GEOGRAPHY AND HISTORY

YEAR 1, PART 1
1. The outer layer of the Earth
2. Internal forces in the formation of relief
3. External forces in the formation of relief
4. The continents
5. The Earth's relief
6. Europe's relief
7. Spain's relief
Introduction

- On our planet, the land is separated into large landmasses known as continents.

- There are six continents on Earth: Africa, America, Asia, Europe, Oceania and Antarctica.

- The continents have different kinds of relief, including plains, plateaus, mountain ranges, valleys and basins.

- The continents are surrounded by oceans that produce beaches, cliffs, gulfs, peninsulas and capes.

- Groups of islands in the middle of the sea are known as archipelagos.
1. The outer layer of the Earth

1.1. The structure of the Earth
   • The structure of the Earth

1.2. The Earth’s crust

1.3. Continental drift
   • Continental drift
1.1. The structure of the Earth

- The **Earth** is a huge **sphere** which can be divided into three sections: the core, the mantle and the crust.

- The **core** is the deepest part and makes up 15% of the Earth’s volume.

- The **mantle** surrounds the core and makes up 84% of the Earth's volume.

- The **crust** is the outer layer and makes up 1% of the Earth's volume.
The structure of the Earth
The structure of the Earth
1.2. The Earth's crust

- The Earth's crust is thicker in some places, forming the continents. It is thinner in some places, and lies under the oceans.

- The Earth's crust is not flat. It forms the mountains, valleys, basins and plains that make up the Earth's relief.

- The Earth's relief is always changing because of the action of internal and external forces.

- External changes to relief are caused by the action of water, wind or humans.
1.3. Continental drift

- **Continental drift** is the theory that 200 million years ago there was a single continent called **Pangea** on the Earth which moved and broke up.

- **Tectonic plates** are the huge pieces of rock produced when this continent broke up.

- When two plates collide, one can rise and form a **mountain range** and the other can sink under the ocean and form an **oceanic trench**.

- The places where plates meet can produce **volcanoes** and **earthquakes**.
A. 200 million years ago
Continental drift

B. 65 million years ago
C. The continents today
2. Internal forces in the formation of relief

2.1. Internal forces

- Causes and effects of an earthquake
- Structure of a volcano
2.1. Internal forces

- The internal forces of the Earth cause earthquakes and volcanoes.

- Earthquakes are the result of vibrations, or seismic waves.

- Volcanoes are cracks in the Earth's surface. Pressure forces magma to the surface through these cracks.

- During a volcanic eruption, gases, ash, rocks and lava are expelled. When these materials cool, they form the volcano's cone.
Causes and effects of an earthquake
Causes and effects of an earthquake

- **Hypocentre or focus**: Area inside the Earth where the earthquake originates.
- **Seismic waves**: These spread out in circles. The waves lose intensity as they move away from the hypocentre.
- **Epicentre**: Place on the surface closest to the hypocentre.
Structure of a volcano
Structure of a volcano

Crater. The opening at the end of the pipe where the materials come to the surface.

Cone. The sides of the volcano made from erupted materials.

Side vent. An opening on the side of a volcano through which volcanic materials escape.

Pipe. Magma rises to the surface through the pipe during an eruption.

Magma chamber. A large underground pool of molten rock beneath the surface. The materials here are in liquid form because of the heat and pressure underground.

Lava flow. A slowly moving river of molten rock expelled during the volcanic eruption.
3. External forces in the formation of relief

3.1. External forces
3.1. External forces in the formation of relief

- Relief is not only the result of movements inside the Earth, but also external forces, such as water or wind.

- **Water** is the main external agent acting on the land. The effects of rain, ice, waves, tides and marine currents can be intense and diverse.

- **Wind** erodes rock and transports small particles, such as sand and dust, to other places.

- The roots of **trees** penetrate the ground and can split rocks. They can also hold the soil and rocks in place.
4. The continents

4.1. The division of the world into continents

- Continents and oceans
4.1. The division of the world into continents

- **Continents** are enormous landmasses separated by oceans. There are six continents:
  - Africa
  - America
  - Asia
  - Europe
  - Oceania
  - Antarctica
Continents and oceans
03 Continents and oceans
5. The Earth's relief

5.1. The relief of the continents

• The relief of the continents
The surface of the continents is not smooth or uniform. The relief includes:

- mountains
- plains
- plateaus
- valleys
The relief of the continents
The relief of the continents
6. The European continent

- The European continent
6.1. The European continent

- Europe is a small continent.

- Europe is a peninsula of the larger Eurasian continent and it is surrounded by different oceans and seas.

- There are three main features of relief in Europe: the Great European Plain, the plateaus and old mountain ranges and the young mountain ranges.
The European continent
The European continent
7. Spain relief

7.1. The relief of the Iberian Peninsula

7.2. The relief of the archipelagos

• The relief of Spain
7.1. The relief of the Iberian Peninsula

- The Iberian Peninsula is in the south-west of Europe.

- The Meseta is the central feature of relief on the peninsula. The Sistema Central and the Montes de Toledo are in its interior.

- The coasts are high and regular, interrupted by large stretches of sandy coastline.
7.2. The relief of the archipelagos

- The relief of the **Balearic Islands** can be considered a continuation of the peninsula.

- The relief of the **Canary Islands** is hilly and of volcanic origin.
The relief of Spain
The relief of Spain