



# THE HYDROSPHERE

It is a discontinuous layer of water covering approximately three quarter of Earth's surface.

## States of water

## Water cycle

It is the process by which water is constantly in circulation from one place to another and changes state many times.

### Solid state



Most of the fresh water on Earth is found in this state.

Snow and ice show water in a solid state. It is found at the poles and highest mountains.

### Liquid state

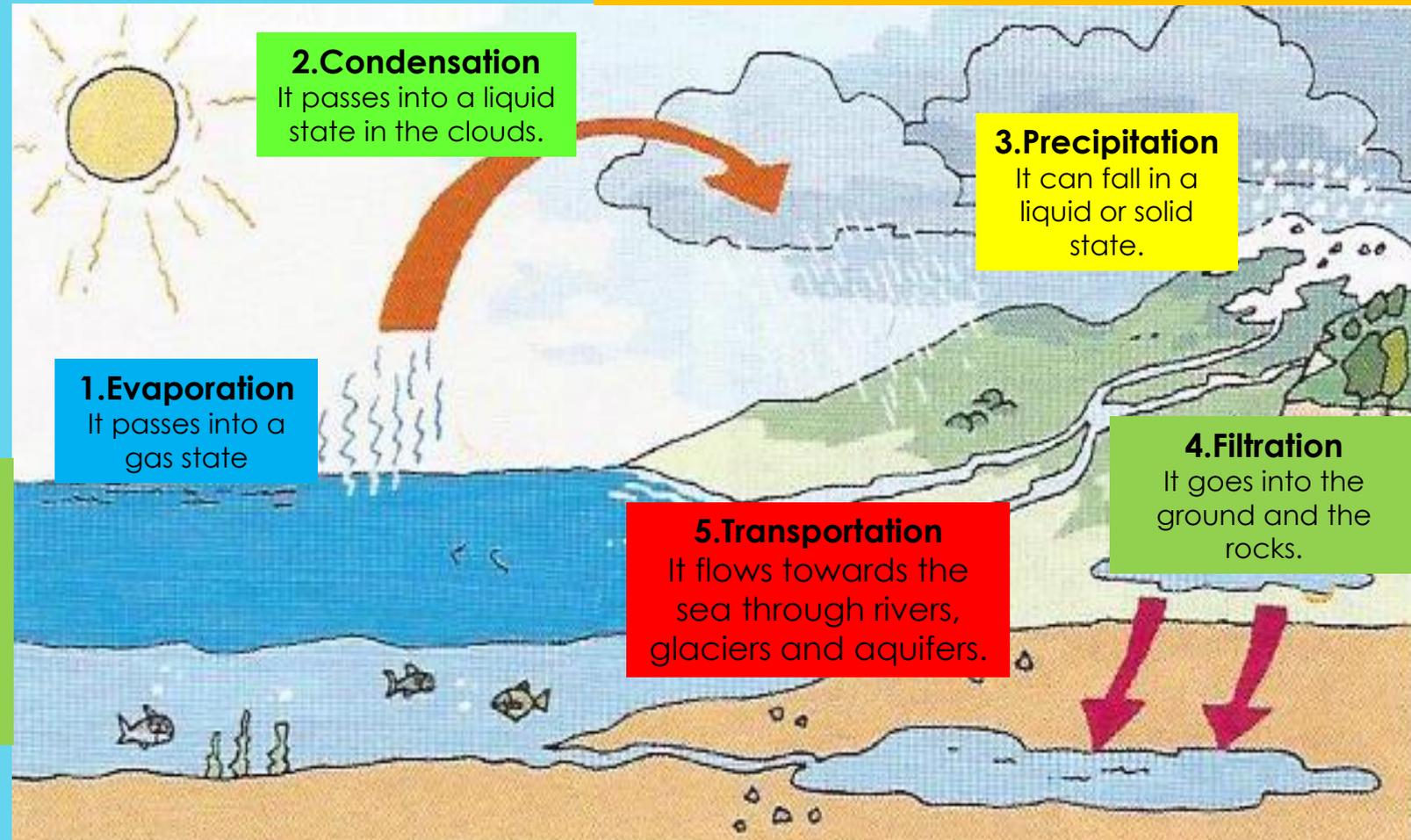


Fresh water is found in river, lakes and aquifers.

