

## 4th GRADE MINIMUM CONTENTS- SOCIAL SCIENCE UNIT 2: THE EARTH'S WATER

### ► THE HYDROSPHERE

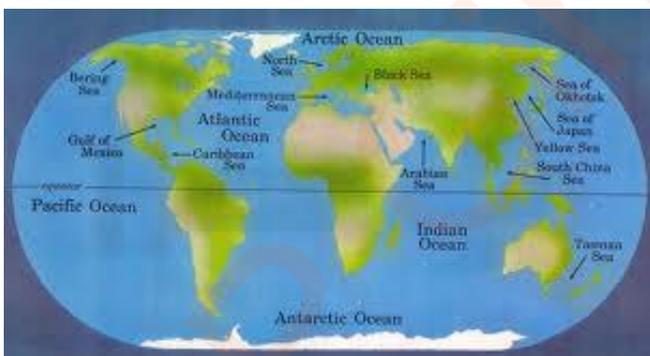
All the water on Earth is called the hydrosphere. Most of the water on the Earth's surface is salt water, and only a small amount is fresh water.

- **Water in the seas: salt water**

Most of the water on Earth is in the **seas** and the **oceans**. Water from the seas and oceans is called **salt water**.

Oceans are large masses of salt water that cover approximately 70% of the Earth's surface.

There are five oceans on Earth: the Pacific Ocean (the largest in the world), the Atlantic Ocean, the Indian Ocean, the Arctic Ocean and the Antarctic Ocean.



Seas are smaller masses of salt water and are found near land.

- **Continental water: fresh water**

We can find fresh water in rivers, streams and lakes.

- In **rivers**, which are natural currents of water.
- In **lakes**, which are surrounded by land.



- Under the Earth's surface in **aquifers** (areas where a lot of water is stored)
- In the form of ice and snow at the **North** and **South Poles** and on mountain peaks.
- In clouds and fog in the form of water vapour.

## ► SEAS AND OCEANS CONSTANTLY MOVE

The water in seas and oceans is constantly moving because of the movement of the waves and marine currents.

- **Waves**

**Waves** are caused by the wind, and they form on the surface of the seas and oceans. Waves push each other towards the shore.

When the wind is strong, waves are bigger. The highest part of a wave is called the **crest**.

- **Tides**

**Tides** are the rise and fall of the level of the sea. Tides are caused by the attraction of the Moon and the Sun.

When the level of the seas rises, there is a **high tide**.

When the level of the seas falls, there is a **low tide**.

It is easy to see the movement of the tides in the Atlantic and Pacific, but in the Mediterranean it is more difficult, because it is a small sea surrounded by land.

- **Marine Currents**

Marine currents are like enormous rivers that move through the oceans.

In **warm currents**, the temperature is higher than in the water around them.

In **cold currents**, the temperature is lower than in the water around them.

Marine currents carry cold water from the poles to warm equatorial regions, and warm water from equatorial regions to the polar regions. Because of this, they affect the weather. They help to warm up the colder regions and cool down the warmer regions.

Currents are good places for fishing because they are rich in nutrients and oxygen, and fish go there to feed.

## ► RIVERS

**Rivers** are bodies of moving fresh water. They provide a home and food for many animals. We use them to generate electricity, and to transport things and people by boat and ship.



All rivers begin in high areas, like mountains, and flow downhill to seas, oceans and lakes.

As rivers flow across plains, they get bigger and wider. River water flows very quickly in the mountains, and get slower as it nears the sea.

A **tributary** is a river that flows into a larger river.

A **river bed** is the ground over which a river flows.

Some rivers have more water than others. The volume of water in a river is called the **flow**.

The **course of a river** is the route the river takes.

