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## What Causes the Ozone Layer to Thin—And How Did We Find Out?



High above Earth, in a part of the sky called the stratosphere, is a thin but powerful shield known as the ozone layer. This layer of gas protects life on our planet by blocking most of the sun's dangerous ultraviolet (UV) rays. Without it, people, animals, and plants would face serious harm from too much sunlight.

But in the 1970s and 1980s, scientists discovered something alarming—the ozone layer was getting thinner. In some places, especially over Antarctica, there were even holes in the layer. More UV rays were reaching Earth, and people became concerned. How did this happen?

The problem started with certain man-made chemicals called CFCs, which stands for chlorofluorocarbons. These chemicals were used in things like spray cans, foam packaging, and refrigerators. CFCs were very popular because they were cheap and didn't burn easily. However, scientists found out that when CFCs rise up into the stratosphere, the sun's rays break them apart. This releases atoms that destroy ozone molecules.

It only takes one CFC molecule to destroy thousands of ozone molecules. Over time, this caused the ozone layer to become thinner and weaker. More UV rays began to pass through, raising the risk of sunburns, skin cancer, and other health problems.

How did we find this out? Scientists studying the atmosphere used special balloons and satellites to measure the ozone in the sky. In 1985, British scientists reported a large hole in the ozone layer over Antarctica. This discovery shocked the world and led to fast action.

In 1987, many countries came together and signed an agreement called the Montreal Protocol. They promised to stop making CFCs and find safer alternatives. Because of this teamwork, the ozone layer began to heal. Although it's not fully recovered, it is slowly getting better.

The story of the ozone layer teaches us an important lesson: humans can cause big problems for the planet—but we can also work together to solve them. With science, cooperation, and care, we can protect the Earth for future generations.