### Gas state



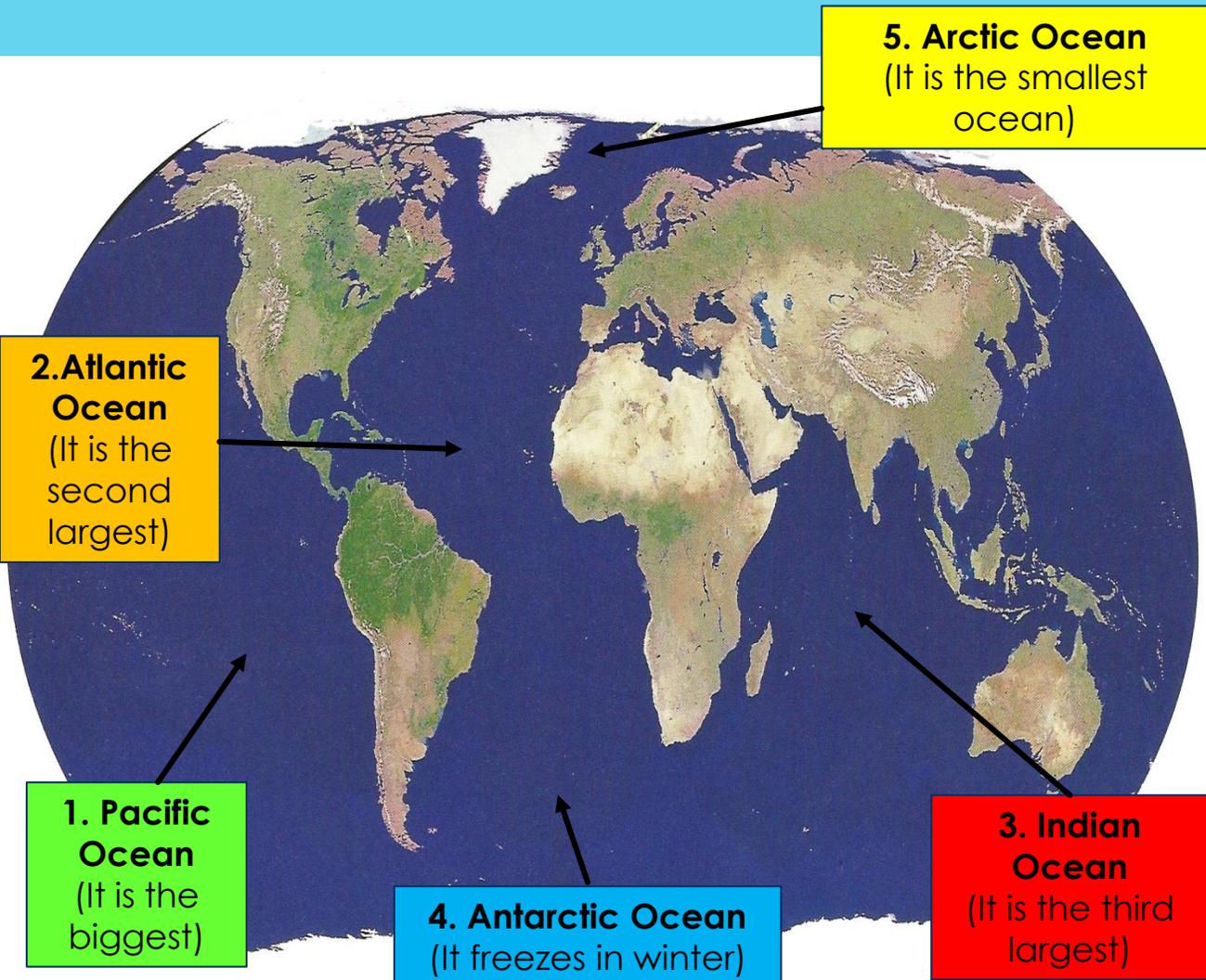
It is present in the air all around us but it is not visible to the eye. The amount of water vapour in the air is called **HUMIDITY**.



# OCEANS



They are huge extensions of **salt water** that cover a great part of Earth's surface. There are five oceans on Earth.