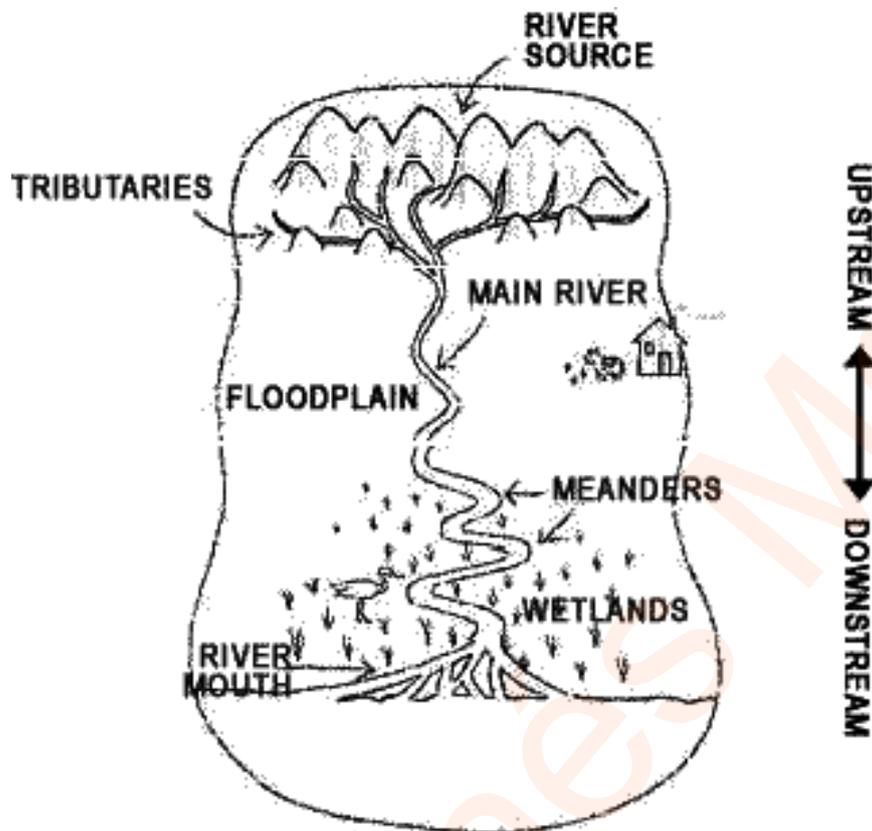
River has three main parts:

The upper course: the place where a river begins is called the **source**.

Water flows quickly here.

The middle course: When a river is in the middle of its journey, it is wider and slower. It flows across flat lands and collects water from rain and smaller rivers called **tributaries**. It has bends called **meanders**.

The lower course: The end of a river is called the **mouth**. It is where a river joins the sea, an ocean or a lake.



### ► THE RIVERS OF SPAIN

Spanish rivers are very varied.

- The longest rivers begin in mountains far from the sea like the Tajo and the Duero. The Tajo is the longest river in the Iberian Peninsula. The Duero flows through the north of the Meseta and ends at the Atlantic Ocean in Portugal.
- Rivers that begin in mountains near the coast, like the Nervión and the Nalón, are short.
- Rivers that flow through rainy regions have high flows like the Ebro and the Miño. The Ebro has the highest flow of all Spanish rivers. At the mouth of the river, there is a large delta. The Miño flows into the Atlantic Ocean and forms an estuary.

- Rivers that flow through dry regions have low flows, like the Turia and the Segura, which sometimes have no water in the summer. The Turia is a typical Mediterranean river with different flows throughout the year.
- It is possible to sail up the Guadalquivir from the mouth of the river to Seville. It has a large fertile basin.



### ► POLLUTION IN RIVERS AND SEAS

Water is essential for life on Earth. However, human activity pollutes many rivers and seas, particularly in highly populated and industrialised areas.

The main things that pollute water are:

- **Rubbish** that people throw into rivers and seas.
- **Wastewater** from our homes, which contains small amounts of chemicals or toxic waste from detergents, paints or oil.
- **Insecticides** used in agriculture.
- **Chemical and detergents** from industry and mining.
- **Oil spills** from ships, which can cause **oil slicks**.

There are several things we can do to prevent water pollution:

-Governments can:

- create strict laws to help reduce water pollution and punish anyone who breaks these laws with fines.
- build water treatment plants to clean water before it is returned to rivers or the sea.

-Industries and farmers should:

- use waste and detergent filters.
- store waste correctly so that it does not go into rivers and the sea.

-People should:

- not pour oils, paints or medicines down the sink or the toilet.
- use environmentally safe cleaning liquids.

