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# Social Science

## UDI 2. CONOZCO MI MUNDO

UNIT 2, 3

Lithosphere and hidrosphere

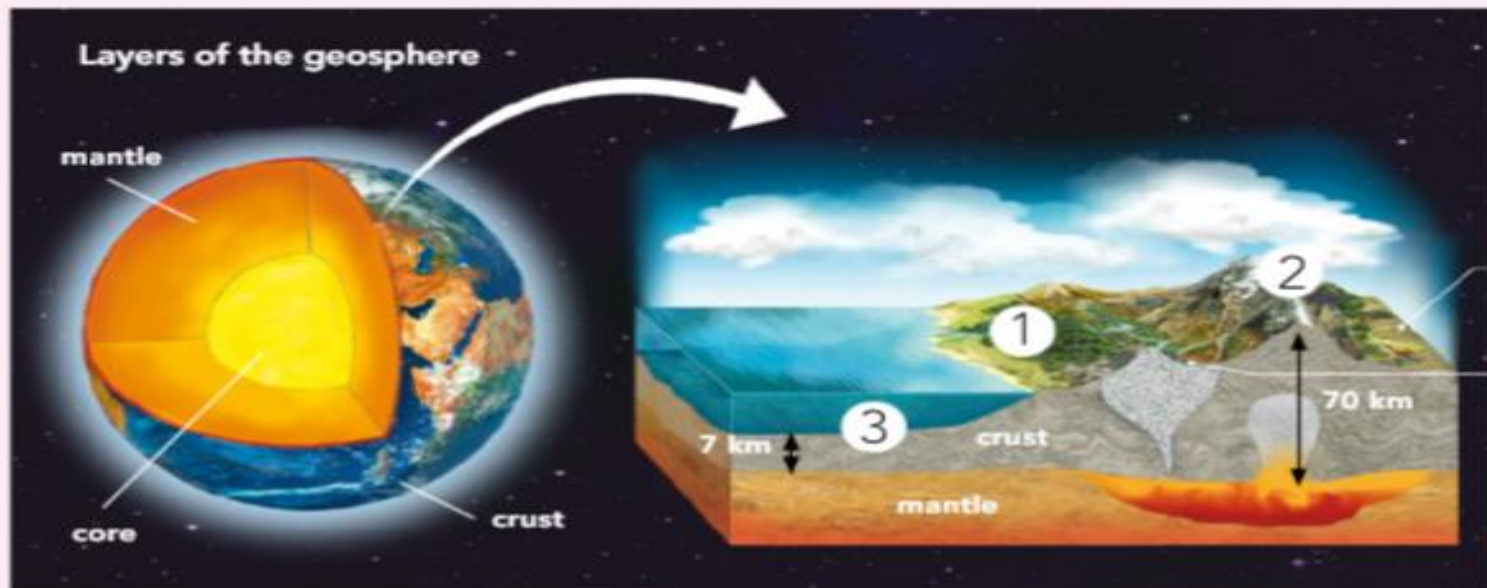
# 1. Rocks

## 1.1 WHAT IS THE GEOSPHERE?

The solid part of the Earth is called the **geosphere**. It has three layers:

- The inner layer is the **core**. It is made up of metals.
- The middle layer is the **mantle**.
- The outer layer is the **crust**.

Both the mantle and the outer crust are made of rocks.



The **CRUST** and the **OUTER MANTLE** form the **LITHOSPHERE**

# 1. Rocks

## 1.2 WHAT IS A ROCK?

All rocks are made of minerals.

Rocks are formed in three ways:



Form when different **materials are deposited in the same place.**

Form when **liquid magma cools and solidify**

Rock that **have changed over time** because of extreme pressure or heat.

# 2. Minerals

## 2.1 HOW DO WE IDENTIFY MINERALS?

Each mineral has unique properties that help to identify it.

**shape**



pyrite: cube

fluorite: bi-pyramid

aragonite: hexagonal prism

**lustre**



galena: metallic

rose quartz: glassy

gypsum: silky

**colour and streak**



hematite: grey or red surface, red streak

turquoise: blue surface, white streak

sulfur: yellow surface, white streak

**hardness**



talc: very soft

quartz: very hard

**density**



pyrite: very dense

sepiolite: not very dense



# 3. Mining

## 3.1 HOW ARE MATERIALS EXTRACTED FROM EARTH'S CRUST?

Different parts of the crust contain rocks and minerals.

An area with a large amount of one material is called **DEPOSIT**.

Materials are extracted in various ways:

### UNDERGROUND MINES



### DRILLING



### OPEN-PIT MINES



# 3. Mining

## 3.2 HOW WE DO USE MINED MATERIALS?

**Buildings:** Blocks of hard rocks as granite are used in **construction**.



**Decoration:** diamonds and rubies are used in **jewellery**.



**Energy:**

- Coal, oil and natural gas are **fossil fuels**.
- Uranium produces **nuclear energy** .



# 3. Mining

## 3.3 HOW CAN MINED MATERIALS BE TRANSFORMED?

**Mined materials can be transformed to make different, new materials.**

- **Glass**: is made by heating sand a very high temperature
- **Cement**: is made by mixing clay and limestone and baking.
- **Metals**: **iron** o **gold** are metal one. Others like **steels** is a cobination of iron and other materials.



# 4. The hidrosphere.

Is all the water on Earth.

It includes **oceans, seas, rivers, underground water, glacier, lakes and the water vapour** in the atmosphere.

## 4.1 WHY IS IMPORTANT HIDROSPHERE?

The hydrosphere provides many essential services to the Earth.