**2. Atlantic Ocean**  
(It is the second largest)

**1. Pacific Ocean**  
(It is the biggest)

**4. Antarctic Ocean**  
(It freezes in winter)

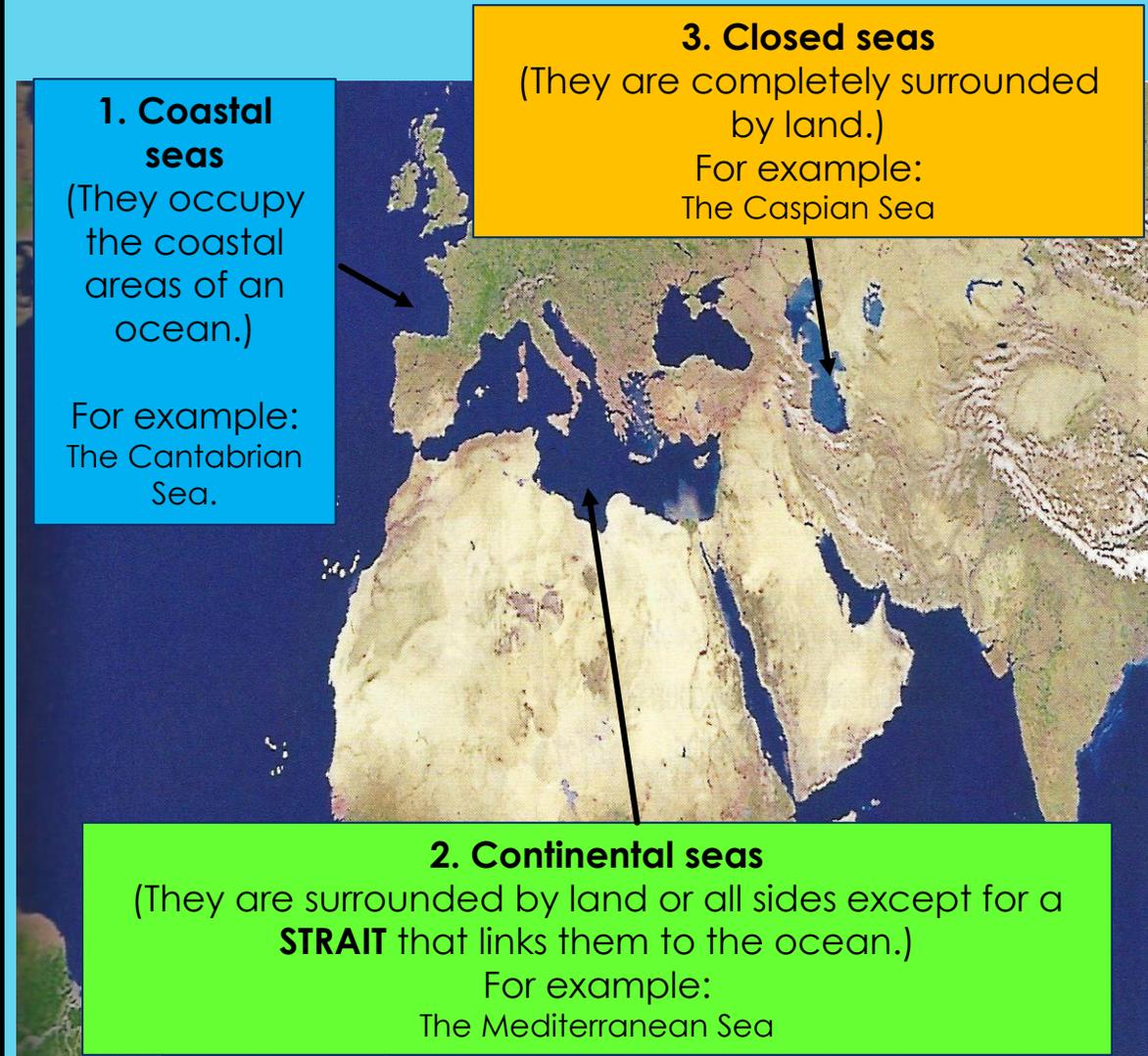
**5. Arctic Ocean**  
(It is the smallest ocean)

**3. Indian Ocean**  
(It is the third largest)

# SEAS



They are also extensions of **salt water** but **they aren't as big or as deep as oceans**. They do have more salt. There are three types of seas.