## UNIT 2: THE EARTH'S WATER

### ACTIVITIES

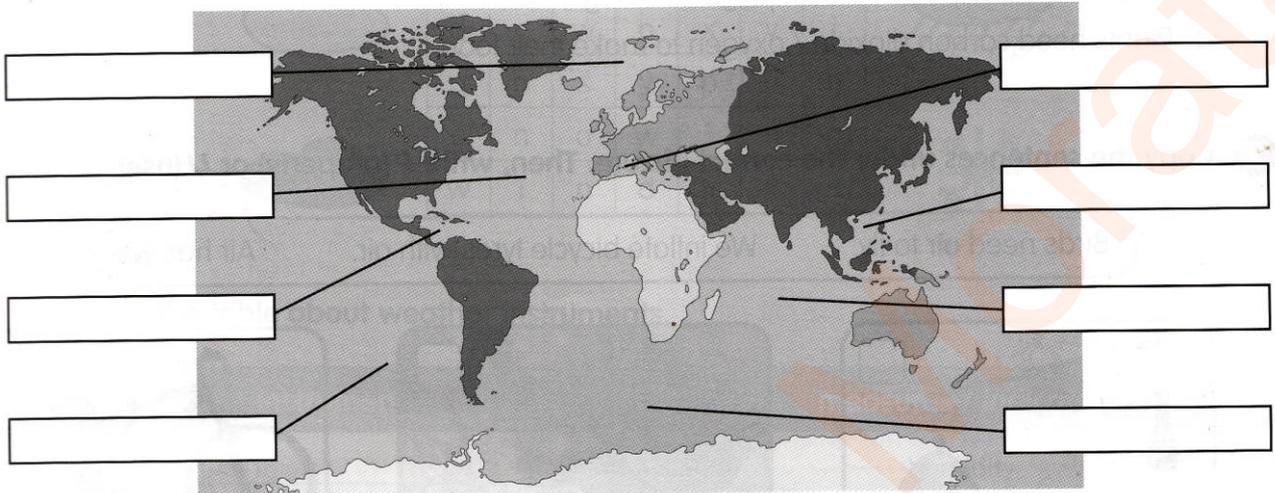
**1.-Match the sentence halves. Then, listen and check.**

- |                                     |  |
|-------------------------------------|--|
| - We can find fresh water in....    | ....us to float  |
| -97% of the world's water is...     | ...the Pacific and the Atlantic Oceans.                            |
| -The Americans are surrounded by... | ... salt water.  |
| -The salt in the sea allows...      | ...rivers, lakes, aquifers and ice at the Poles and the mountains. |

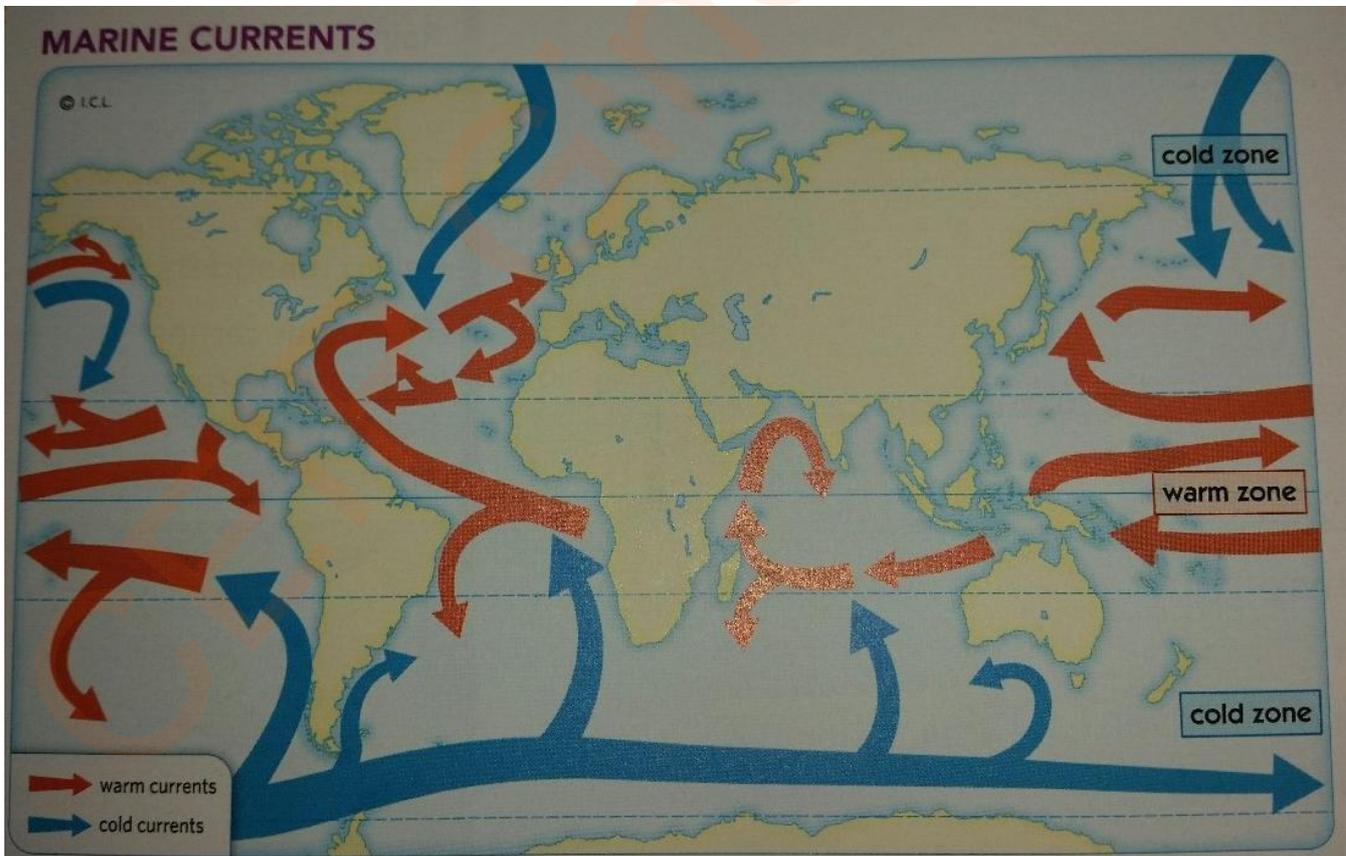
2.- Circle the names of the oceans and seas. Then, label the map.

