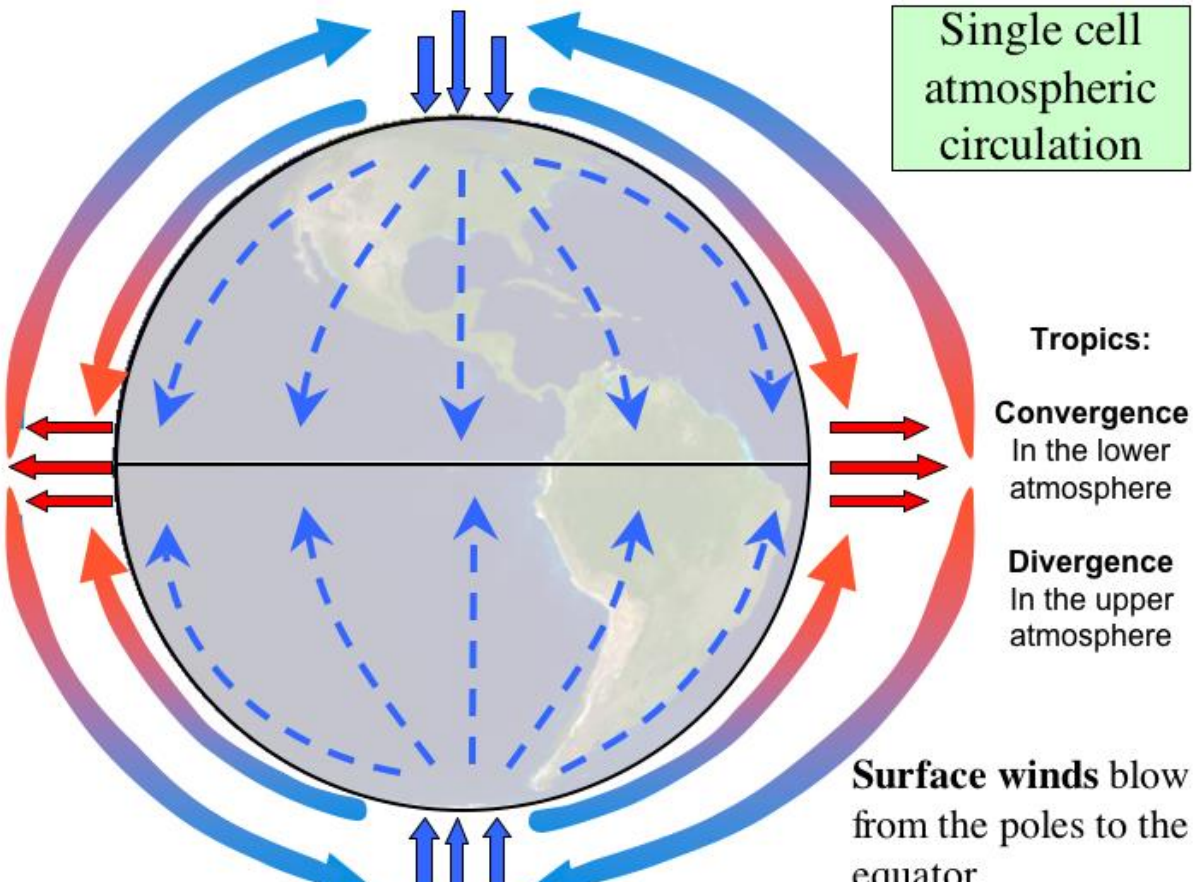
Air moves from high-pressure to low-pressure areas causing WIND

Atmospheric Circulation (Convection)

- The warm air at the equator rises in the atmosphere and goes towards the poles where it drops down.
- The cold heavy air from the poles moves toward the equator

- The motion is due to energy variations caused by the sun's radiation and the rotation of the Earth.



Air Masses

- Air Masses are enormous expanses of air that move together and interact with other air masses to create weather patterns.