**1. Coastal seas**  
(They occupy the coastal areas of an ocean.)  
  
For example:  
The Cantabrian Sea.

**3. Closed seas**  
(They are completely surrounded by land.)  
For example:  
The Caspian Sea

**2. Continental seas**  
(They are surrounded by land or all sides except for a **STRAIT** that links them to the ocean.)  
For example:  
The Mediterranean Sea

# INLAND WATERS →

They are bodies of fresh water that are found on the continents. These waters come from precipitations, after seawater evaporates and loses its salt.

## 2. Glaciers

They are the snow on mountain peaks freezes. They move downwards and give rise to rivers and lakes.

## 4. Rivers

They are water from stream joins together. They flow into other rivers, lakes or into the sea.

## 5. Lakes

They are depressions and land barriers which stop the course of a river or a glacier.

## 3. Current or streams

They are raised areas precipitations. They erode the rock and hollow out valleys.

## 1. Aquifers

They are rain filters through rocks. The water stops moving when it reaches impermeable rocks.

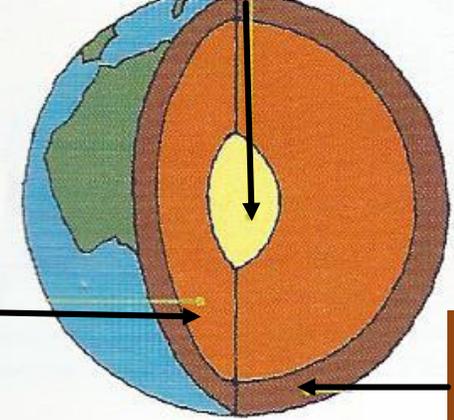
# THE GEOSPHERE →

It is the big mass of solid material that makes up Earth. It is made up of two types of solid material: **MINERALS** and **ROCK**.

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It has three parts →

**1. Core: It is the inner layer.**



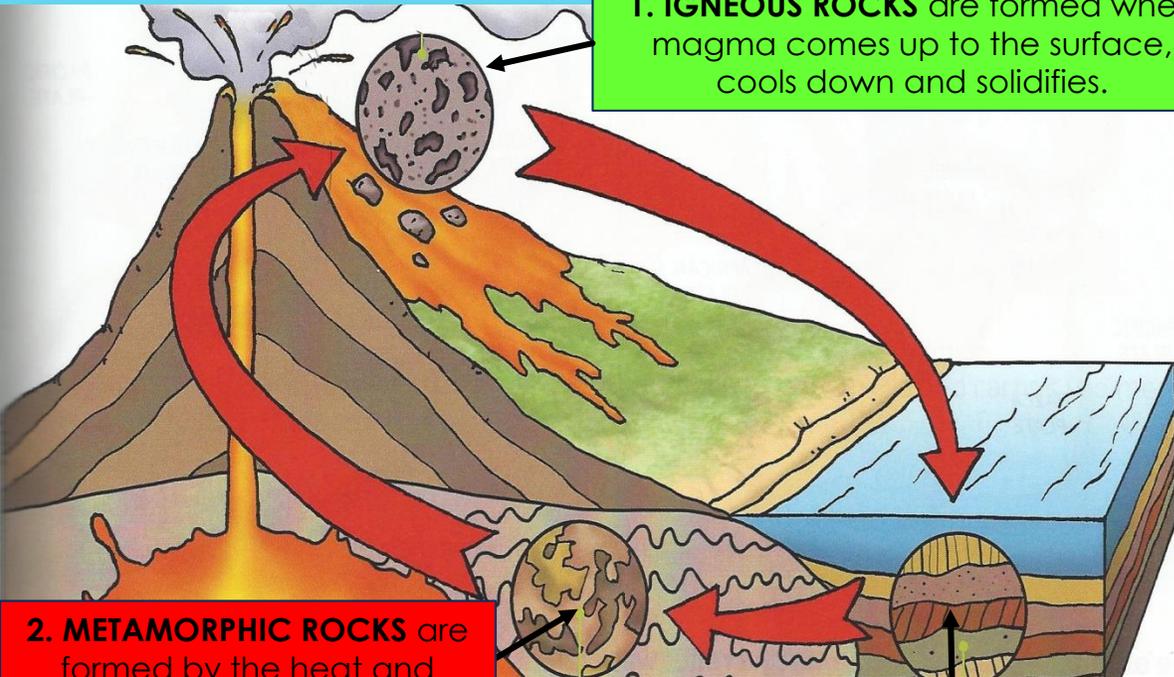
**2. Mantle: It is the middle layer.**

**3. Crust: It is the outer layer.**

## ROCK →

They are groups of minerals. They can be classified according to the way they were formed.