Arcticocean caribbeanseaindianoceansouthchinaseaantarcticocean

Atlanticoceanmediterraneanseapacificocean



3.- Look and answer.



- What colours are the warm and cold currents? .....

-Describe the directions they flow in: north, south, east and west.

The cold currents of the Antarctic Ocean flow ..... and .....

The warm currents of the Atlantic Ocean flow ..... and .....

The warm currents of the Pacific Ocean flow ..... and .....

**4.-Write true or false. Then correct them.**

-Marine currents take warm water from the polar regions to equatorial regions. ....

- Cold currents flow from the equatorial regions. ....

- Movement of the currents affects the weather. ....

- Fish like the currents because they do not contain a lot of nutrients and oxygen. ....

**5.- Use the clues to complete the words related to rivers.**

• A smaller river that flows into a larger river.      -r- - - - a - -

• The place where a river meets the sea.                      - - - t -

• The place where a river begins.                                      - - u - - -

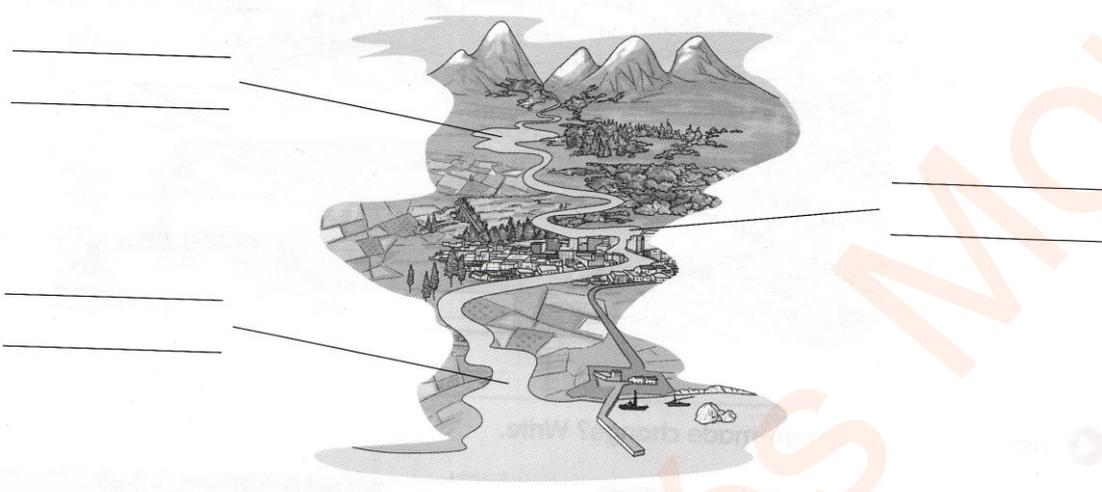
• A bend in a river.    - - a - - - r

**6.- Complete the text about rivers with the following words: fresh water- animals- electricity- transport- fertile- farming**

Rivers are bodies of moving ..... They provide a home and food for many ..... We use them to generate

..... We also use them to ..... things and people by boat and ship. The land next to rivers is ..... land which is good for .....

**7.- Label the course of the river.**



**8.- Cross out the wrong words and write correct sentences.**

a. As rivers flow across mountainous areas, they get wider and slower.

.....

b. The mouth of the river is the place where it begins.

.....

c. A dam is a strong wall that stops the flow of a lake.

.....

d. There are five oceans: the Arctic, the Antarctic, the Indian, the Atlantic and the Mediterranean.

.....

.....

e. A compass is a plastic needle.

