Key

13.3: Layers of the Atmosphere – Notes

* Four main layers classified according to changes in temperature

THERMOSPHERE

Altitude: 80km above surface (almost) it has no distinct limit

Temperature: air very hot → 1,800°C b/c sunlight strikes here first

Observations: * temp increases w/height
- outermost layer
- doesn't feel warm b/c molecules are far apart and don't collide w/you.
- auroras happen here. Ionosphere (lower part) 80km–400km + Exosphere (upper part) 400km+

MESOSPHERE

Altitude: begins @ 50km above surface to 80 km (top of stratosphere)

Temperature: -90°C in upper part * temp decreases w/height

Observations:
(middle layer)
- protects Earth from meteorite impacts

STRATSOPHERE

Altitude: top of troposphere to about 50km

Temperature: lower stratosphere cold (-60°C), but warmer at top of layer!! * temp increases w/height!!

Observations:
- contains the ozone layer, which filters out UV light + warms up that layer when ozone absorbs sun's energy

TROPOSPHERE

Altitude: about 0-12km

Temperature: as altitude increases, temp decreases 6.5°C for every 1km increase in altitude

Observations:
- weather occurs here (rain, snow, most clouds)
- makes up almost all the mass of atmosphere
- therefore equals most pollution

* Highest level

* Lowest level