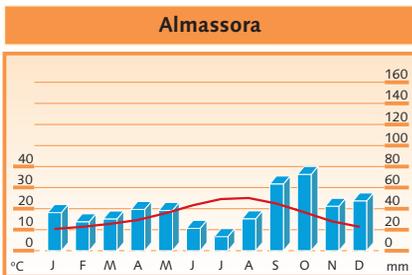
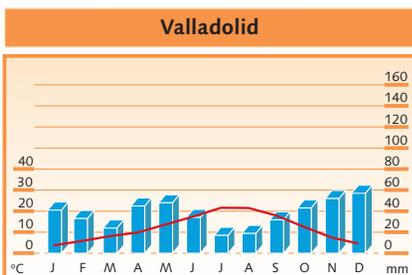
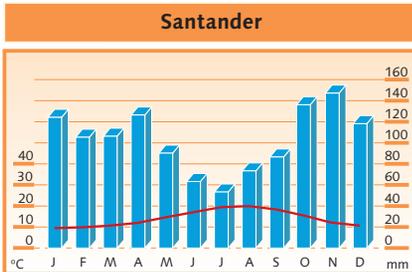
inland: not on the coast

2 Climate and natural landscapes

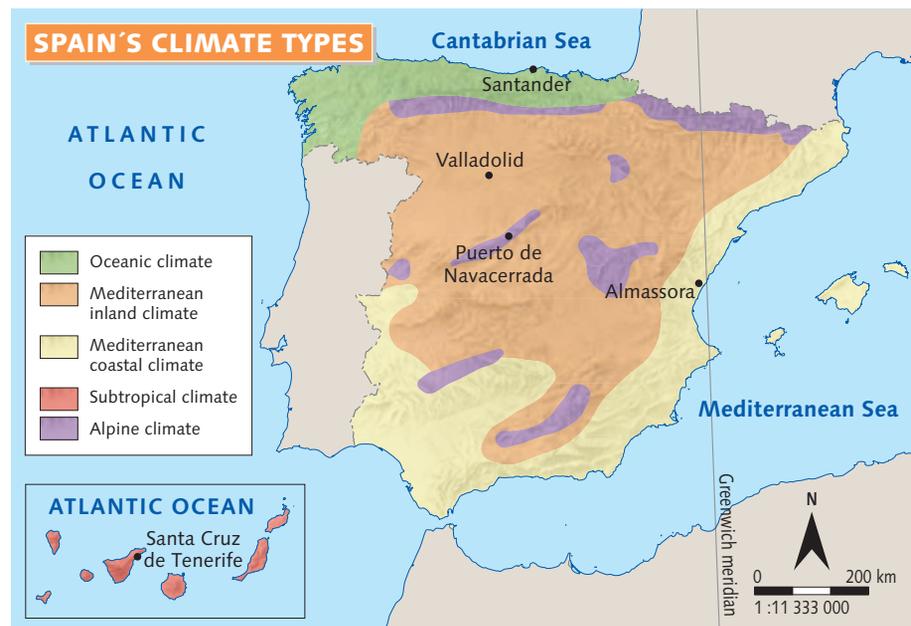
2.1. Climate

The Peninsula, Balearic Islands, and Ceuta and Melilla are in the Earth's **temperate climate** zone; the Canary Islands are in the warm zone.

Spain has a variety of climate types:



Climate type	Temperature		Rainfall
	Winter	Summer	
Oceanic	mild	cool	regular, abundant all year
Mediterranean coastal	mild	hot	scarce
Mediterranean inland	cold	hot	scarce
Subtropical	warm	warm	irregular, scarce
Alpine	cold	cool	abundant, often snow



Activities

17 Study the climate table. Then cover it and take turns to ask your partner questions about the table.

Example:

A: What's the Mediterranean inland climate like?

B: Cold in winter, hot in summer with scarce rainfall.

18 Look at the climate graphs for Santander and Valladolid. Choose the correct comparative adjectives and complete the sentences in your exercise book.

a) Winters are *hotter/colder* _____ in Valladolid than in Santander.

b) Summers are *cooler/hotter* _____ in Valladolid than in Santander.

c) Rainfall is *more/less* _____ abundant in Santander than in Valladolid.

d) Summers are *wetter/drier* _____ in Valladolid than in Santander.

