# **17.1 Atmosphere Characteristics**

## **Composition of the Atmosphere**

* Major Components:
	+ **Nitrogen** and **Oxygen** make up 99% of gas in the atmosphere

$$Argon CO\_{2} \& Other Gases$$

**1%**

$$O\_{2}$$

**21%**

* Variable Components Include:

$$N\_{2}$$

**78%**

**Water Vapor**

**Dust**

**Ozone**

Ozone **is a gas form of oxygen with three atoms. (**$O\_{3}$**)**

It is created by $O\_{2}$ **is split into a single *O*xygen atom by Ultraviolet Radiation and recombined with another** $O\_{2}$**molecule to form** $O\_{3}$

The Ozone Layer is only 3mm thick! It protects life on Earth by **absorbing Ultraviolet Radiation**.

1. **Height and Structure of the Atmosphere**
	* Pressure Change

Pressure **decreases** with an increase in altitude

* Troposphere
	+ **Sea level up to approx. 12 km**
	+ **All weather occurs here.**
	+ **Temp. drops because decrease in pressure**
* Stratosphere
	+ **12km up to 50 km**
	+ **Temperature starts to warm up because of ozone layer**
* Mesosphere
	+ **50 km to 80 km**
	+ **Temp. because air pressure drops**
* Thermosphere
	+ **80 km to 700 km (beyond this point is called Exosphere)**
	+ **Temp. because** $O\_{2}$**and** $N\_{2}$**absorb short-wave high-energy solar radiation.**