**1. IGNEOUS ROCKS** are formed when magma comes up to the surface, cools down and solidifies.



**2. METAMORPHIC ROCKS** are formed by the heat and pressure of rocks on other rocks.

**3. SEDIMENTARY ROCKS** are formed by the erosion of other rocks.

## MINERAL →

It is a **solid, inorganic substance formed in nature.**

### Properties

**Hardness**

It is the resistance to being scratched.

**Habit**

It is the shape that minerals have in nature.

**Lustre**

It is the way the surface reflects light.

**Colour**

Some minerals can display a wide range of colours and others have very distinctive colours.

# THE FORMATION OF RELIEF →

Earth's crust is divided up like a jigsaw puzzle with huge pieces: **TECTONIC PLATES**. They cause earthquakes and tsunamis.

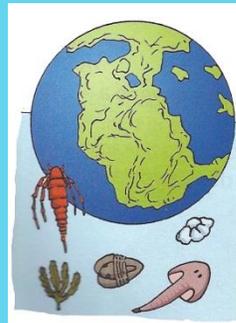
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The origin of **modern continents and relief** was a giant continent formed 300 million year ago called **PANGEA** and its evolution.

There are two kinds of factors in the formation of relief.

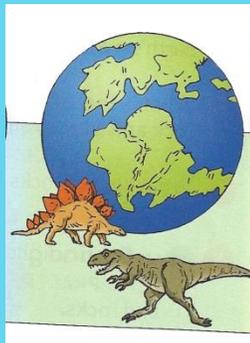
## 1. PRIMARY ERA

500 million years ago.  
Pangea was formed.  
The first mountain appeared.



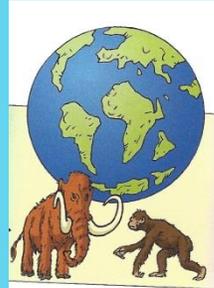
## 2. SECONDARY ERA

250 million years ago.  
The continents separated.



## 3. TERTIARY ERA

70 million years ago.  
New mountain ranges appeared.



## 4. QUARTERNARY ERA

1 million years ago.  
Glaciations happened.  
The current relief was formed.



## Internal factors

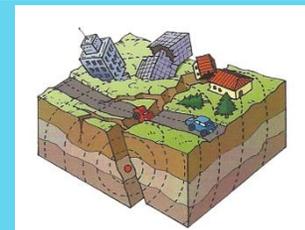
### VOLCANOES

They **start inside Earth's mantle** and bring up material from the interior to the surface.



### EARTHQUAKES

They are caused by the **movements of tectonic plates** in Earth's crust.



## External factors

### WIND

It carries particles of sand that blow against rock and erode it.



### WATER

It hollow out valleys and carries sediments.



# TYPES OF RELIEF

## COASTAL RELIEF

It is found on the edges of the seas and oceans.

## OCEANIC RELIEF

It is found below the water level of seas and oceans.

### 1. PENINSULA

Land that is surrounded by sea on all sides except one, called **ISTHMUS**.