SOURCE: AGENCIA ESTATAL DE METEOROLOGÍA, 2009

2.2. Natural landscapes

Spain has the following natural landscapes:

■ Deciduous forests

These are found in areas with oceanic climates.

- **Vegetation:** deciduous trees such as beech and oak, moorland and grassland
- **Fauna:** for example, *urogallo*, hare, otte, wolf, bear and fox



A deciduous forest in autumn

■ Mediterranean forests and scrubland

These are found in inland and coastal areas where there is a Mediterranean climate.

- **Vegetation:** trees that can survive the dry summers (for example, holm oaks, cork oaks and pine trees), **bushes** and aromatic plants (such as lavender and thyme)
- **Fauna:** for example, rabbit, wolf, lynx and imperial eagle



Mediterranean forest and scrubland in spring

KEY WORDS

deciduous: trees that lose their leaves in autumn (the opposite is evergreen)

scrubland: an uncultivated, often dry area of land with low bushes

bush: a low plant with many branches near the ground

KEY WORDS

laurisilva: a particular type of rare subtropical laurel forest found in the Canary Islands

endemic: native to a specific place

■ Subtropical forests

These are found in subtropical climates.

- **Vegetation:** pine trees and evergreen *laurisilva* forests. There are also **endemic** species such as the dragon tree.
- **Fauna:** many endemic animals, such as Bolle's pigeon



A *laurisilva* forest

■ Alpine landscapes

These are found in places with an Alpine climate.

- **Vegetation:** forests of pine trees and fir trees. Above 2000 m, thorny bushes and grassland.
- **Fauna:** for example, mountain goat and vulture



A mountain landscape

Activities

19 In your exercise book, write some sentences comparing the oceanic and Mediterranean coastal climates. Use these adjectives: *abundant, regular, mild, cool, warm, scarce, irregular.*

20 Translate these words into your language:

- a) pine
- b) beech
- c) holm oak
- d) lavender
- e) thyme

21 Name the animals in the photos.



22 In your exercise book, match the questions to the correct answers.

1. Where can you find deciduous forests?
 2. Where does thyme grow?
 3. Which animals live in deciduous forests?
 4. Which trees are typical in deciduous forests?
- a) In areas with a Mediterranean climate.
 - b) In areas with an oceanic climate.
 - c) Beech trees and oak trees.
 - d) Bears and otters.

23 Look at the photo of the deciduous forest and complete the description in your exercise book using these words: *leaves, trees, autumn, orange.*

The forest has many similar _____. Some have green _____ but some have yellow or _____ leaves. There are many leaves on the ground because it is _____.



24  Listen and decide which type of natural landscapes the speakers are describing.

25 Choose a natural environment you know about in Spain (such as a forest) and make notes about the following:

- a) Where is it?
- b) What type of natural landscape is it?
- c) Is it especially famous for anything?
- d) What vegetation is there?
- e) What fauna is there?
- f) What type of climate does it have?

Now describe the place to your partner.

KEY WORDS

damage: physical harm to something or someone

crops: plants we grow for food

volcanic eruption: the explosion of ash and lava from a volcano

3 Natural hazards and environmental problems

3.1. Natural hazards

Hazards are natural events that can cause **damage** to people and property (buildings, **crops**, animals).

- **Earthquakes** are rare in Spain but there can be tremors, especially in the south-east of the country.
- **Volcanic eruptions** mainly affect the islands of La Palma, Tenerife and Lanzarote (in the Canary Islands).
- **Cold snaps** occur when cold air from the north and north-east of Europe moves over the Peninsula. Temperatures fall, and snow and ice can damage crops and affect transportation.



A winter cold snap

- **Floods** occur when there is a lot of rain or melting snow from the mountains. They can damage homes and crops as well as kill people and animals. They especially occur on the Mediterranean and Cantabrian coasts.
- **Droughts** occur when there is a long period without rain. They can cause serious problems for agriculture (both plants and animals) as well as for people. In Spain droughts happen most often in the south and in the Mediterranean regions.

