

# The Layers of the Earth's Atmosphere

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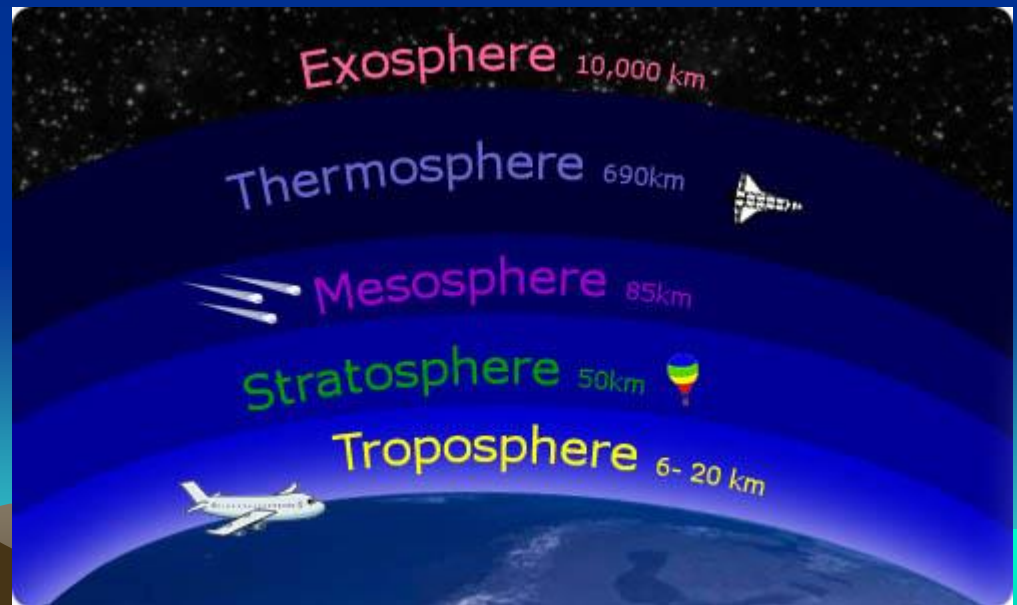
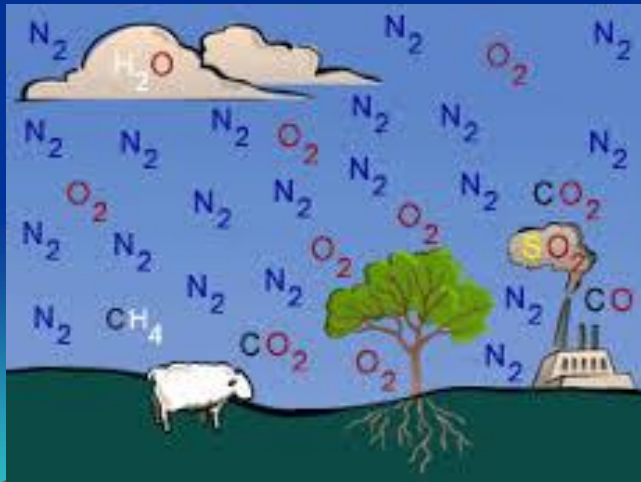
# What makes the Earth special...

- It has an atmosphere which is a **blanket of air that surrounds our Earth.**
- Protects life on Earth...no other planet has this.
- Held in place by gravity.