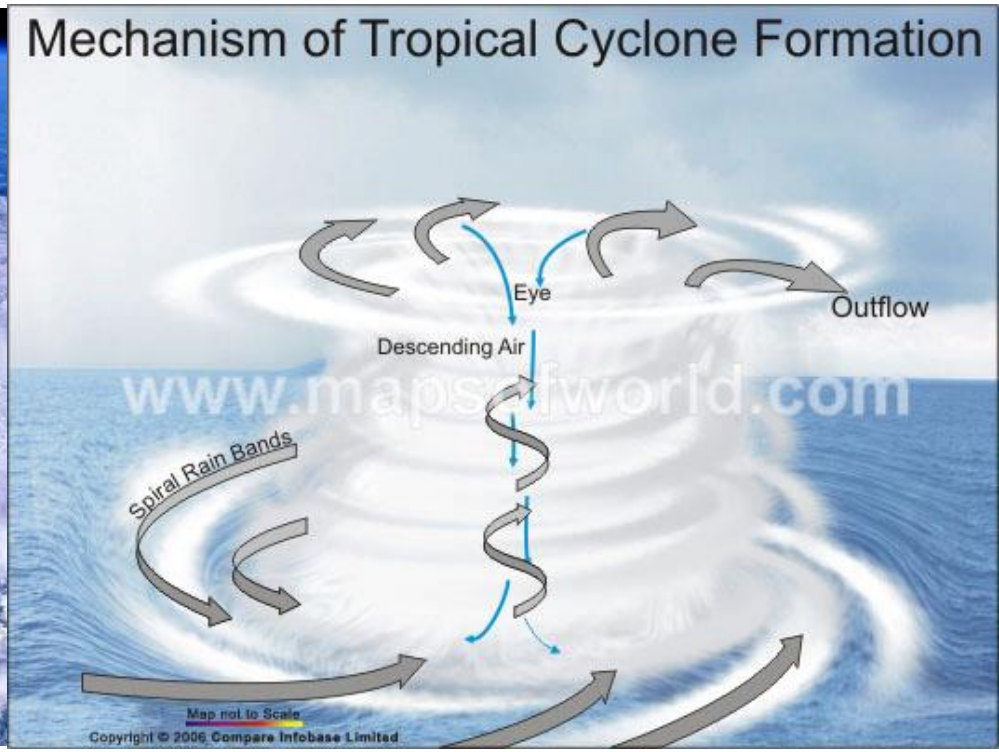
They have relatively uniform temperatures and humidity that come from where they formed:

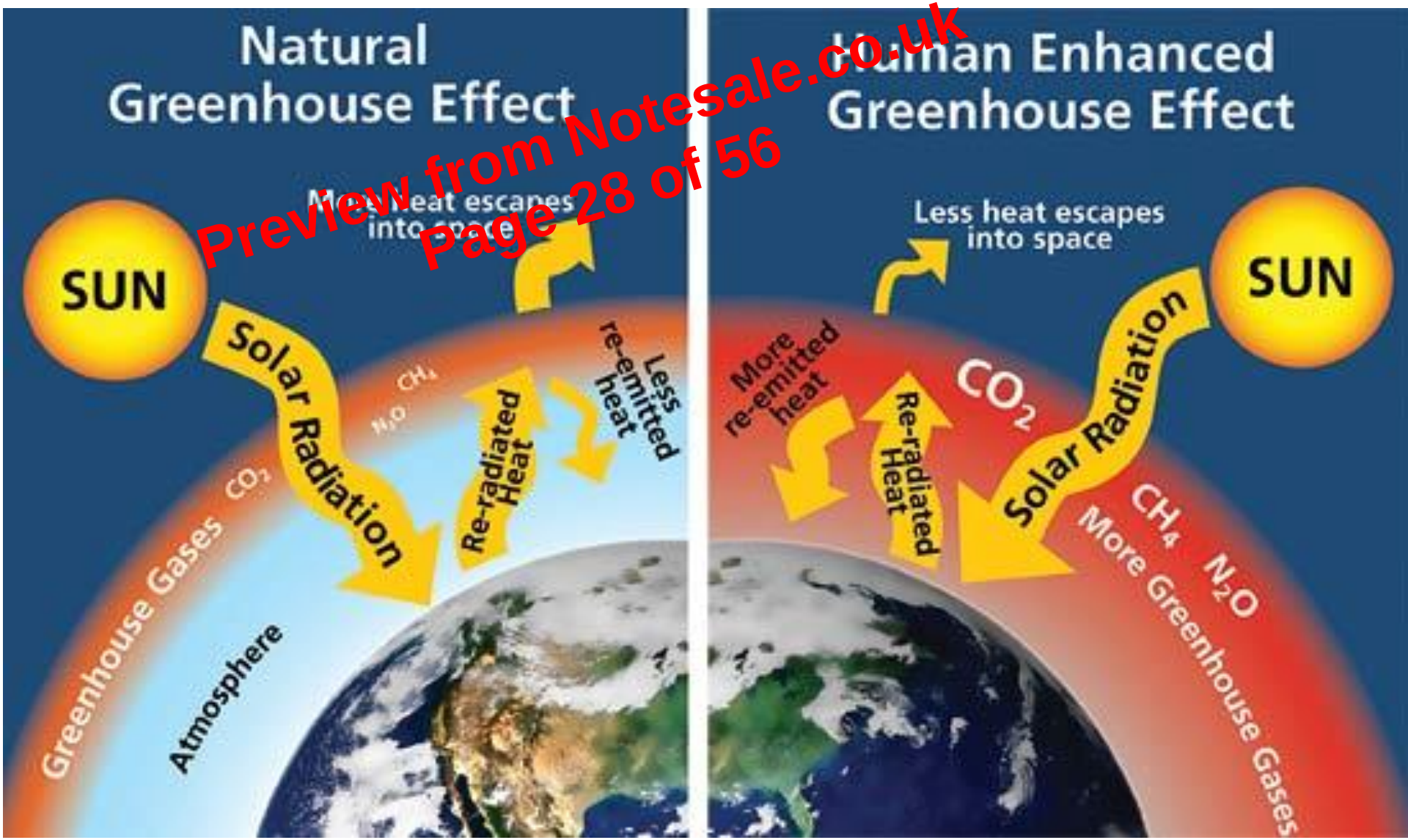
Forms over warm ocean: Hot-moist

Forms over arctic continent: cold-dry

Cyclone

- A tropical storm with violent winds revolving around a low pressure center.





Depletion of ozone layer

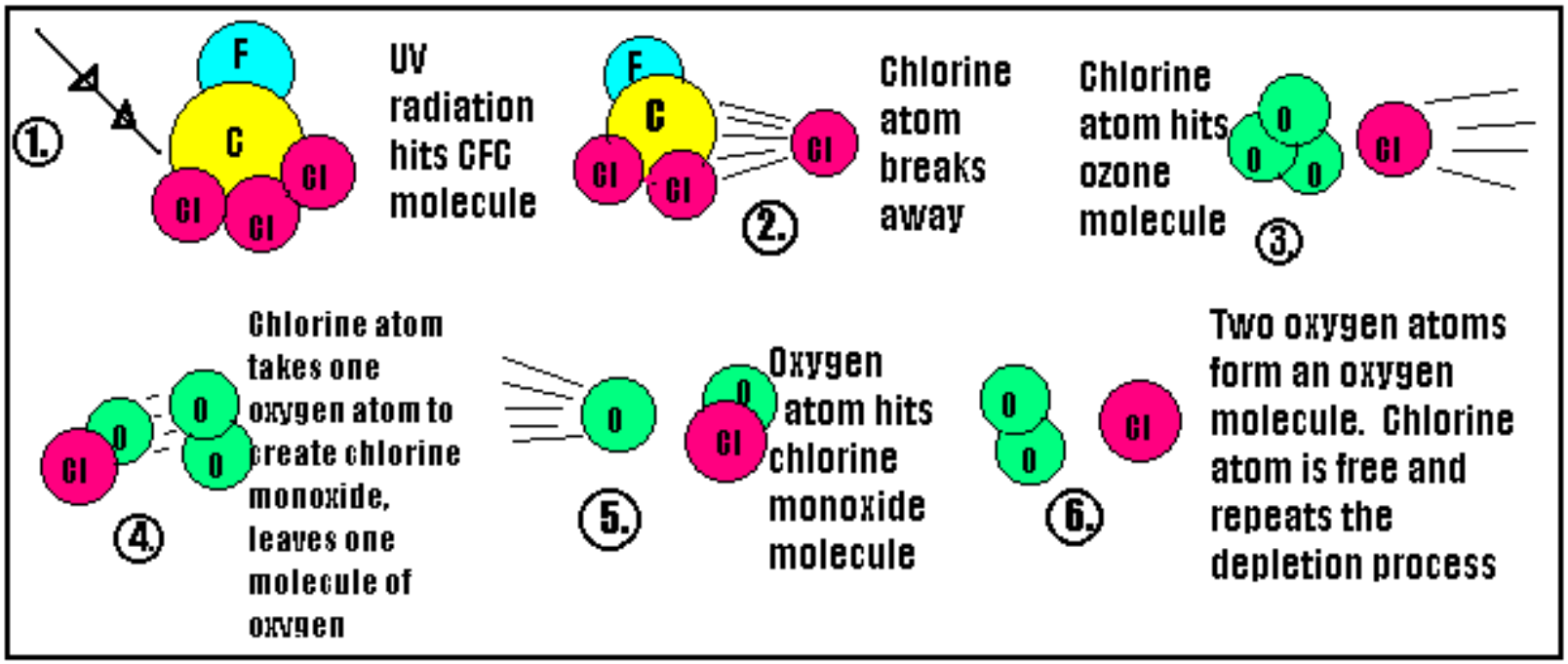
1. **What chemicals threaten the ozone layer?**