Activities

26  Listen and repeat these words and then translate them into your language: *earthquake, volcanic eruption, cold snap, flood, drought*.

27 Answer the questions in your exercise book.

- a) Where in Spain do volcanic eruptions happen?
- b) What causes cold snaps?
- c) What problems can floods cause?
- d) What causes droughts?

3.2. Environmental problems

The main environmental problems in Spain are:

■ Deforestation

- Main causes: to make open spaces for crops or grazing or to clear the land for building. Also caused by forest fires.

■ Erosion

- Main causes: happens naturally but increases with the use of heavy machinery, fertilizers or pesticides, as well as from **overgrazing** or excessive building in rural areas.

■ Desertification

- Main causes: deforestation, overgrazing and poor agricultural **irrigation** systems. This is a serious problem in the south-east of the Iberian Peninsula.

KEY WORDS

deforestation: cutting down most of the trees in an area

erosion: the disappearing of rocks, stones and soil caused by rain, rivers, waves or wind

overgrazing: when animals eat too much of the grass and other vegetation that is growing in a field

desertification: when an area becomes a desert

irrigation: bringing water to dry land



SOURCE: MINISTERIO DE MEDIO AMBIENTE Y MEDIO RURAL Y MARINO, 2009

■ Atmospheric pollution

- Main causes: gases from factories, power stations and vehicles

■ Noise pollution

- Main causes: traffic

■ Water and land pollution

- Main causes: waste products from agriculture, industry and homes

KEY WORDS

autochthonous: a species which originates from the place where it is found

national park: a natural area protected by the State

3.3. Protecting the environment

Here are some things that Spain is doing to **protect the environment**:

- Creating more forests by planting new **autochthonous** trees
- Preventing erosion and desertification by modernising irrigation systems
- Improving forest fire prevention and control
- Encouraging people to use public transport, reuse goods and recycle waste
- Increasing the number of protected areas like **national parks**



SOURCE: MINISTERIO DE MEDIO AMBIENTE Y MEDIO RURAL Y MARINO, 2009

Activities

28 Imagine you're visiting a national park. Copy the rules listed below into your exercise book then complete them with *can*, *must* or *mustn't*.

- a)** You _____ feed the animals.
- b)** You _____ take photos.
- c)** You _____ pick flowers.
- d)** You _____ have a picnic.
- e)** You _____ put your rubbish in the bins (or take it home).
- f)** You _____ make lots of noise.
- g)** You _____ light fires.

Activities

29 In your exercise book, copy and complete the sentences with the following words: *drought, cold snap, floods, earthquake*.

- a)** In spring there are sometimes _____ when it rains a lot.
- b)** Last year there was a terrible _____ so we couldn't fill the swimming pool.
- c)** There was an _____ when we were in Murcia – the plates fell off the table!
- d)** If there is a _____ we can't go to school because of the snow.

30 a) What to do in a cold snap? Copy the sentences in your exercise book and complete them with *do* or *don't*.

- _____ go out unless you really have to.
- _____ wear lots of different light clothes, not just a big jumper or coat.
- _____ forget your hat and gloves!
- _____ walk carefully and _____ slip on the ice or snow.
- _____ use public transport.
- _____ run or jump on ice.
- _____ put heaters near the curtains.
- _____ open the windows for a few minutes every day to get some fresh air.

b)  Listen and check.

31 In pairs, choose another natural hazard and make a list of some *do's* and *don'ts* to tell the class.

32 Answer the questions.

- a)** In which area of Spain might an earthquake occur?
- b)** What are the two main causes of deforestation?
- c)** What has made erosion in Spain worse?
- d)** What causes atmospheric pollution?
- e)** Name two other types of pollution.