**2. ISLANDS:** They are pieces of land surrounded by sea.

**3. CONTINENTAL SHELVES:** They are the areas near the coast down to a depth of 200 m

**4. OCEANIC TRENCHES:** They are the deepest part of oceans down to a depth of 11.000 m

**9. CAPES:** They are large headlands that extend into the sea.

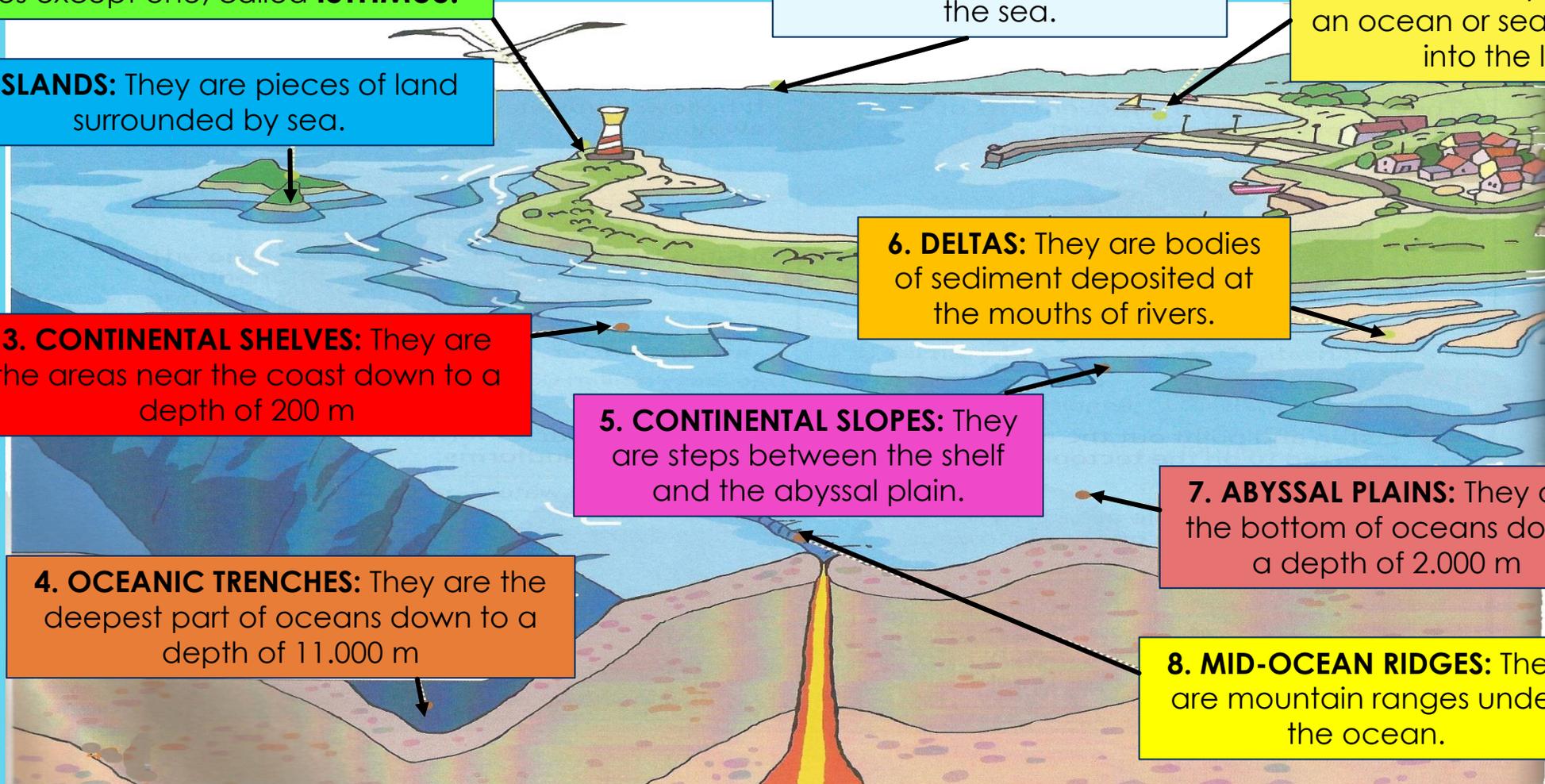
**10. GULFS:** They are parts of an ocean or sea that extend into the land.