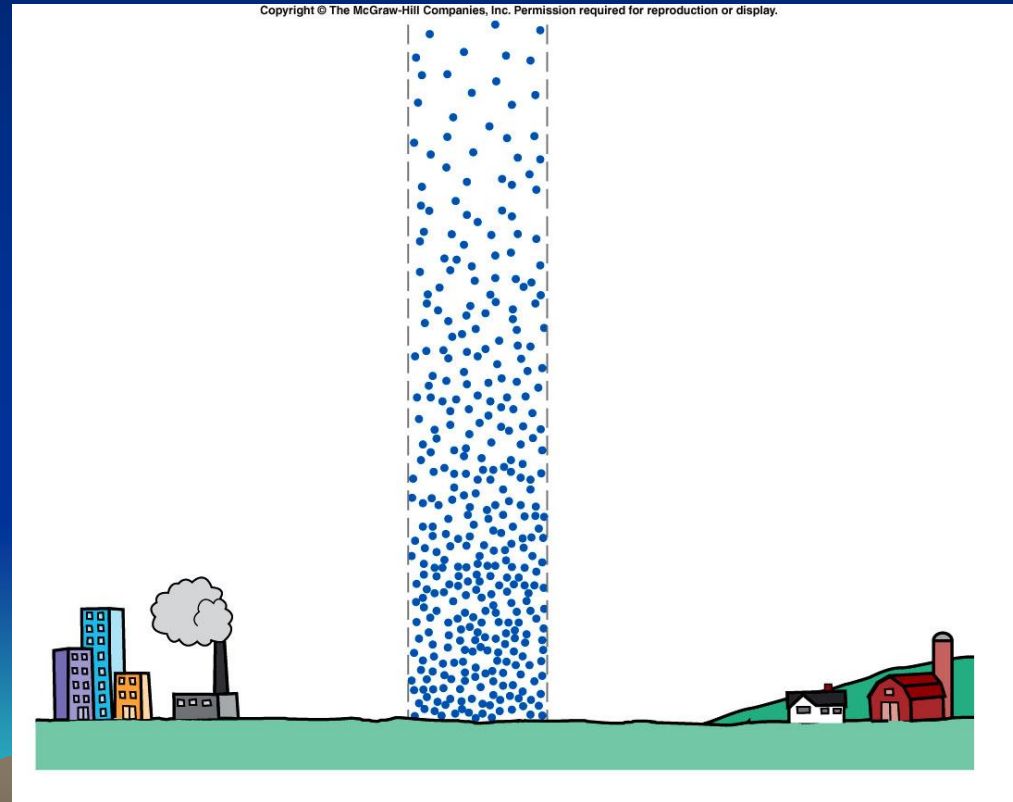


# The Atmosphere and Earth

- The **atmosphere** consists of layers of gases that surround the Earth.
- The 2 most abundance gases found throughout all the layers are oxygen and nitrogen.
- The earth is divided into 5 atmospheric layers

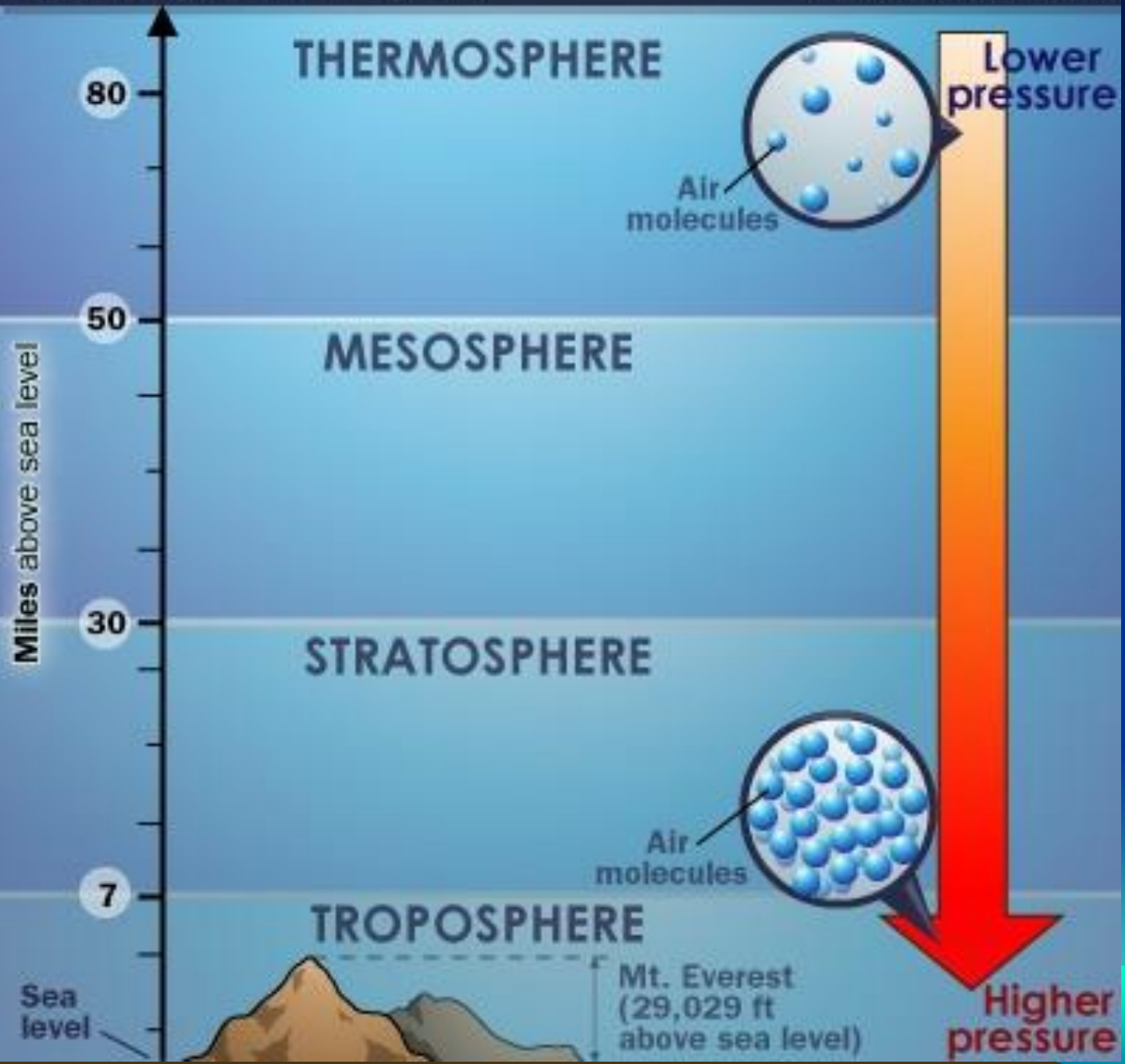


- Air Pressure = force of air pressing down on Earth or weight of air
- Closer to Earth = higher air pressure
- Higher up = less air pressure