33 Invent a slogan for a campaign to prevent forest fires.

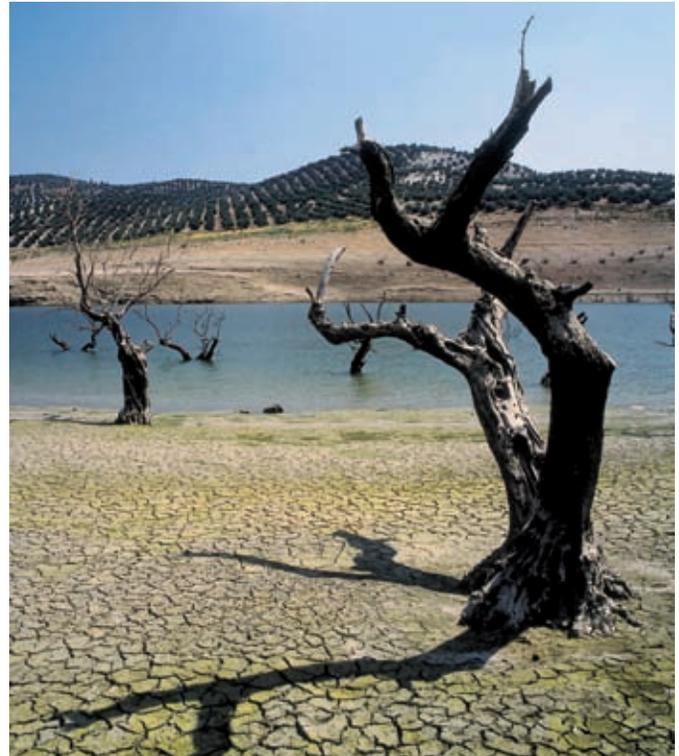
34 Match each of the situations below with one of the types of pollution.

- a)** The fish in the lake have died because of the chemicals from the factory.
- b)** You can see a big yellow cloud over many cities in winter because of the traffic and smoke.
- c)** Living next to an airport is very noisy – you need special windows in your house.

35 Think of another example of pollution in your area and tell the rest of the class.

36 Look at the map of desertification risk in Spain. Is it a serious problem in Spain? What are the consequences for people, animals and vegetation?

37 Which natural hazard is shown in this photo?



38 In your exercise book, match the verbs to their meaning:

increase

improve

prevent

reduce

go down

stop

make better

go up

39 In your exercise book, copy and complete the sentences with the correct verbs from Activity 38.

- a)** We must _____ the number of cars on the road.
- b)** One way to _____ erosion is to plant more trees.
- c)** Spain must _____ its irrigation systems.
- d)** We should _____ the amount of waste we recycle.

40 Look at the map of national parks. Who in the class has visited a national park? Can they describe it?

41 With a partner think of four things you can do to help protect the environment and tell the class.

Example: *We can use both sides of a sheet of paper.*

Revision activities

1 Choose the correct options and write your answers in your exercise book. Then listen and check your answers.

- a) Spain is *bigger than / nearly as big as* _____ France.
- b) Spain is situated *north / south* _____ of the Pyrenees.
- c) The Mediterranean Sea is to the *west and north / east and south* _____ of Spain.
- d) Spain has *one type / various types* _____ of climate.
- e) In the interior of Spain, winters are *cold / mild* _____.
- f) In most of Spain summers are *sunny and warm / cloudy and cold* _____.

2 Copy and complete the table.

Natural landscape	Climate	Vegetation	Fauna
Deciduous forest		beech trees	
Mediterranean			lynx
Subtropical forest			
Alpine			

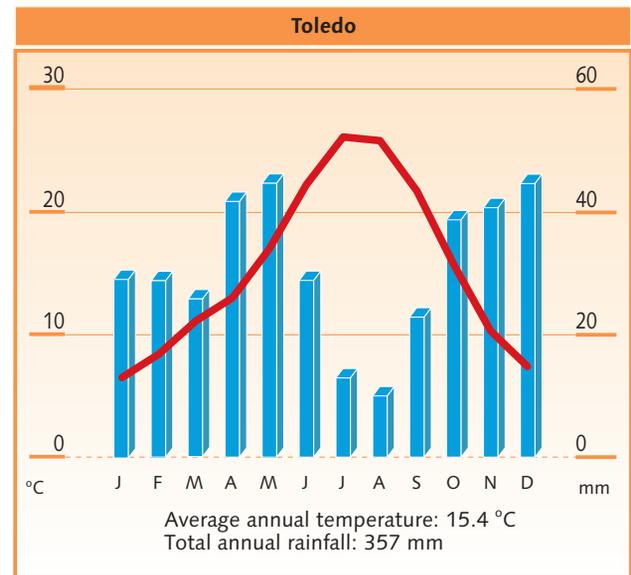
3 Which natural hazard is shown in this photo and what are its causes?



