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Scientists discover Earth has two cores – 27th February 2023

Level 4

We know little about the centre of Earth. Geologists believed it had just one core – a hot mass of molten rock surrounded by a rock mantle. This is a ring between the earth's crust and core. The core is 2,900 km below Earth's surface. It has a radius of 3,485 km. Scientists believe there may be a second core. A geophysicist analyzed data from a 560-km-deep earthquake. It showed the possibility of a second core at the bottom of the mantle.

The geophysicist explained what intrigued her about Earth's core. She said: "There's still a lot we don't know about it. There's a lot more we can learn by using deep earthquakes." The geophysicist explained the importance of understanding more about the core. She said: "We want to know exactly how fast the mantle flows because that influences the evolution of the entire Earth. It affects how much heat the planet retains for how long."

Level 5

We know little about the centre of Earth. Geologists believed our planet had just one core – a hot mass of molten rock and gas surrounded by a rock mantle. The mantle is a ring between the earth's crust and core. The core is 2,900 kilometres below Earth's surface. It has a radius of around 3,485 kilometres. Scientists have found that there may be a second core. Geophysicist Sunyoung Park analyzed data from a 560-km-deep earthquake. Her calculations showed the possibility of a second core. It consists of a layer of fluid rock at the bottom of the mantle.

Dr Park studied the earthquake and explained what intrigued her about Earth's core. She said: "There's still a lot we don't know about it. There's a lot more we can learn by using deep earthquakes." Park explained the importance of understanding more about the core. She said: "We want to know exactly how fast the mantle flows because that influences the evolution of the entire Earth. It affects how much heat the planet retains for how long....Our current understanding is very limited and includes a lot of assumptions."

Level 6

Little is known about the geology of the very centre of Earth. It was believed our planet had just one core – a scorching hot mass of molten rock and gas surrounded by a solid, rock mantle. The mantle is a ring between the earth's crust and core. The core is found 2,900 kilometres below Earth's surface. It has a radius of around 3,485 kilometres. Scientists from the University of Chicago have discovered that there may be a second core deep below our feet. Research has led geophysicist Dr Sunyoung Park to believe there is another core. She analyzed data from a 560-km-deep earthquake. Her calculations showed the possibility of a second core, consisting of a layer of fluid rock, at the bottom of the mantle.

After Dr Park studied the deep earthquake, she spoke about why she found the Earth's core so intriguing. She said: "Even though the mantle makes up the largest part of Earth, there's still a lot we don't know about it." She added: "There's a lot more we can learn by using deep earthquakes as a way to probe these questions." Ms Park explained the importance of understanding more about the centre of our planet. She said: "We want to know exactly how fast the mantle flows because that influences the evolution of the entire Earth. It affects how much heat the planet retains for how long, and how the Earth's materials are cycled over time. Our current understanding is very limited and includes a lot of assumptions."