

THE OZONE LAYER

- **WHAT'S THE OZONE LAYER?**

It's a protective layer within the Earth's atmosphere. Its function is to preserve life on planet Earth by acting as a shield against ultraviolet radiation (UV rays).

It lies between 15 and 50 kilometers above the Earth's surface and absorbs more than 97% of the solar radiation that's harmful to living beings.

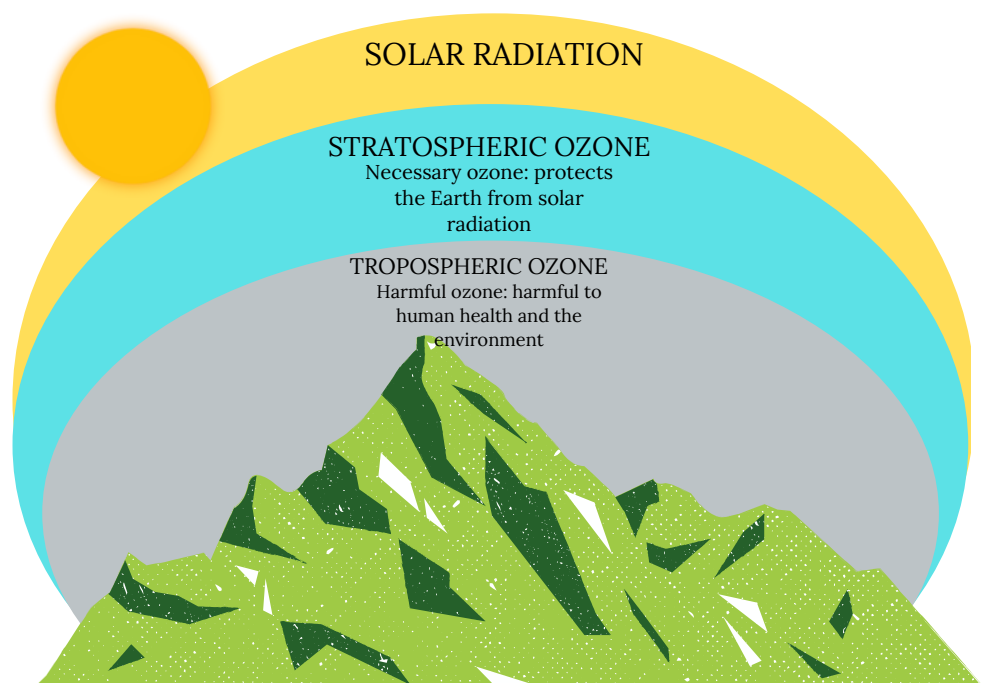
- **WHAT'S IT MADE OF?**

The ozone molecule is formed in the stratosphere by the action of solar radiation in a process called photolysis. This process occurs when the sun's rays break an oxygen molecule in the stratosphere and split it into two atoms. When one of these oxygen atoms meets an O₂ molecule, ozone is produced, which is distributed and forms a thin layer that envelops planet Earth.

- **IMPORTANCE AND FUNCTIONS**

It's essential for preserving life as we know it, as it filters out a large proportion of the sun's rays that are harmful to living things and lets through the rays needed for life.

The destruction of the ozone layer occurs naturally, when the level of ozone present in the atmosphere changes; and due to human actions that, by way of products and processes, release harmful gases into the atmosphere.



- **OZONE DEPLETION**

The low density of ozone in the ozone layer results in the creation of holes. These holes are areas of the ozone layer with little ozone gas, through which UV rays are more easily filtered.

In recent decades, the destruction of the ozone layer has been accelerated by the use of halocarbons by humans. These substances, present in pesticides or aerosols, emit gases into the atmosphere that cause the thinning of the ozone layer.

The main risk of holes in the ozone layer is that they increase the exposure of planet Earth and living beings to harmful UV radiation. These rays age and damage the skin's DNA, leading to burns and skin cancer.

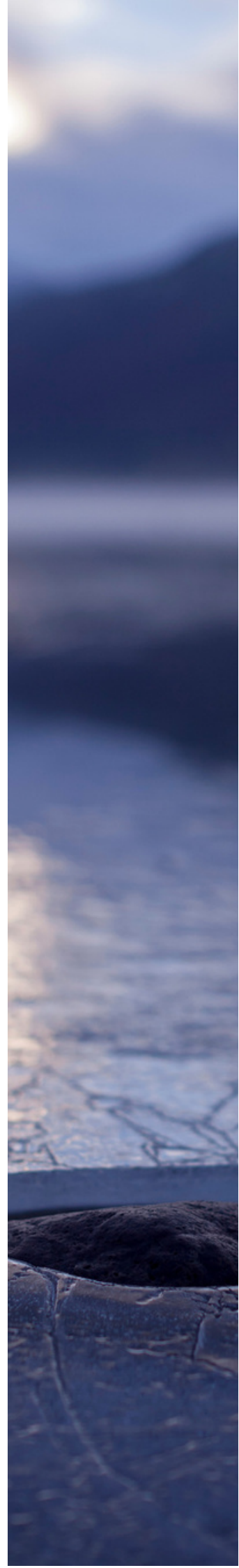
- **HOW TO LOOK AFTER IT?**

Some gases contribute to the weakening of the ozone layer. To take care of the ozone layer, avoid using products containing harmful gases. The following are among the most prominent:

- **CFCs (Chlorofluorocarbons):** Compounds containing chlorine, fluorine and carbon that are used in aerosols, solvents, air conditioners and as insulation material. These reach the stratosphere; dissolve and the chlorine breaks down the ozone layer.
- **HCFCs (Hydrochlorofluorocarbons):** Compounds containing hydrogen, chlorine, fluorine, and carbon that are used as replacements for CFCs. In this case, the chlorine also damages the ozone layer, but the hydrogen makes them less stable.

"It's immensely sad to think that nature speaks while mankind refuses to listen to it."

Victor Hugo





TESTING YOUR KNOWLEDGE...

1. MATCH CORRECTLY:

TROPOSPHERIC
OZONE

STRATOSPHERIC
OZONE

SOLAR
RADIATION

protects the
Earth from solar
radiation

energy emitted
by the sun

harmful to human
health and the
environment

2. WHAT'S PHOTOLYSYS?

3. WHAT ARE THE CAUSES OF THE INCREASE IN THE OZONE DEPLETION?