4 Answer the questions.

- a) In what part of Spain are the Montes de Toledo?
- b) What are the differences between the rivers of the Cantabrian and Atlantic *vertientes*?
- c) What environmental problems affect Spain?
- d) What is a national park? Name three national parks in Spain.
- e) What is Spain doing to protect the environment?

5 Look at this climate graph and answer the questions in your exercise book.



SOURCE: AGENCIA ESTATAL DE METEOROLOGÍA, 2009

- a) What is the average annual temperature in Toledo?
 - b) In which month is the lowest temperature?
 - c) In which month is the highest temperature?
 - d) What is the total annual rainfall in Toledo?
 - e) In which month does it rain most and in which does it rain least?
 - f) Is there a dry season?
 - g) Based on the information provided in the climate chart, what type of climate does Toledo have?
 - h) In which part of Spain is this type of climate to be found: in the interior or on the coast?
- 6** Of which rivers are the following tributaries?
- a) Sil
 - b) Adaja
 - c) Záncara
 - d) Jabalón
 - e) Genil
 - f) Cabriel
 - g) Segre
 - h) Pisuerga

Revision activities

7 Identify the landscapes in the photos and write a sentence or two about each one in your exercise book.



8 In your exercise book, copy and complete the sentences with the correct verb.

- a)** Spain *is/isn't* _____ in the northern hemisphere.
- b)** The Meseta *is/isn't* _____ in the centre of the Iberian Peninsula.
- c)** The Cantabrian coast *is/isn't* _____ high and rocky.
- d)** The Balearic Islands *are/aren't* _____ in the Mediterranean Sea.
- e)** The Canary Islands *are/aren't* _____ in the Atlantic Ocean.
- f)** The River Ebro *is/isn't* _____ a tributary of the River Tago.
- g)** The oceanic climate *is/isn't* _____ mild in winter.
- h)** Beech *is/isn't* _____ a deciduous tree.
- i)** The dragon tree *is/isn't* _____ a type of vegetation which is characteristic of subtropical forests.

9  Listen and read. Then answer the questions in your exercise book.

The Picos de Europa National Park is a beautiful place in the north of Spain. The best time to visit is in the late summer or early autumn when there are not many tourists. There are high mountains which are covered in snow in winter, and lower down there are meadows and beech and oak forests. The park is especially famous for the blue Covadonga Lakes. If you are lucky you can see wild boar, deer or even wolves and bears.

- a)** Where is the Picos de Europa National Park?
- b)** When is the best time to visit the park?
- c)** What vegetation is there?
- d)** Why is the park famous?
- e)** What animals can you see in the park?

Talking points

10 Tell your classmates in which area of Spain you would like to live and why. Talk about the relief, climate and vegetation.

Example: *I'd like to live in _____ because the climate is _____, there are _____ and _____.*

