

Earth and Universe

Subject : Science

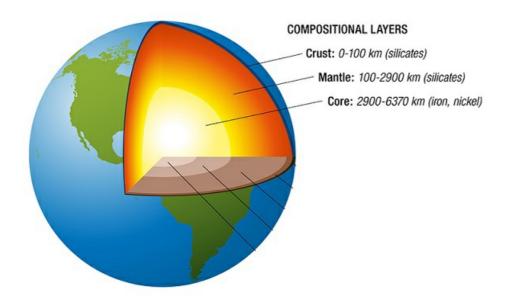
Grade: 4

Layers of earth

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The Earth is made up of one big solid rock as it is a terrestrial planet, but actually, it is made up of a number of components and to your surprise, some of them are constantly in motion.

Just imagine our planet as an onion that has layers over the layers which you may keep peeling on till you reach the core of it. As one goes deeper in the Earth's layers (if possible), one may experience that the layers get denser and denser as one gets closer to the centre of the earth. The four primary layers of the earth that we will be discussing here are the crust, mantle, outer core, and inner core.



- **Crust-** The crust is the thin and the outermost layer of the Earth where we all reside. As you may have seen the pictures, it looks very thin when seen through the pictures and it is thin relative to the other layers. The crust possesses the thickness around 5 km on the ocean floor and around 70 km thick on land. The crust on which we all live is commonly known as the continental crust.
- **Mantle-** Beneath the Crust, extends the next layer of the Earth that is called the mantle. Comparing to the continental crust, the mantle is way much thicker than the crust, approximately <3000 km thick. It is made up of the sort of different silicate rocks with a high amount of magnesium and iron.
- Outer Core- The outer core of the Earth is the third primary layer that is formed from iron and nickel and possesses high temperatures i.e 4400 to 5000< degree Celsius. The high temperatures down the layers cause iron and nickel metals to turn into the liquid form. So, the outer core is a liquid layer!! This layer is crucial for the Earth as it is responsible for the formation of the magnetic field. This magnetism exuded from the outer core is radiated out in the space that causes the formation of a protective layer that serves as a barrier in prevention from the harmful solar radiations.
- Inner Core- The Earth's inner core is composed of the metals- iron and nickel only that is similar to the outer core. But don't be confused as the inner core is way too different from the outer one. The inner core due to its deep location within the planet's surface is under immense pressure. This immense pressure causes the compression of the metals even though when it possesses high temperatures. This compression results in the solid-state of the innermost layer. It is the hottest part of the Earth with the temperature < 5000 degree Celsius. This makes the inner core as hot as the surface of the Sun.