Earth's Atmosphere

What is it?

- atmo- vapor
- sphere- ball
- Thin layer of gases that surrounds Earth
- Allows living things to live
- Protects the Earth from solar radiaon and rocks in outer space

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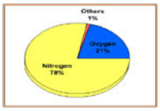
Composition of the Atmosphere



- Made up of nitrogen, oxygen, carbon dioxide, water vapor and other gases

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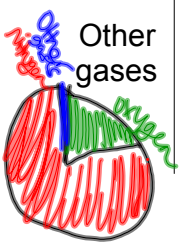
Nitrogen

- most abundant gas in the atmosphere- 78%

Oxygen

- second most abundant gas in the atmosphere- 21%
  - ozone- form of oxygen
- Nitrogen and oxygen found in ALL layers

Other gases



- make up the remaining 1 %
- argon and carbon dioxide is the majority of that 1%
  - water vapor and carbon dioxide are needed for the weather to occur

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Properties of air

- has mass
- has density
- has pressure

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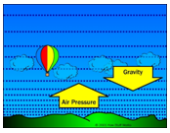
Air pressure



-force pushing on an area or surface
-also known as atmospheric pressure
-changes day to day
-measured using a barometer- unit is inches (in) or millibars (mb)
-decreases as altude increase
-density also decreases so it is harder to breathe the higher up you are

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Troposphere

- "tropo"- turning or changing
- from ground to 12 km
- contains almost all the mass of the atmosphere
- Where all weather occurs
- Airplanes fly here
- As altude increases, temperature decreases
- Water vapor and carbon dioxide found here

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Jet Stream

- fast moving ribbon of air
- located between the troposphere and the stratosphere
- helps move weather paerns

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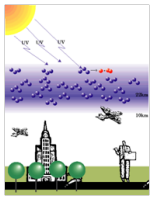
Stratosphere



- from 12 km to 50 km
- contains the ozone layer
  - protects Earth from ultraviolet radiaon
- lower stratosphere is cold (-60*C)
- upper stratosphere is warmer
  - middle poron of stratosphere has a layer of air with lots of ozone
  -absorbs solar energy
  -then heat rises into upper stratosphere

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Mesosphere

- "meso"- middle
- from 50 km to 80 km
- protects Earth from being hit with meteoroids
- temperature drops as altude increases

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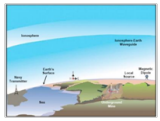
Thermosphere



- "thermo"- heat
- 80 km and beyond
- no definite outer limit
- Hoest layer- up to 1,800 * C
  - solar energy reaches this layer first
- Divided into 2 layers
  - Ionosphere and exosphere

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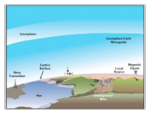
Ionosphere



- from 80 km to 400 km
- solar energy causes gas parcles to become electrically charged called ions
- radio waves bounce off ions
- light displays also occur here
  - Aurora Borealis

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Exosphere

- "exo"- outer
- from 400 km and beyond
- Outer space
- Space shules fly here

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