

Earth's Atmosphere

1-1 |

Objectives:

Identify the gases in Earth's atmosphere

Describe the structures of Earth's atmosphere.

Explain what causes air pressure.

Stratosphere
Planes fly here
The ozone layer
It's got ozone
Blocking some
It rises up like
The temperat

the atmosphere
is made up of
gases that
are held in
place by the
gravity of the
Earth

The atmosphere is why there's life
Because the raging Sun's a fire in
the sky

Thanks to the ozone, rays are
absorbed of the Sun



I. Atmosphere

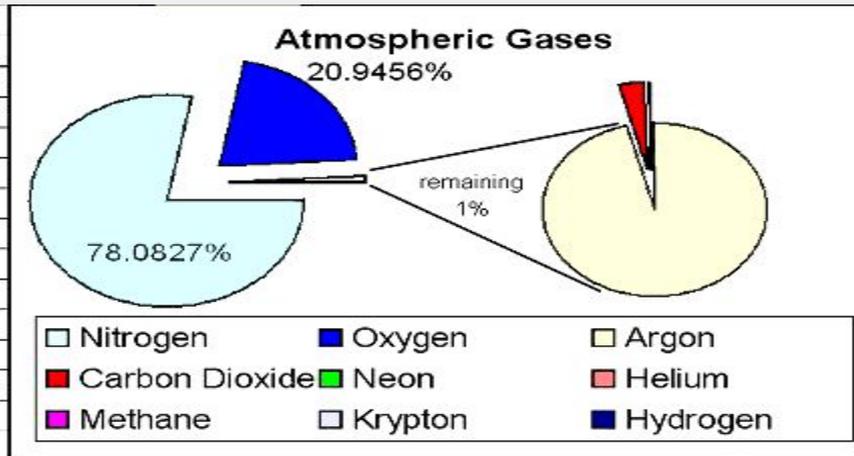
Maintains a balance between the amount of heat absorbed from the Sun and the amount of heat that escapes back into space.



II. Make up of the Atmosphere

Earth's Atmosphere extends from Earth's surface to outer space. It is made up of a mixture of gases with some solids and liquids.

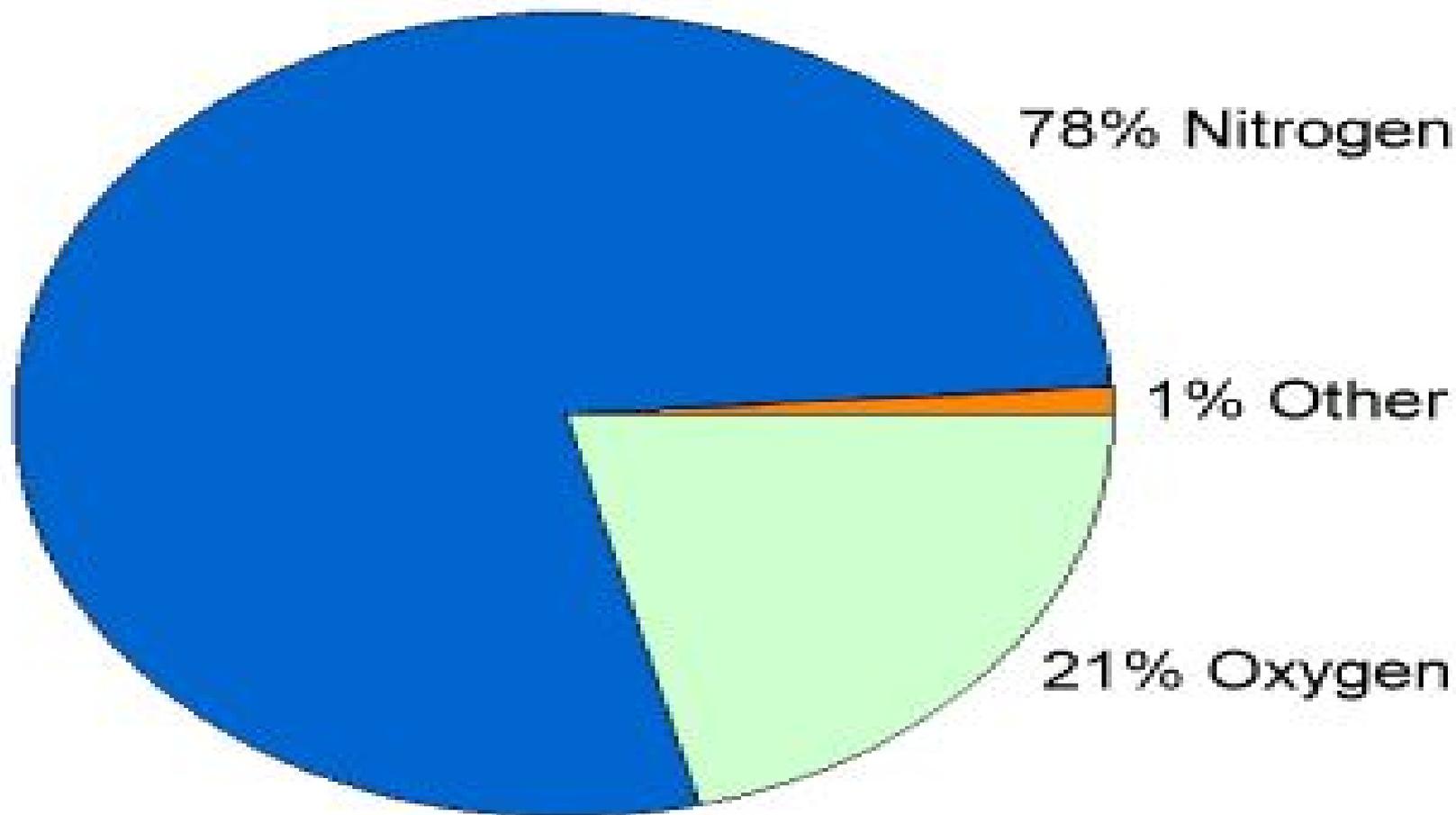
Gas	Reported by NASA	Normalized to 100%
Nitrogen	0.78084000	78.082687%
Oxygen	0.20946000	20.945648%
Argon	0.00934000	0.933984%
Carbon Dioxide	0.00035000	0.034999%
Neon	0.00001818	0.001818%
Helium	0.00000524	0.000524%
Methane	0.00000170	0.000170%
Krypton	0.00000114	0.000114%
Hydrogen	0.00000055	0.000055%
		100.000000%



