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What Is the Ozone Layer, and Why Is It Important for Life on Earth?

High above the Earth, there is a thin layer of gas in the sky called the ozone layer. You can't see it, but it plays a very important role in keeping life on Earth safe. The ozone layer is part of the Earth's atmosphere, and it sits in a section called the stratosphere, about 10 to 30 miles above our heads.

The ozone layer is made of a special kind of oxygen called ozone. Regular oxygen has two atoms, but ozone has three. These three atoms make ozone

strong enough to absorb ultraviolet (UV) rays from the sun. UV rays are a type of sunlight that can be harmful. If too many UV rays reach Earth, they can cause sunburns, skin cancer, and even hurt animals and plants.

Thanks to the ozone layer, most of the dangerous UV rays are blocked before they ever reach the ground. It's like a natural sunscreen for the whole planet!

But the ozone layer hasn't always been safe. In the past, humans used chemicals called CFCs (short for chlorofluorocarbons) in things like spray cans and refrigerators. When CFCs went up into the sky, they damaged the ozone layer and created a hole in it over Antarctica.

This hole let more UV rays through, which was dangerous for people and the environment. Scientists discovered this problem in the 1980s and quickly told governments around the world. In 1987, many countries signed an agreement called the Montreal Protocol to stop making harmful CFCs.

Since then, the ozone layer has slowly started to heal. It's not fully back to normal yet, but it's getting better because people took action to protect it.

The ozone layer may be out of sight, but it's very important. It protects every living thing on Earth from dangerous sunlight. By learning about it and making smart choices, we can help keep our planet—and ourselves—safe and healthy.