**6. DELTAS:** They are bodies of sediment deposited at the mouths of rivers.

**5. CONTINENTAL SLOPES:** They are steps between the shelf and the abyssal plain.

**7. ABYSSAL PLAINS:** They are the bottom of oceans down a depth of 2.000 m

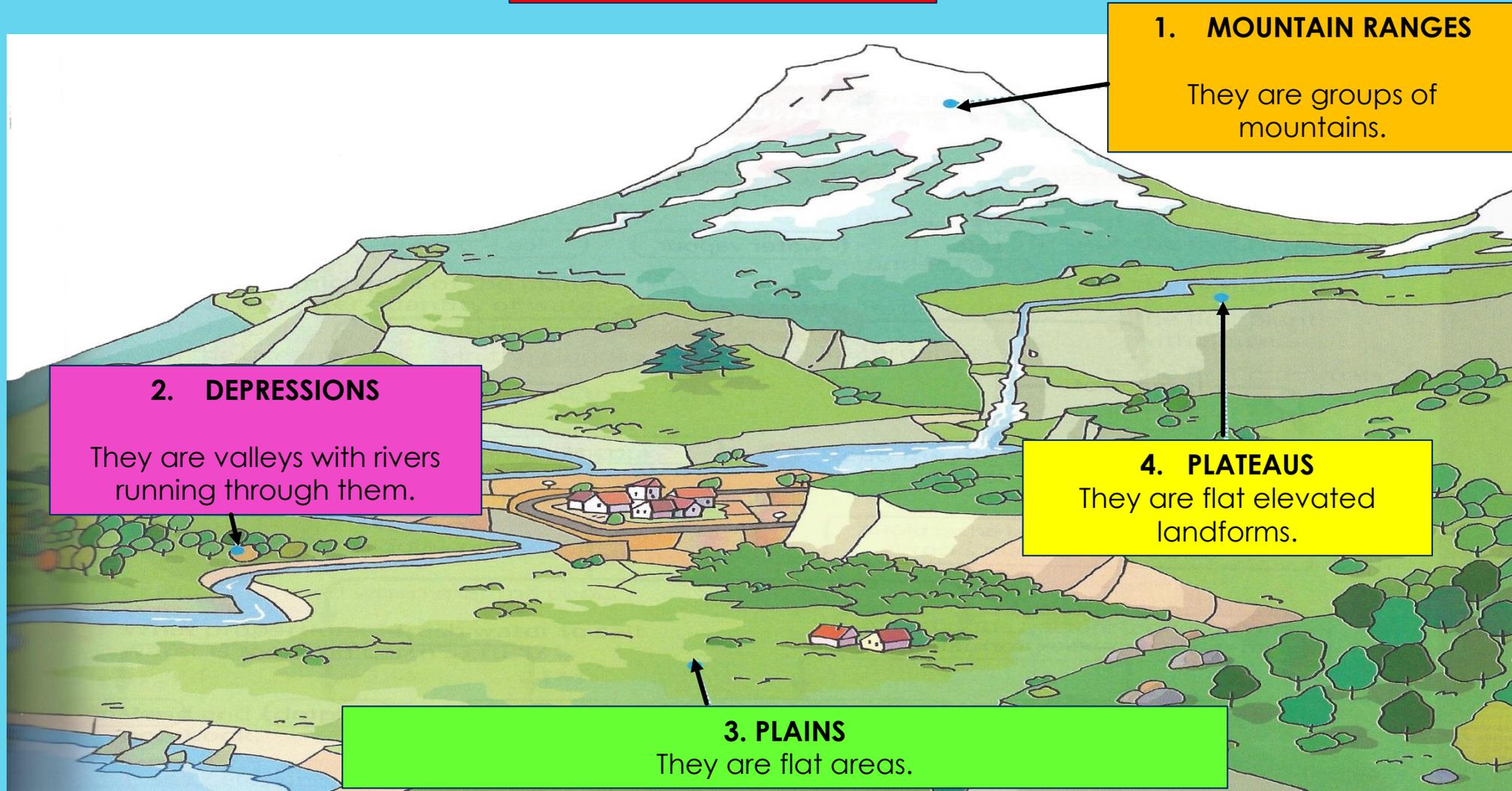
**8. MID-OCEAN RIDGES:** They are mountain ranges under the ocean.



# TYPES OF RELIEF



**INLAND RELIEF**  
It corresponds to the interior areas of the continents.



**1. MOUNTAIN RANGES**  
They are groups of mountains.

**2. DEPRESSIONS**  
They are valleys with rivers running through them.

**4. PLATEAUS**  
They are flat elevated landforms.

**3. PLAINS**  
They are flat areas.