

ATMOSPHERE NOTES

What is it?

- _____ is a mixture of gases that surrounds Earth.
 - Contains _____ you breathe
 - Protects from sun's rays
- The atmosphere is always changing.
- It protects living things from _____ from the sun, and from being hit by chunks of most space rocks, like meteors and asteroids!!
- Not what you think!
 - 78% _____ (N)
 - 20.95% _____ (O)
 - 0.98% _____ (Ar)
 - 0.038% _____ (CO₂)
 - Trace amounts of other gases and dust
 - About 1% water vapor

Water Vapor

- _____ in the air exists as liquid droplets, and solid water (snow and ice) and the rest is water vapor
- Water vapor is an _____ gas.

Air pressure

- _____ is the measure of the force with which air molecules push on a surface
 - It is strongest at Earth's surface because there is more air above you.
 - As you go up in _____, away from the sea level, fewer gas molecules are above you and air pressure decreases

Layers of the Atmosphere

- Based on _____, divided into four main layers
- Each ends in "sphere"
- _____ means "turning" or "change" since the troposphere is always changing
- _____ means "layer" since the layers do not mix there
- _____ means "middle"
- _____ means "heat" since it is the hottest
 - _____ means "outside"
- There are 4 layers in the atmosphere
- They are the _____, mesosphere, _____, and stratosphere

Layers of the Atmosphere: Troposphere

- This is the layer that is _____ to the surface of the earth
- It's elevation ranges from 0 to 10 km
- Rain, _____, storms, and most _____ occur here.

Layers of the Atmosphere: Stratosphere

- This layer sits on top of the troposphere
- It's elevation ranges from 10 km to around 25 km
- This layer contains the _____ layer, which protects us from harmful _____

Layers of the Atmosphere: Mesosphere

- This layer is above the stratosphere
- It's elevation ranges from 25 to 100 km
- Most _____ burn up in this layer, producing meteor trails.

Layers of the Atmosphere: Thermosphere

- This is the _____ layer of the atmosphere
- It's height ranges from 100km. It has not definite outer limit
- This is where most small meteorites burn up and is also the location in the atmosphere that the northern lights occur (aurora borealis)
 - _____
 - Lower level of the _____
 - begins 80 kilometers above the surface and ends at 550 kilometers.
 - Energy from the sun causes gas molecules in the ionosphere to become electrically charged particles called ions.
 - Radio waves bounce off ions in the ionosphere and then bounce back to Earth's surface.

▪ The Exosphere

- the _____ layer of the thermosphere.
- The exosphere extends from 550 kilometers outward for thousands of kilometers
- When you make a long-distance phone call or watch television, the signal may have traveled up to a satellite orbiting in the exosphere and then back down to your home.
- _____ are also used for watching the world's weather and carrying telescopes that look deep into space

