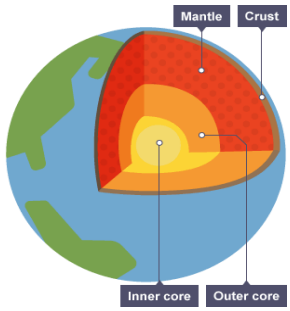
YEAR 6 STRUCTURE OF THE EARTH



THE STRUCTURE OF THE EARTH

The Earth is a fascinating planet made up of different layers. These layers work together to keep the planet stable and support life. Let us take a closer look at the structure of the Earth.

THE EARTH'S LAYERS

The Earth is made up of four main layers. Each layer has a unique role and characteristics. From the outer surface to the inner core, the layers are:

1. **The Crust**
2. **The Mantle**
3. **The Outer Core**
4. **The Inner Core**

THE CRUST

The Earth's crust is the outermost layer. It is solid and very thin compared to the other layers. The crust is made up of land and oceans and is where we live. The crust is divided into huge pieces called tectonic plates. These plates move slowly, causing earthquakes, volcanoes, and mountain ranges.

THE MANTLE

Beneath the crust is the mantle. The mantle is much thicker and extends deeper into the Earth. It is made of semi-solid rock that flows slowly over time. The mantle is responsible for the movement of tectonic plates, which is why it plays an important role in shaping the Earth's surface.

THE OUTER CORE

Below the mantle is the outer core. The outer core is made of molten (melted) metals, mostly iron and nickel. The heat from the inner Earth causes the metals to melt and flow like a thick liquid. The outer core is very hot, with temperatures reaching up to 4,000 degrees Celsius. This layer is also where the Earth's magnetic field is created.

THE INNER CORE

At the very centre of the Earth is the inner core. The inner core is made of solid iron and nickel and is the hottest part of the Earth. Despite the extreme heat, the inner core remains solid because of the immense pressure from the layers above. The temperature here can be as high as 5,500 degrees Celsius.

THE EARTH'S MAGNETIC FIELD

The movement of the molten metals in the outer core generates the Earth's magnetic field. This magnetic field acts like a giant shield, protecting the planet from harmful solar radiation and charged particles from the Sun. The magnetic field also helps guide animals, like birds and sea turtles, during their migrations.

THE MOVEMENT OF TECTONIC PLATES

The tectonic plates floating on the mantle move very slowly. This movement is caused by the heat in the mantle, which causes the rock to rise and sink in a cycle. As the plates move, they can collide, slide past each other, or pull apart. This movement shapes the Earth's surface, creating mountains, valleys, and oceans.

THE IMPORTANCE OF EARTH'S LAYERS

Each layer of the Earth plays a vital role in keeping the planet stable. The crust provides us with the land we live on, the mantle helps in the movement of tectonic plates, the outer core generates the magnetic field, and the inner core keeps the Earth's heat in balance. Together, these layers work to make the Earth a safe and habitable place for all living things.

The Earth is a dynamic and ever-changing planet, and understanding its structure helps us learn more about the forces that shape our world.

FIND OUT MORE…

BBC Bitesize Structure of the Earth

EXAMPLE QUESTIONS:

1. What are the four main layers of the Earth?
2. Why is the outer core important for the Earth's magnetic field?
3. How does the movement of tectonic plates affect the Earth's surface?
4. What is the main difference between the Earth's crust and mantle?
5. Why does the inner core remain solid despite the extreme heat?