Source:

<http://nssdc.gsfc.nasa.gov/planetary/factsheet/earthfact.html>

Relative composition of air



Other Gases

Water Vapor in the atmosphere varies from 0-4%. The higher the water vapor, the lower the other gases are.



B. Solids in the Atmosphere

Dust, salt, ice and pollen are four common solids in the atmosphere.

Dust- picked up by the wind

Ice- Hail and snow

Salt- sea spray

Pollen- plants



III. Layers of the Atmosphere

5 layers

Lower atmosphere

Troposphere

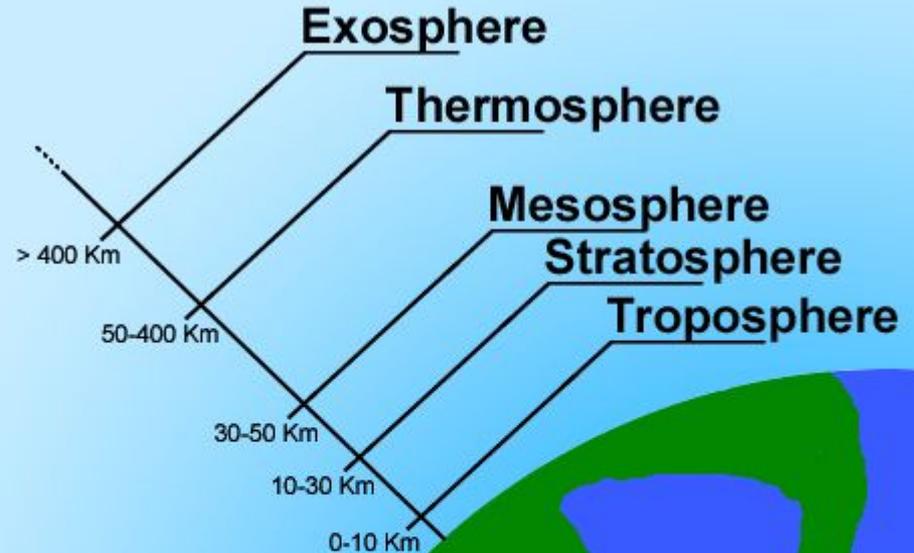
Stratosphere

Upper atmosphere

Mesosphere

Thermosphere

exosphere



Layers of the Atmosphere

Outer Space from here out...

