Lecture Notes from 9/6

The Local Neighborhood: Our Solar System

The Sun • all heat comes from the Sun (what we're worried about

The Earth - Moon System:

Earth • has an atmosphere consisting of ↓ which blocks harmful e/m

78% Nitrogen - came from volcanoes (earth's atmosphere)

e/m - electromagnetic

21% Oxygen

1% Argon

Trace Gasses

• No hydrogen and helium - too light can't be found

Energy get from Sun to Earth = Electromagnetic radiation.

(black surfaces vs. white surfaces)

Radiation ①

② - Conduction - something hot w/ something cold → mix

- How heat gets from Earth to the air.
- Air is a lousy conductor of heat but the surface air is massive therefore there's a great impact
- conduction is an inefficient mechanism.
- 12 inches from the surface is where most of the conduction takes place

③ convection - (boiling water - ex)

Clouds -

Earth has gained 1° every year

• Atmosphere redistributes heat - controls radiation.

Greenhouse Effect = not radiated same amount of heat back into space

(carbon dioxide)

trapped in the atmosphere - planet starts to get really hot.

← Earth

- Water
  - Frozen water is less dence than just water
  - Ice floats on water ↑
- Have Internal Heat =
  - Comes from the Core → radioactivity (heavy elements decaying)
- Have a Strong Magnetic Field (Because of heat from the core →)
  - Benefit = Keeps out radiation (keeps out charged particles from the sun.)
- Rich in Silicates
- Freeze-thaw - most responsible for Shaping the earth or change of landscape.

1 AU from the Sun

Ecliptic = 0