- CFC's, which are found in older air conditioners and refrigerators, release Cl in the stratosphere.

There: $Cl + O_3 => ClO + O_2$

$ClO + O => O_2 + Cl$

Cl is recycled and free to attack more ozone.



Solar Radiation

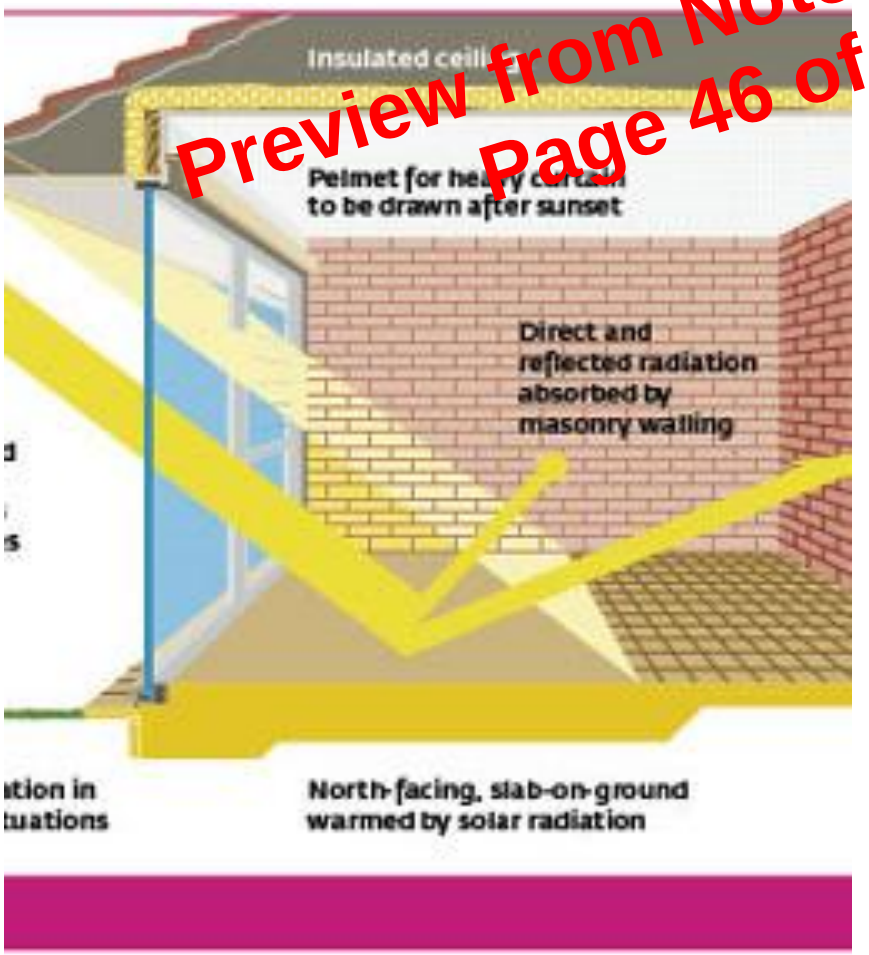
<u>Solar Energy</u> is caused by nuclear fusion of hydrogen atom into helium atom in the sun

- 75% Hydrogen
- 25% Helium
- 15 million degrees Celsius
- Electromagnetic wave energy

<u>Kinds of Radiation that reach Earth's surface:</u>

- Infrared, UV, Visible light

Solar Energy



- **<u>Passive Heating:</u>** Sunny side windows with concrete to absorb heat and release it later
- Increases the heating efficiency of the house but much is lost through windows, roof, walls.

Moon origin