Exosphere - 1,000 km (6,200 miles)

Satellites Orbit the Earth

Thermosphere - 200 km (125 miles)

Space Shuttle Orbits the Earth

Mesosphere - 80 km (50 miles)

Meteors flying toward Earth are often stopped here.

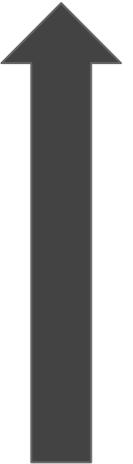
Stratosphere - 50 km (30 miles)

Calmer air where the airlines fly planes. Protective Ozone Layer forms here.

Troposphere - Up to 20 km (12 miles)

Weather happens here - hurricanes, rain, tornados, thunder and lightening, etc. Very turbulent air.

Elephants
On
Tattled
Monkeys
Stupid
The



Layers of the atmosphere is close to the land Troposphere is the bottom

Atmosphere

First layer is stratosphere around it and the ozone it is spotted

Stratosphere

Mesosphere coldest place

Thermosphere y'all the hottest

(Last Up)



a. Lower layers of the Atmosphere

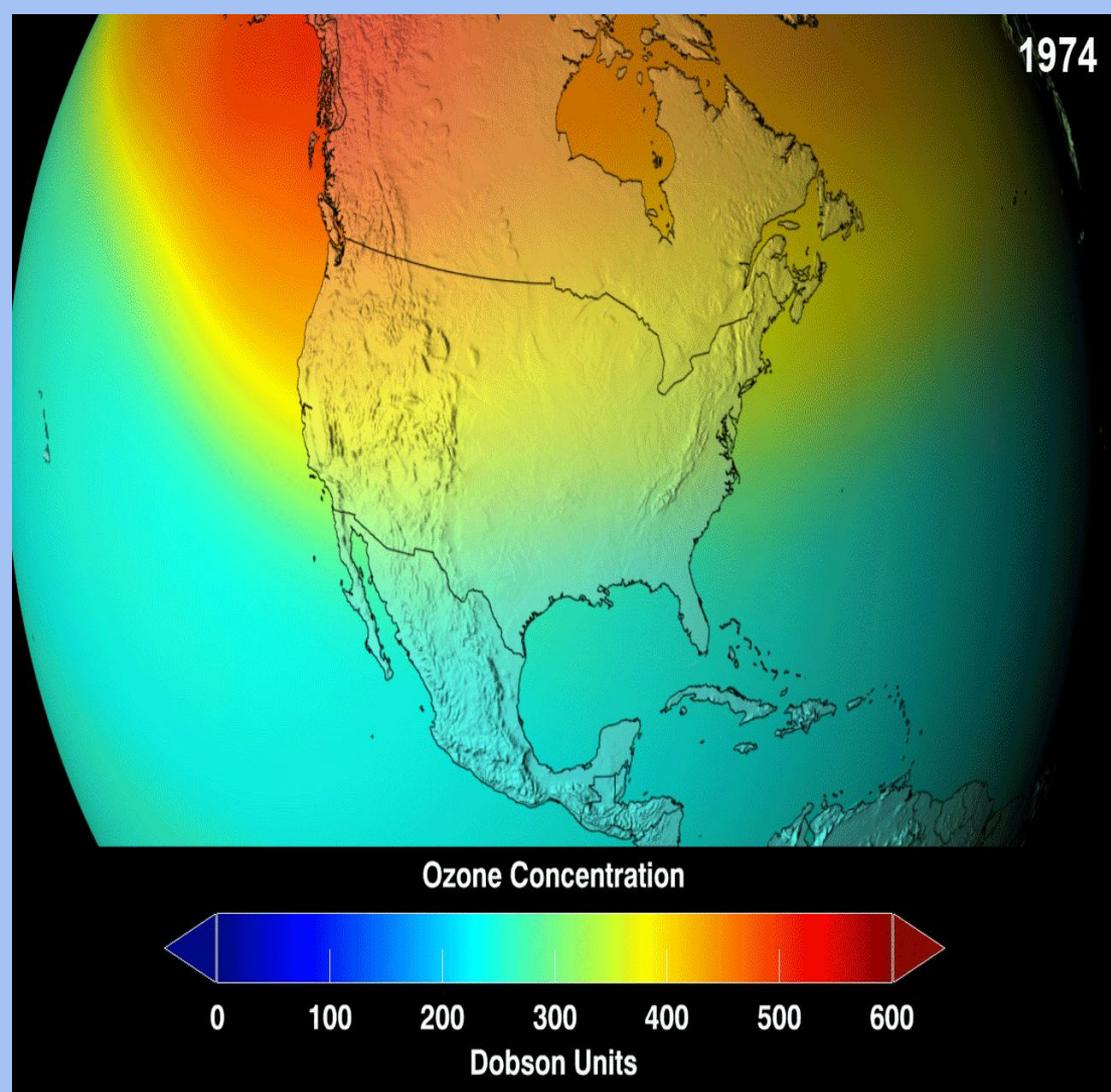
Troposphere

- Where you live
- 99% water vapor
- 75% atmospheric gases
- Weather occurs here



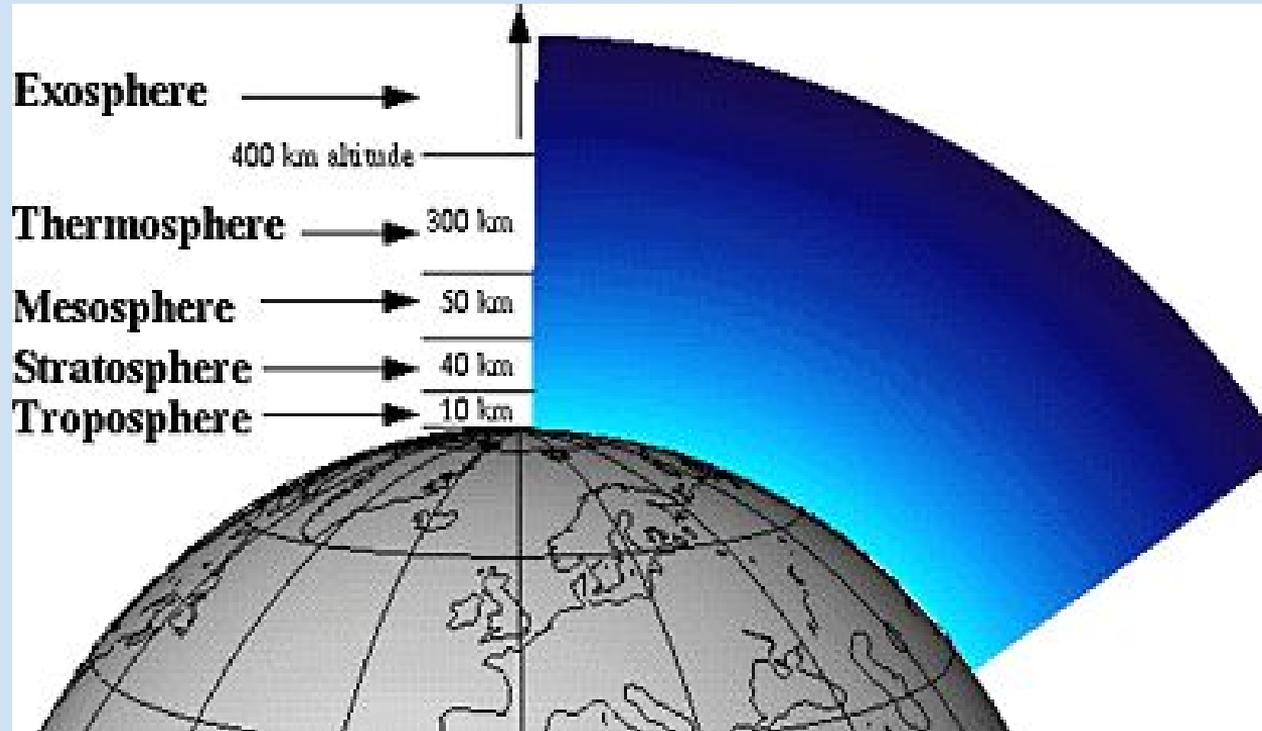
Stratosphere

- Directly above troposphere
- 10-50 KM
- Contains higher levels of ozone



B. Upper layers of the Atmosphere

- Mesosphere
- Thermosphere
- Exosphere



Mesosphere

- Extends from the top of the stratosphere to about 85 km above the Earth
- Shooting stars