# Atmosphere Layers

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# Isn't there just 1 atmosphere?

- No ...there are 5 distinct layers with different properties.
- They change with the increase in altitude (height)



**EXOSPHERE**

**THERMOSPHERE**

**MESOSPHERE**

**STRATOSPHERE**

**TROPOSPHERE**

***The Earth's Atmosphere Layers***







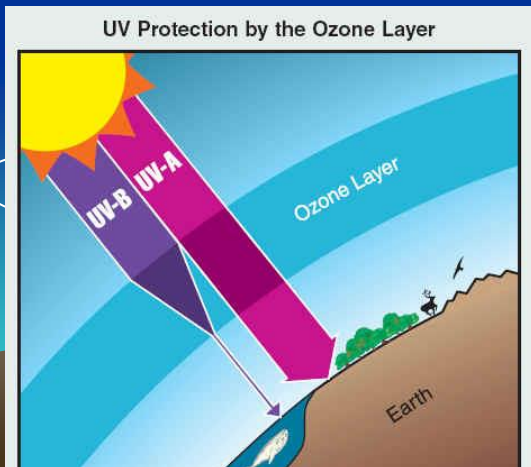
## TROPOSPHERE

The troposphere is the layer closest to the surface of Earth. Nearly all life and all weather occur in this layer. This is where the clouds are located and airplanes fly at within this layer. In this layer, the higher up from Earth's surface you go, the colder it gets. In other words, as altitude increases temperature decreases. The peak of Mt. Everest is near the top of this layer.



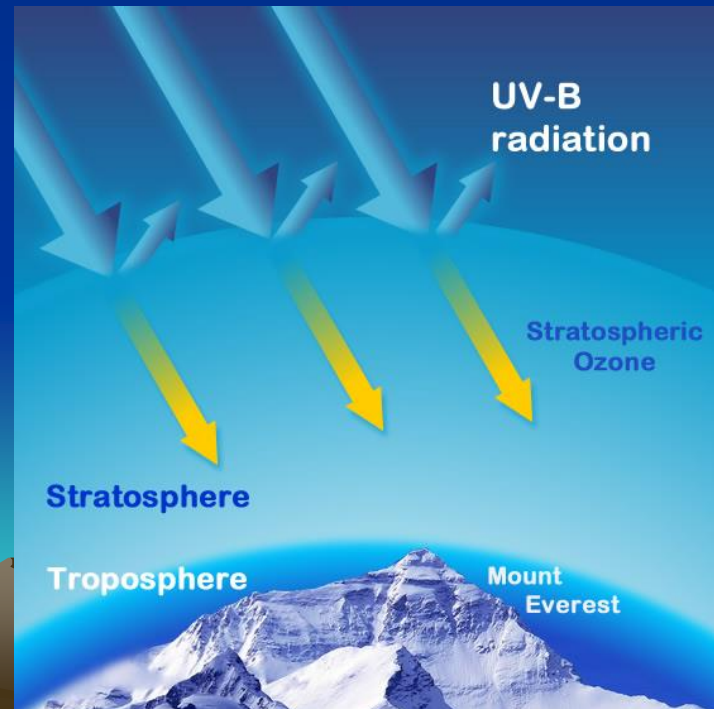
# STRATOSPHERE

The stratosphere starts out as a cold layer. However, the ozone warms up the upper region of this layer by absorbing the UV rays heat. The ozone layer absorbs harmful UV rays and protects the living organisms on earth from them. Military planes can fly here.



# What is the Ozone Layer

- A protective layer in the stratosphere that blocks harmful UV rays.
- However, it allows good sun rays through to heat up our Earth
- Without it, we would burn up.



## MESOSPHERE



The mesosphere is the middle layer. It's the coldest layer of the atmosphere that protects earth from meteoroids.. The meteoroids usually burn up in this layer. That might be surprising because it's a pretty thin layer.

