WEATHER

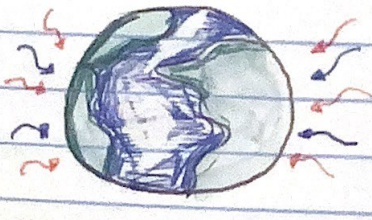
2.14.23

Weather - the condition of Earths atmosphere at a Speafic place and time

Why do we have weather?

Closer to the Equator hotter

- Energy from the Sun



Creates global wind patterns that drives weather

The suns rays hit Earth and Earth absorbs it unevenly

Reason: Earth isn't smooth

What does Weather include?

- Air Temperature
- Cloud cover
- Amount of sunlight
- Relative humidity
- Precipitation
- Pressure
- Wind speed + direction

23.5° tilt

America - a big percentage of fronts coming to the USA from the Pacific Ocean

- influenced by Pacific Ocean global wind patems

#1 effect of weather

#2 effect is Laditute

Scenario: Why are Tennessee and London close to the same temperature?

Tennessee - 39° Laditute
London - 40° Laditute

Wind Patterns

London - off the coast of Atlantic and has Southernly flow

Global wind Patterns

TURN PAGE (Series)

#2

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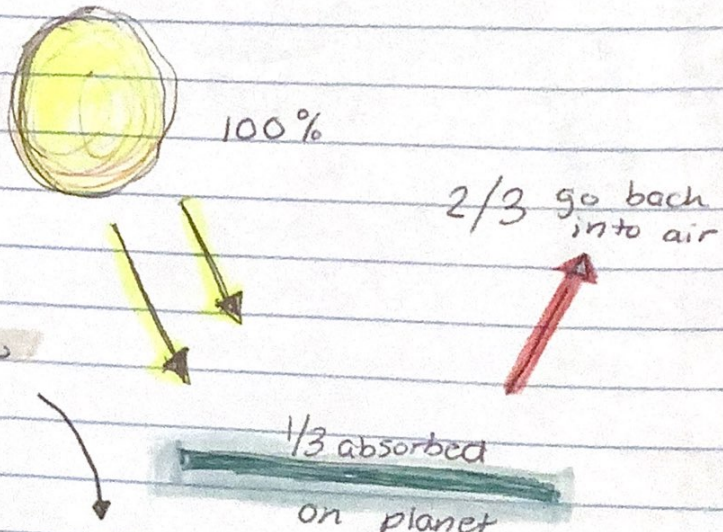
Temperature - amount of heat in a substance / can be measured by thermometer

- Troposphere - made up of Nitrogen (most), Carbon Dioxide, Oxygen
  - Part of Atmosphere

Clouds



* Check in Study Guide notes in HW folder to explain how clouds are made
- Provide precipitation
- Can hold in heat

Alto = middle

* Evaporation also comes from runoff

Scenario: When it is summer and the clouds come it gets COLDER because the clouds block the sun.

THREE TYPES OF CLOUDS

Cirrus - highest in atmosphere (made up of ice)
"featherline and wispy"

Cumulus - MOSTLY in mid-atmosphere, Dynamic → can be lots of weather
"big, fluffy cotton balls"
↘ biggest range in diversity

only Cumulus makes rainy storms
Nimbus

Stratus - lowest in atmosphere
"blanket across the sky"
* If it does not have "Nimbo or Nimbus then it is fair weather

Nimbostratus - can be rainy or snowy (grey)
That changes from

#3

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Warm air - less dense
Cold air - more dense
↓
more mass in a particular cubic unit

Earth's tilt makes this

Low pressure - active weather

High pressure - fair weather

4 TYPES OF PRECIPITATION

- Rain - precipitation falling through the atmosphere above freezing and also hits the ground above freezing
- Snow - precipitation in which the air is below freezing and below freezing on the ground.
- Sleet - precipitation in which the air is freezing but when it falls warm air rushes in which it makes it into ice pellets. (started as snow)
- Hail - precipitation in a thunderstorm and freezing or freezes and falls to a surface above freezing (sometimes small "At least 5mm" or big)
- Freezing Rain - precipitation (rain) that falls like rain until it hits below freezing surfaces and freezes up.

ANEMOMETER - a device to measure wind speed

* If rain (is high enough up) starts as frozen and then changes to rain all the way down.

PRECIPITATION - water that falls from the sky

HUMAN IMPACT 2.15.23

* Humans burn coal, oil and natural gas which realeases huge amounts of carbon dioxide along with methane (from landfillers) and nitrous oxide (from fertilizers)

* humans also cut down trees → NEGATIVE

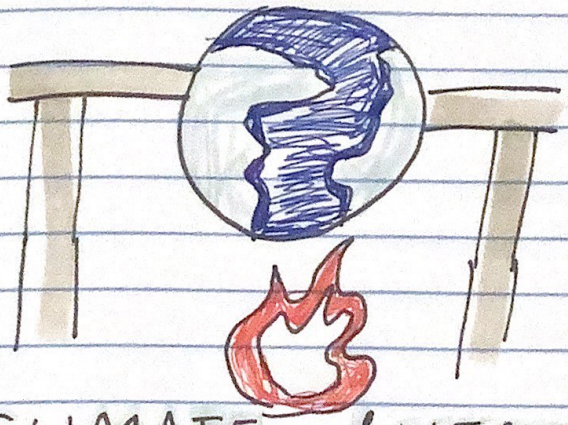
↓

Trees job?- to filter out carbon dioxide into oxygen → higher levels of carbon dioxide in the atmosphere.

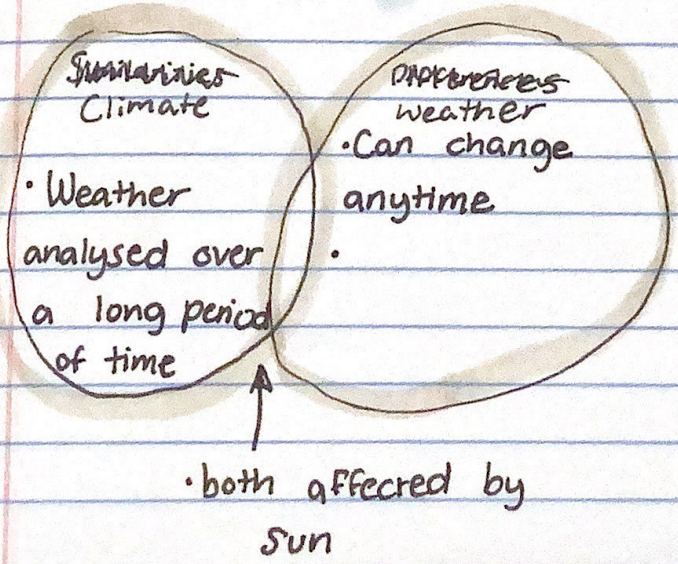
* The Earth is warmed by a greenhouse effect in which the atmosphere reflects and traps heat

↓

Our actions INTENSIFY the greenhouse effects which is referred to as GLOBAL WARMING which comes with intensified weather



CLIMATE & WEATHER



• both affected by Sun