Thermosphere

Thickest layer

Found between 85 and 500 km above Earth's surface

WITHIN THE MESOSPHERE AND THERMOSPHERE

Ionosphere

- Layer of electrically charged particles
- Allows radio waves to travel across the country

Exosphere

- Few molecules
- Space shuttle needs bursts from rockets to move

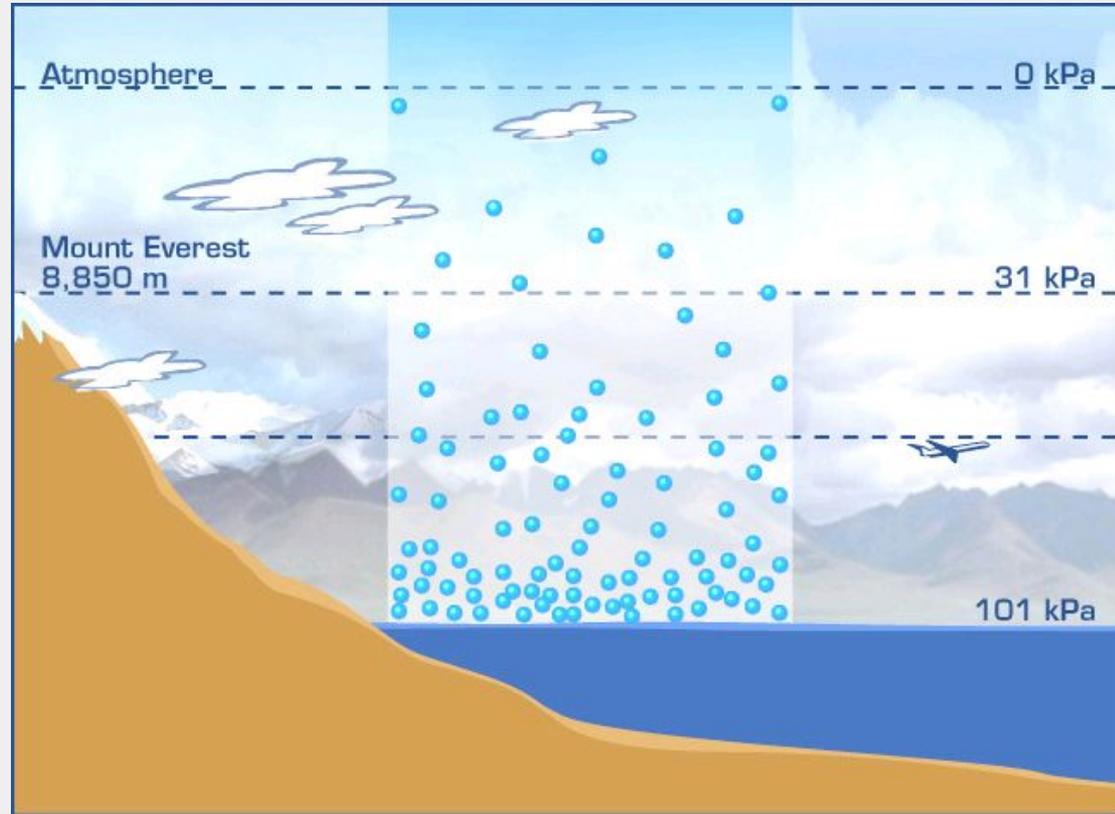
Exosphere

- Few molecules
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IV. Pressure from the Atmosphere

Earth's gravity pulls the gases from the atmosphere toward Earth creating pressure.



The higher you go...the less particles there are, which means less pressure.