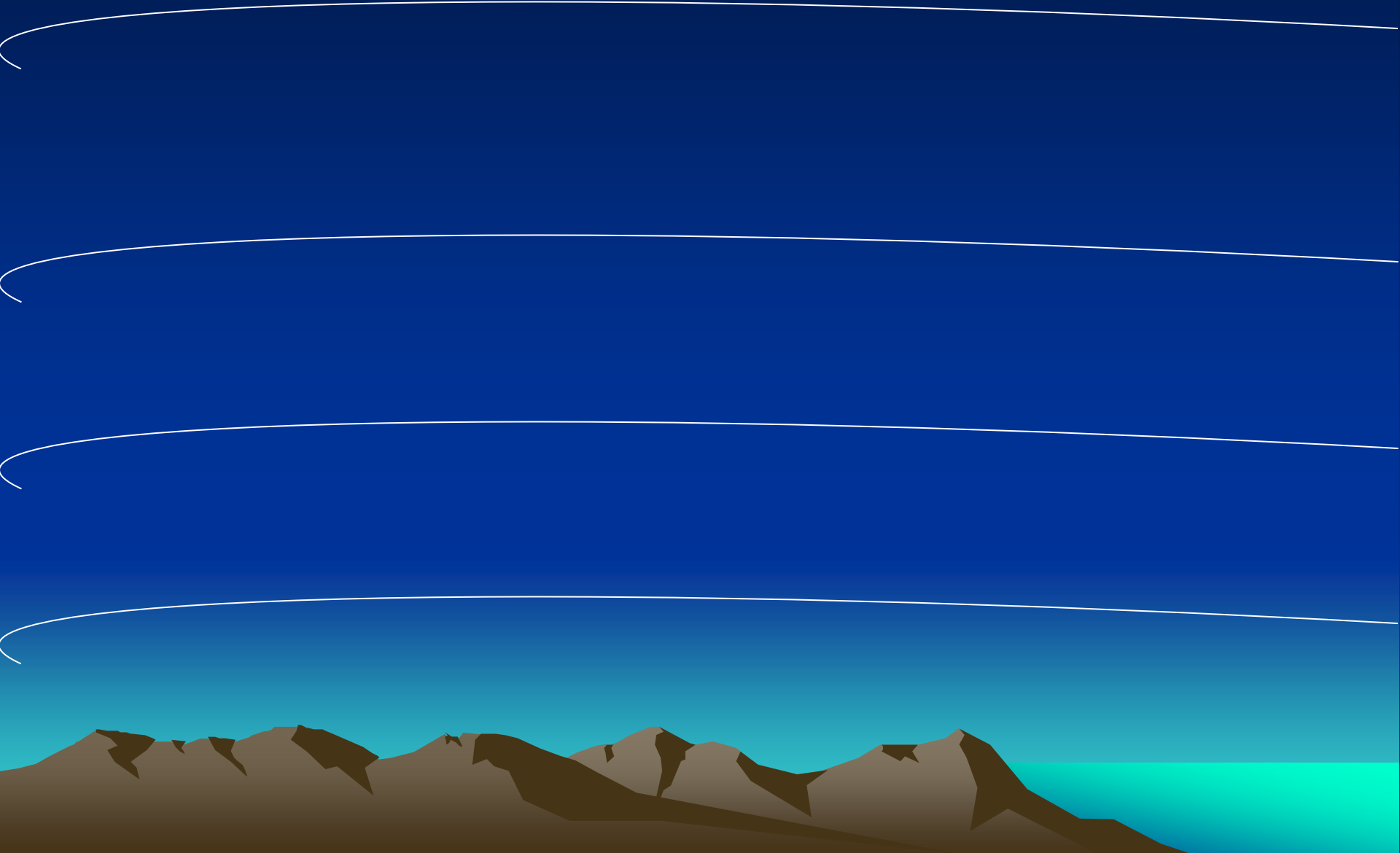
## **THERMOSPHERE**



Temperatures in the thermosphere are very high, more than 2000 degrees Fahrenheit. ( This is the hottest layer) and where space begins. The International Space Station orbits Earth in this layer.

# EXOSPHERE

The exosphere is the farthest layer extending from the thermosphere into outer space. This layer is cold. It gradually blends into outer space.



# Let's Learn some more by watching this study jam video

- <http://studyjams.scholastic.com/studyjams/jams/science/weather-and-climate/earths-atmosphere.htm>

\*\* As you watch the video add helpful study words to the inside flap of your foldable.

i.e. therm=heat and ex=outer

\*\* Then take the study jam quiz to see what you have learned.



**Exosphere**

A vertical cross-section diagram of Earth's atmosphere. The layers are labeled from top to bottom: Exosphere (darkest blue), Thermosphere (dark blue), Mesosphere (medium blue), Stratosphere (light blue), and Troposphere (lightest blue). The Troposphere is shown above a black silhouette of the Earth's surface with mountains. The background is a gradient from dark blue at the top to light blue at the bottom.

**Thermosphere**

**Mesosphere**

**Stratosphere**

**Troposphere**

**Earth**



# Visual Creation

