

Science Hero: Inge Lehmann – the woman who found Earth's inner core



Not all discoveries are
made by digging; some are
found by listening.

In 1936, Danish seismologist Inge Lehmann discovered that Earth has a solid inner core surrounded by a molten outer core. Before her discovery, most scientists believed Earth's core was entirely liquid.

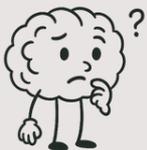
Inge figured out her discovery by studying how earthquake waves travel through the planet. When an earthquake happens, it sends waves rippling through Earth in all directions. Some waves can travel through solid rock, while others can't. Some speed up in certain materials, while others slow down.

The waves didn't behave the way scientists expected. They bent and bounced in strange ways. Inge realised this could only happen if Earth's centre was solid, not liquid. The waves were bouncing off the boundary between the liquid outer core and the solid inner core.

At the time, many scientists doubted her, but her data was undeniable. Eventually, everyone accepted she was right. The boundary between Earth's inner and outer cores is now called the Lehmann Discontinuity, named after her. Inge worked as a seismologist until she was 75 and lived to be 104. She never stopped being curious about how Earth works.

By proving Earth has a solid inner core surrounded by a liquid outer core, Inge helped scientists understand how seismic waves travel through the planet, which is essential for figuring out where and how earthquakes happen. That knowledge helps engineers design safer buildings and create better early-warning systems that save lives today.

Inge's story reminds us that science isn't about guessing; it's about observing carefully, asking questions, and trusting your evidence, even when others don't see it yet. It also shows the power of knowledge. With a better understanding of Earth, we can protect people and the planet.



Wait, what's a seismologist?

A seismologist is a scientist who studies earthquakes.

They record vibrations, called seismic waves, that move through Earth when it shakes using instruments called seismographs.

You can make your own seismograph follow the QR code on the next page. →



Ready for More Earth Science Adventures?

Good news — there's a LOT more to learn and discover. Hey Smart Girl: Book of Earth Science is packed with 30+ hands-on experiments, mind-blowing facts, inspiring scientist stories, and everything you need to understand the wild, wonderful planet you're standing on. Perfect for girls age 8-12.

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