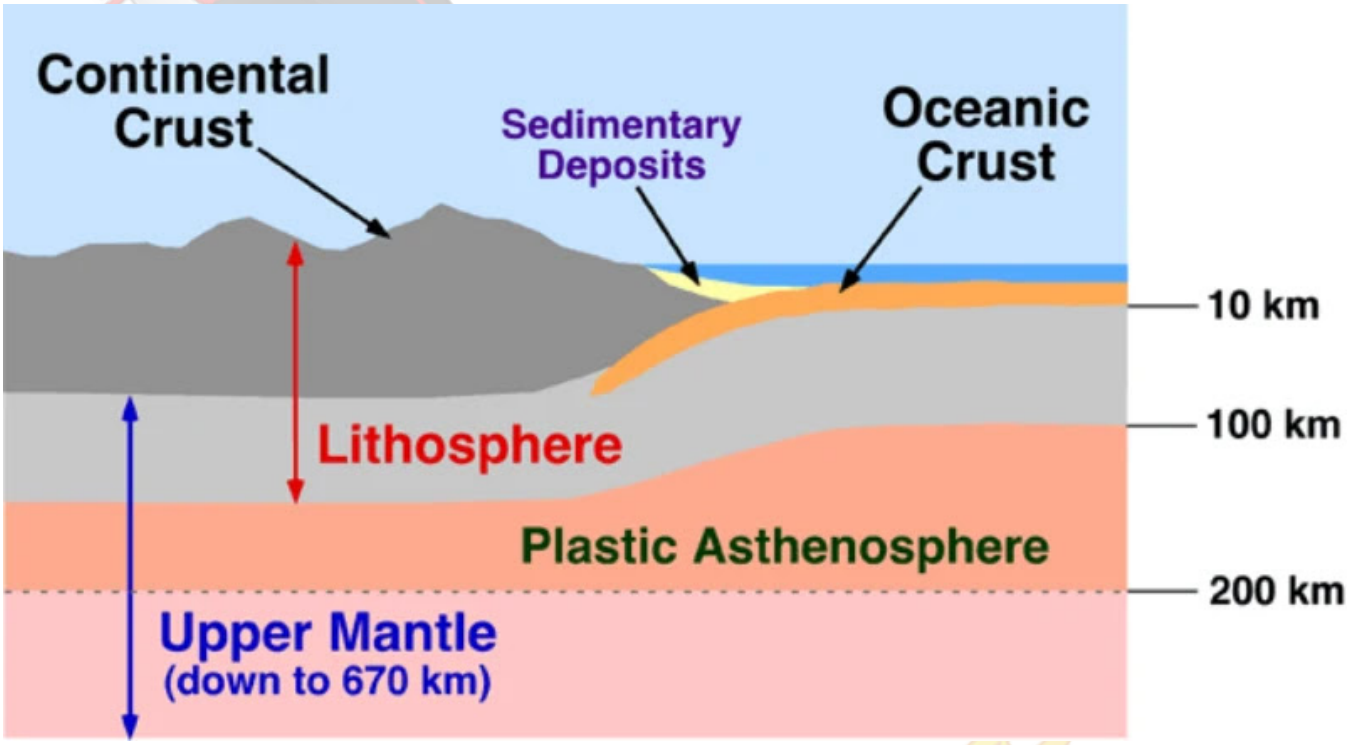
A2. Crust

Crust

Hello there, young geologists! Today, we're going to learn about the Earth's crust, which is the outermost layer of our planet. The crust is like the thin skin that covers an apple. Let's explore this fascinating part of the Earth!

What is the Crust?
The Earth's crust is the solid, rocky outer layer of our planet. It is relatively thin compared to the other layers of the Earth. Just like the skin of an apple, the crust forms a protective covering around the Earth, keeping everything inside safe and secure.



Types of Crust
There are two main types of crust on Earth: continental crust and oceanic crust.

1. **Continental Crust**
   The continental crust is the type of crust that makes up the continents. It is thicker and less dense than oceanic crust. The continental crust is made up of various types of rocks, such as granite and sedimentary rocks. It is also where we find mountains, valleys, and plains that form the landscapes we see on Earth.

2. **Oceanic Crust**
   The oceanic crust is found beneath the oceans. It is thinner and more dense than the continental crust. The oceanic crust is mostly made up of basalt, a type of

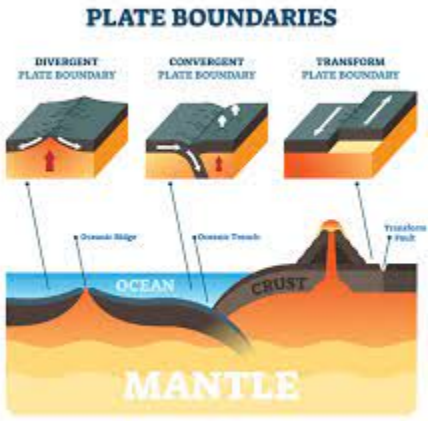
volcanic rock. This crust is continually being formed at underwater volcanic ridges and is constantly moving away from those ridges.

