Ashur university collage

Dept. of Biology

First-year

General geology
Lec. 1

Assist. Lecturer. Al-Hassan Talib

What Is Geology?

Geologists study Earth — its interior and its exterior surface, the rocks and other materials around us, and the processes that formed those materials.

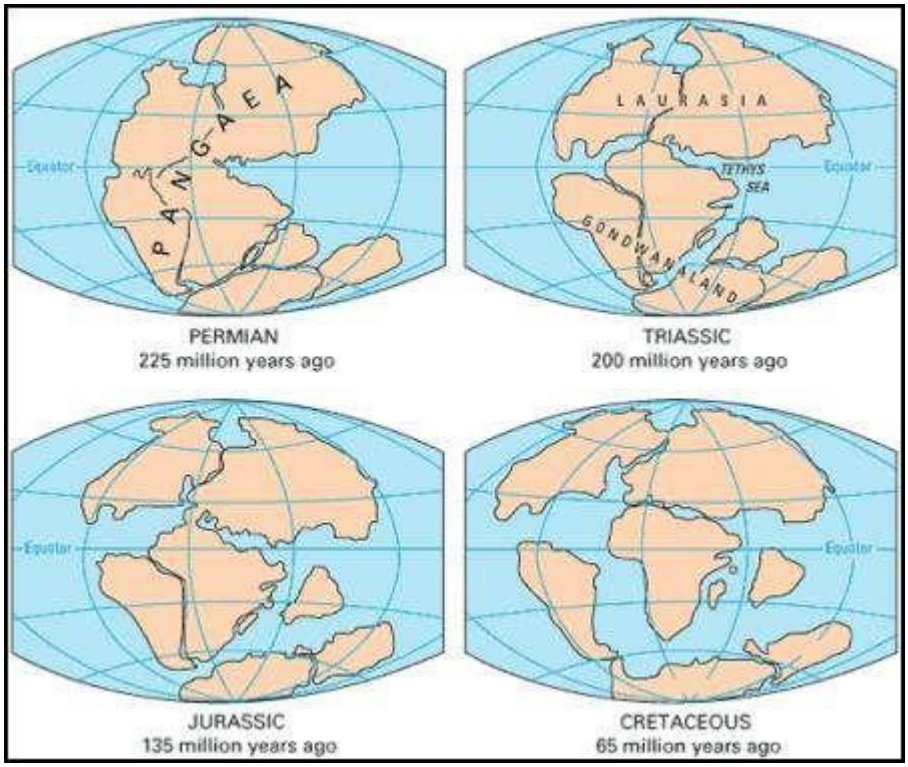
An aspect of geology that is unlike most of the other sciences is the role played by time — deep time — billions of years of it. When geologists study the evidence around them, they are often observing the results of are observing the results of events that took place thousands, millions, and even billions of years in the past, and which may still be ongoing.



Why Study Earth?

- We can study rocks and the fossils they contain to understand the evolution of our environment and the life within it.
- We can learn to minimize our risks from earthquakes, volcanoes, slope failures, and damaging storms.
- We can recognize how human activities have altered the environment, and learn how to prevent and sometimes repair the damage.
- We can use knowledge of Earth to understand other planets in our solar system

In the past old life and middle life the land on earth was one plate island and surround by water called Pangaea or the mother plate. The mother plate during years separated from each other to the current position by hypothesis called plate tectonics.



What are the mantle and layers of the earth?

1- **Crustal extends from: 0 to 100 km**
2- **Earth mantle extends from: 100 to 2900 km**
3- **inner core extends from: 2900 to 6378 km**

earth mantle:

1- The lithosphere: is formed Of the hard rocks of the earth's crust with hard rocks from The upper part of the upper mantle. The surface of this layer is divided into There are seven plates of varying dimensions called tectonic plates.

The main plates are: Pacific-Eurasia-North America-America South Africa, India, and Antarctica,

2- Asthenosphere: It contains a semi-fluid hot wrap.

3- Lower mantle: Containing solid rock

4- Outer core
5- Inner core

plate tectonics theory: Plate tectonics is the scientific theory that explains the movement of the Earth's lithosphere (the rigid outermost shell of the Earth) and the formation of geological features such as mountains, volcanoes, and ocean basins.

The Richter scale is a numerical scale used to measure the magnitude of earthquakes. It was developed by Charles Richter in 1935 and is based on the amplitude of the seismic waves produced by an earthquake.

The Richter scale is logarithmic, which means that a one-point increase in magnitude corresponds to a tenfold increase in the amplitude of the seismic waves.

