

Looking to get that special someone something that is beautiful and sparkles? Start with a jar of peanut butter!

While scientist, Dan Frost from the Bayerisches Geoinstitut in Germany was working on recreating the conditions of the Earth's mantle, in trying to simulate those scorching underground environments, Frost stumbled upon some innovative ways to manufacture diamonds. Beneath their sparkles, diamonds are composed of simple carbon atoms arranged into a crystal.

Frost hypothesized that the rocks in Earth's mantle could pull carbon dioxide from the oceans. As the rocks are drawn closer into the mantle, high pressures would force the CO₂ to leave the rocks, leaving the CO₂ free and allowing iron in the mantle to be stripped of oxygen. He believed that it would leave just naked carbon, which could be formed into a diamond by the high heat and temperatures - essentially forming diamonds from thin air.

One of the more peculiar results of Frost's research was the discovery that you can make diamonds using plain old peanut butter. How does something like that even happen? Since his research included the investigation of how certain geological processes could have stripped carbon dioxide out of the Earth's oceans and deposited it into its rocks, he faced the problem with testing this theory as to the sheer difficulty of creating a diamond from scratch in the lab.

So in order to replicate this process in the lab, Frost subjected a carbon-rich material—peanut butter—to such high pressures. However, volatile hydrogen entered the mix and ruined the experiment, but not before diamonds emerged in the high pressure environment.

Even though this was an amazing discovery and outcome of Frost's research, don't expect the process to yield a new way of crafting your engagement ring. However, it could lead the way to other methods for pressurizing carbon-rich materials into diamonds that could be used in superconductors and quantum computing. In the process, we might even learn a little about how our planet formed.

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Peanut Butter to Diamonds - How the Process Gives Insight into the Earth

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