Air also thins, making it harder to breathe



BILL NYE

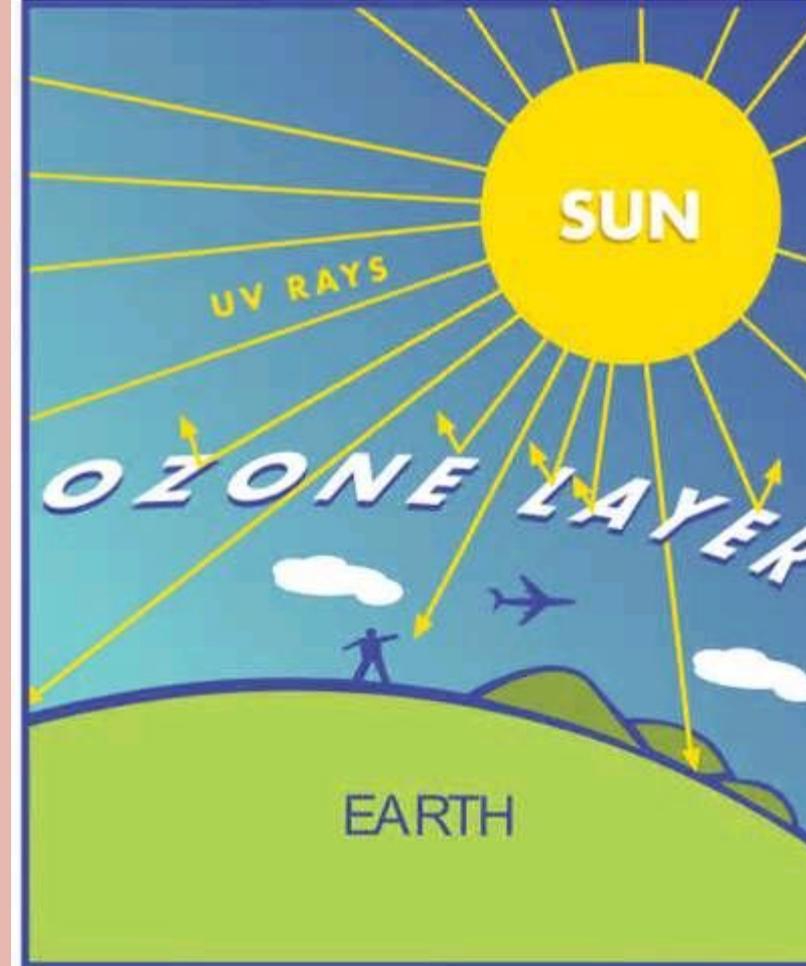


the Science Guy



Ozone Layer

The ozone layer is an atmospheric layer with a high concentration of ozone gas. It is located in the stratosphere and it helps shield us from the harmful energy of the sun.



Ozone

Ozone is a natural gas that forms in the stratosphere. It is not normally found in the lower atmosphere and if it is in considered a pollutant.

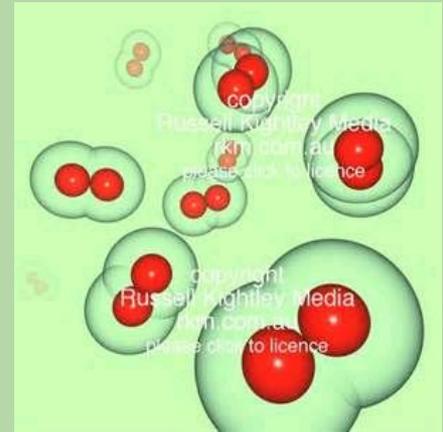
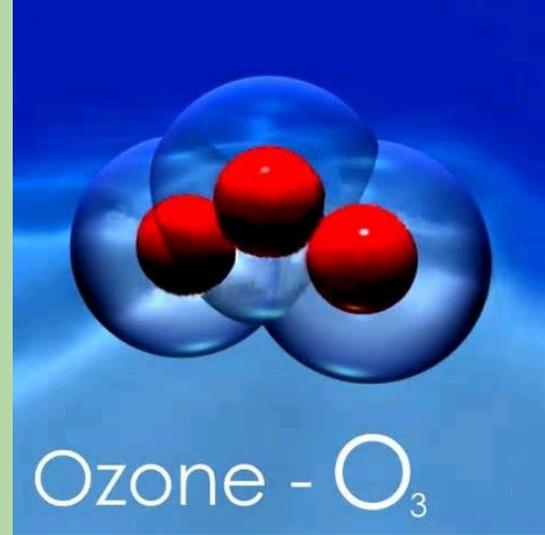
Hole in the Ozone Layer?



Ozone

Ozone is three oxygen molecules bonded together.
(O₃)

The oxygen that we breathe is two oxygen molecules.
(O₂)





Ultraviolet Radiation

Ultraviolet radiation is one of the types of energy that comes from the sun. Too many UV rays can damage the skin, cause cancer and other health problems for plants and animals.



A. Chlorofluorocarbons

Chemicals called CFC's break down the ozone into regular oxygen molecules. These molecules can not absorb the radiation.