Tectonic Plates

The Earth's crust is not one solid piece; instead, it is divided into large and small pieces called tectonic plates. These plates are like giant jigsaw pieces that fit together to form the Earth's crust. The movement of these plates is responsible for earthquakes, volcanic eruptions, and the formation of mountains.

Plate Boundaries

Where tectonic plates meet, we have plate boundaries. There are three main types of plate boundaries: convergent boundaries, divergent boundaries, and transform boundaries.



1. **Convergent Boundaries**
   At convergent boundaries, two plates are moving toward each other. When this happens, one plate is forced beneath the other in a process called subduction. This can cause volcanic eruptions, earthquakes, and the formation of mountains.

2. **Divergent Boundaries**
   At divergent boundaries, two plates are moving away from each other. This movement causes magma from the mantle to rise and solidify, creating new crust. Divergent boundaries are where new oceanic crust is formed.

3. **Transform Boundaries**
   At transform boundaries, two plates are sliding past each other horizontally. This movement can cause powerful earthquakes.

The Mohorovičić Discontinuity

The Mohorovičić Discontinuity, or "Moho" for short, is the boundary that separates the Earth's crust from the underlying mantle. It was named after a scientist who discovered it. The Moho is like a line that separates the crust from the rest of the Earth's interior.

1. What is the Earth's crust?
   A) The solid, rocky outer layer of the Earth
   B) The molten center of the Earth
   C) The layer of gases surrounding the Earth
   D) The layer of water covering the Earth

2. Which type of crust makes up the continents?
   A) Continental crust
   B) Oceanic crust
   C) Mantle crust
   D) Sedimentary crust

3. What is the main difference between continental crust and oceanic crust?
    A) Continental crust is thicker and less dense than oceanic crust.
    B) Oceanic crust is thicker and less dense than continental crust.
    C) Both types of crust have the same thickness and density.
    D) Continental crust is thinner and more dense than oceanic crust.

4. What type of rock is most commonly found in the oceanic crust?
    A) Granite
    B) Basalt
    C) Sedimentary rock
    D) Obsidian

5. What are tectonic plates?
    A) Giant pieces of cheese that cover the Earth
    B) Large and small pieces that make up the Earth's crust
    C) Ancient artifacts buried deep underground
    D) Layers of clouds in the atmosphere

6. Which type of boundary is formed when two tectonic plates move away from each other?
    A) Convergent boundary
    B) Divergent boundary
    C) Transform boundary
    D) Subduction boundary

7. What happens at a convergent boundary?
    A) Two plates move away from each other
    B) Two plates move toward each other
    C) Two plates slide past each other horizontally
    D) Two plates sink beneath each other

8. What is the Mohorovičić Discontinuity?
    A) A line that separates the Earth's crust from the underlying mantle
    B) A line that separates the Earth's atmosphere from outer space
    C) A line that separates the Earth's core from the mantle
    D) A line that separates the continental crust from the oceanic crust

9. Which type of crust is more likely to cause volcanic eruptions?
    A) Continental crust
    B) Oceanic crust
    C) Mantle crust
    D) Sedimentary crust

10. What is the main function of the Earth's crust?
    A) To protect the Earth's interior from asteroids and meteoroids
    B) To form mountains and valleys on the Earth's surface

C) To provide a habitat for plants and animals
D) To separate the Earth's atmosphere from outer space

ANSWERS & EXPLANATIONS

1. A - The solid, rocky outer layer of the Earth.
    - The Earth's crust is the solid, rocky outer layer of our planet.

2. A - Continental crust.
    - The type of crust that makes up the continents is called continental crust.

3. A - Continental crust is thicker and less dense than oceanic crust.
    - The main difference between continental crust and oceanic crust is that continental crust is thicker and less dense.

4. B - Basalt.
    - The most common type of rock found in the oceanic crust is basalt.

5. B - Large and small pieces that make up the Earth's crust.
    - Tectonic plates are large and small pieces that make up the Earth's crust.

6. B - Divergent boundary.
    - When two tectonic plates move away from each other, a divergent boundary is formed.

7. B - Two plates move toward each other.
    - At a convergent boundary, two tectonic plates move toward each other.

8. A - A line that separates the Earth's crust from the underlying mantle.
    - The Mohorovičić Discontinuity is a line that separates the Earth's crust from the underlying mantle.

9. B - Oceanic crust.
    - Oceanic crust is more likely to cause volcanic eruptions.

10. B - To form mountains and valleys on the Earth's surface.
    - One of the main functions of the Earth's crust is to form mountains and valleys on the Earth's surface.