- It absorbs the Sun's heat and keeps the temperature on the Earth stable.
- It provides a habitat for aquatic animals.
- It provides water for living organisms.
- It provides water for industry, agriculture and recreation.



# 5. The states of water

Water is on Earth in **three different states**:



Rivers are water in a liquid state.



Most of liquid water on Earth is **salt water**



Icebergs are water in a solid state.



Iceberg is found at the Poles and top of mountain.



Clouds form when water vapour condenses to a liquid.

# 6. The water cycle

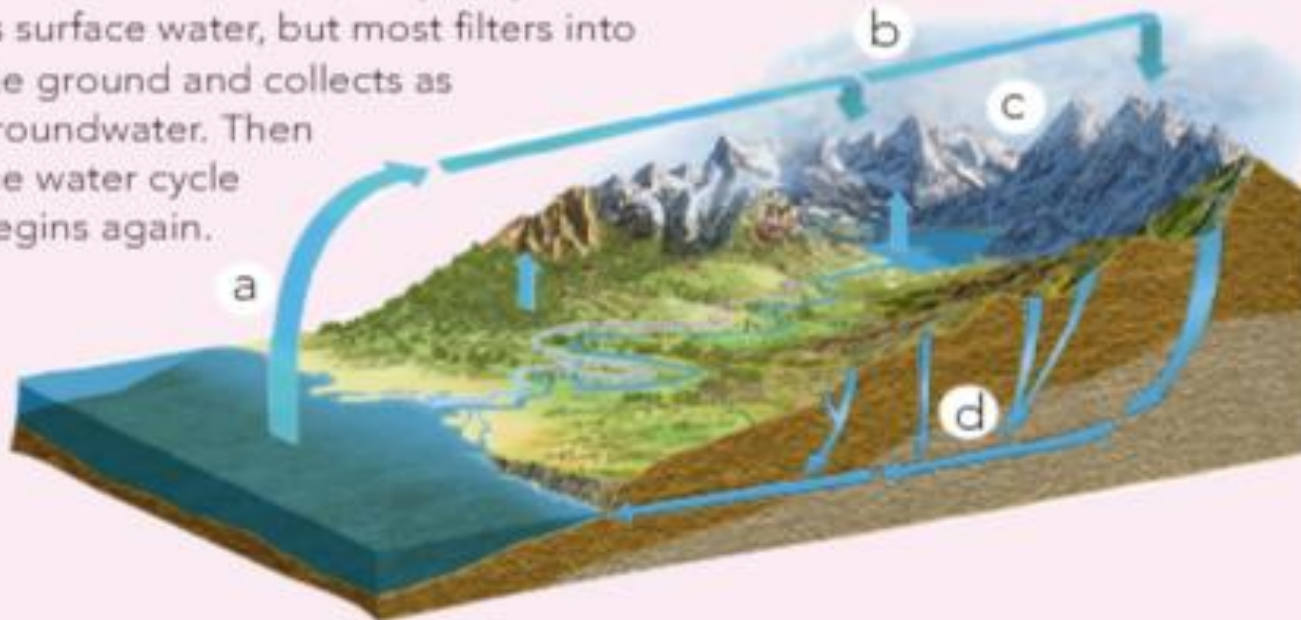
The water on the Earth changes state and moves around the Earth through the **water cycle**.

**Evaporation.** Liquid surface water is heated by the Sun. It becomes a gas and rises into the air.

**Condensation.** The water vapour in the air cools, becomes liquid, and forms clouds.

**Precipitation.** The water droplets in the clouds become too heavy and fall back to the Earth in the form of rain, sleet, hail or snow.

**Collection.** Some of the precipitation collects as surface water, but most filters into the ground and collects as groundwater. Then the water cycle begins again.

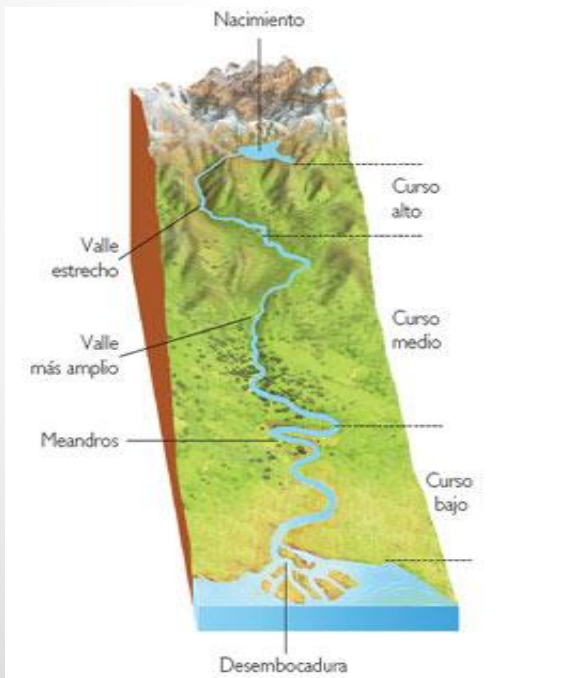


# 7. Surface water

Is found on the surface of geosphere. There are:

- **Salt surface water:** oceans and seas.
- **Fresh surface water:** lakes, rivers, reservoirs and snow.

**RIVER:** Continuous stream of fresh water that begins in the mountain and end in the seas or lakes. Rivers have:



- **Tributaries:** small rivers that join the main river
- **River valley:** where de river flow
- **Drainage basin:** collect the river's water and send to the sea.

## 8. Groundwater

Is **fresh water underneath the Earth's surface ( Rainwater )**. Sometimes it forms caves and underground lakes.

## 9. Biosphere