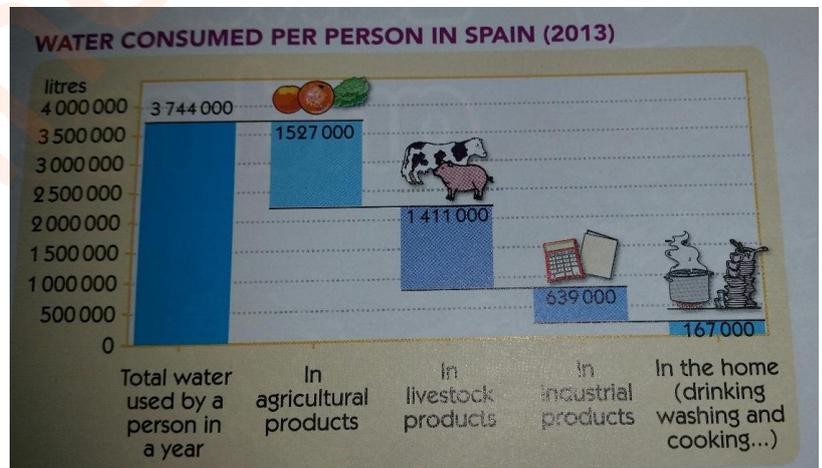
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**9.-Complete.**

- All the water on Earth is called the .....
- We find salt water in..... and .....
- We find fresh water in ....., ....., ....., in the form of ice and ....., and in ..... and fog.
- The water in seas and oceans is always moving through the action of tides, ....., water and ..... currents.
- Waves are caused by the..... and form on the surface of the seas and oceans.
- ..... are the rise and fall of the level of the sea. If the level rises, it is ..... tide . If the level falls, it is ..... tide.
- Marine ..... are like big rivers that move through oceans. They can be ..... or .....

**10.-Analyze water consumption.**

Look at the graph and answer the questions.



a. What does the graph tell us? .....

b. What are the direct and indirect uses of water?

.....

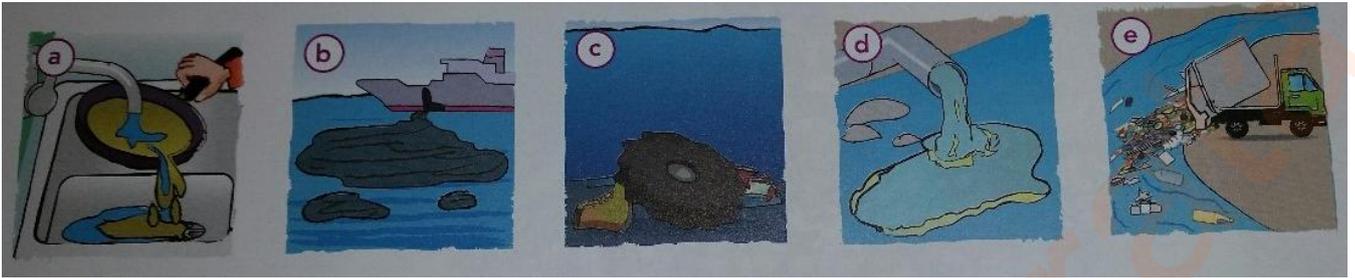
Is the graph about fresh water or salt water?

.....

c. Make a list of the activities that you do in a day that consume water.

.....  
 .....  
 .....

**11.-Identify the cause of water pollution in each picture.**



- a) .....
- b) .....
- c) .....
- d) .....
- e) .....

**12.-Match the clues to the following rivers: Tajo-Miño-Guadiana-Ebro-Duero- Guadalquivir. Then,find them in the wordsearch.**

**a** I'm Galician from start to finish.

**b** I flow through the north of the Meseta and into the Atlantic Ocean.

**c** I was born near the Bay of Biscay and flow into the Mediterranean Sea.

G	F	A	T	D	F	N	C	S	T	U	D
H	R	G	U	A	D	I	A	N	A	F	J
J	B	N	F	J	K	M	T	G	J	S	F
M	Y	X	C	D	V	N	F	E	O	M	B
R	I	V	I	U	Q	L	A	D	A	U	G
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**d** I am the longest river in Spain.

**e** I flow through Seville.

**f** I form part of the border between Spain and Portugal.

**13.- Complete your bilingual dictionary.**

THE EARTH'S WATER		
- Hydrosphere : _____	- Marine current : _____	- Meander : _____
- Salt water : _____	- Tributary : _____	- Mouth: _____
- Fresh water: _____	- River bed: _____	- Wastewater : _____
- Wave: _____	- Flow: _____	- Water consumption : _____
- Tide: _____	- Source: _____	- Oil spills: _____
- Crest: _____	- Course of a river: _____	