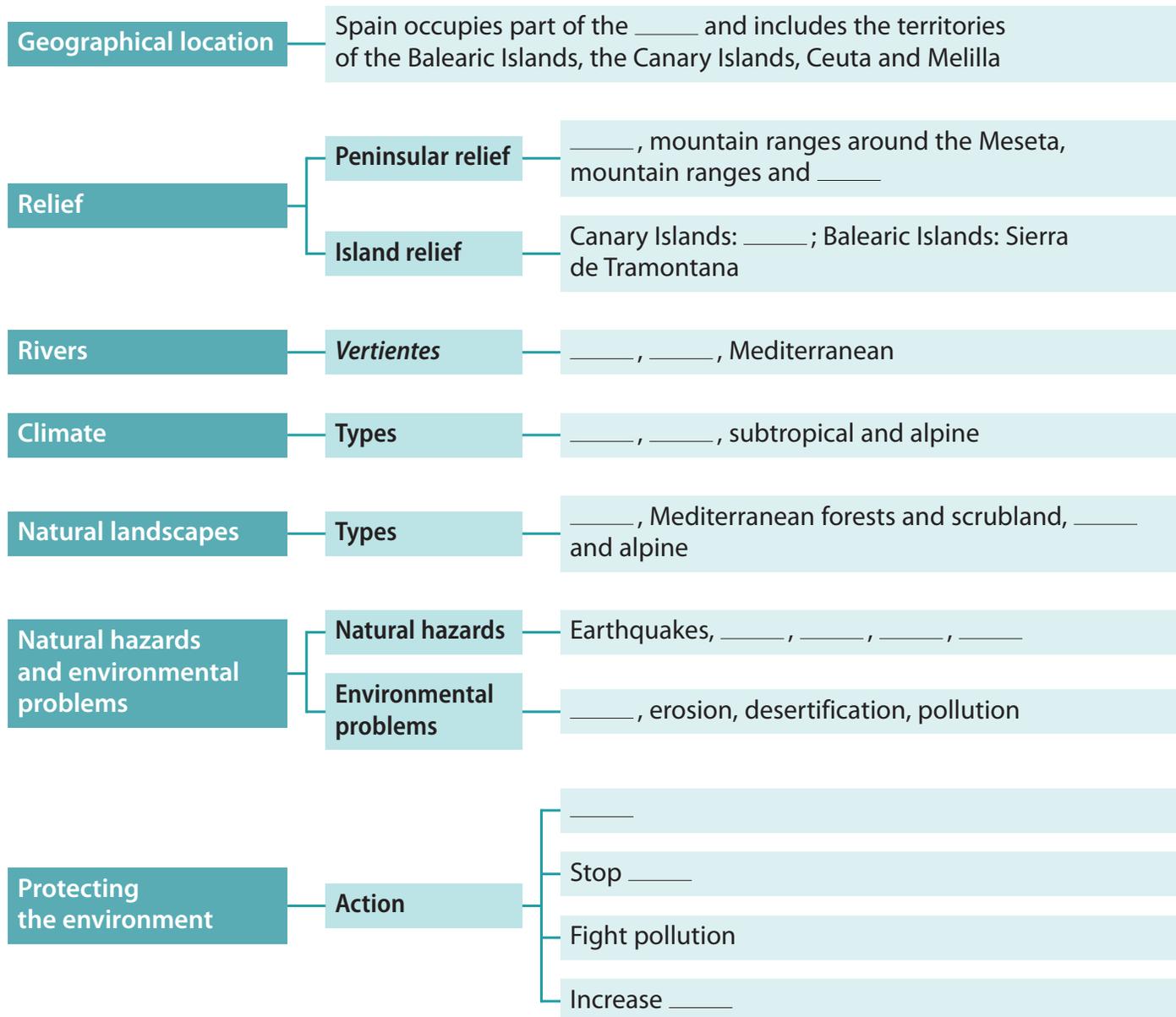
11 What environmental problem in Spain do you think is the most serious and why? Compare your opinion in groups.

Example: *I think _____ is the most serious because it affects _____ and causes damage to _____.*
I agree/I don't agree.

Unit summary

Spain's natural environment

In your exercise book, copy and complete the chart with the words shown below.



- | | | |
|----------------------|------------------------------------|------------------------------|
| ■ volcanoes | ■ protected areas | ■ valleys outside the Meseta |
| ■ volcanic eruptions | ■ coastal and inland Mediterranean | ■ floods |
| ■ oceanic | ■ erosion and desertification | ■ subtropical forests |
| ■ deciduous forests | ■ Iberian Peninsula | ■ deforestation |
| ■ droughts | ■ the Meseta | ■ cold snaps |
| ■ Cantabrian | ■ Atlantic | ■ reforest |