

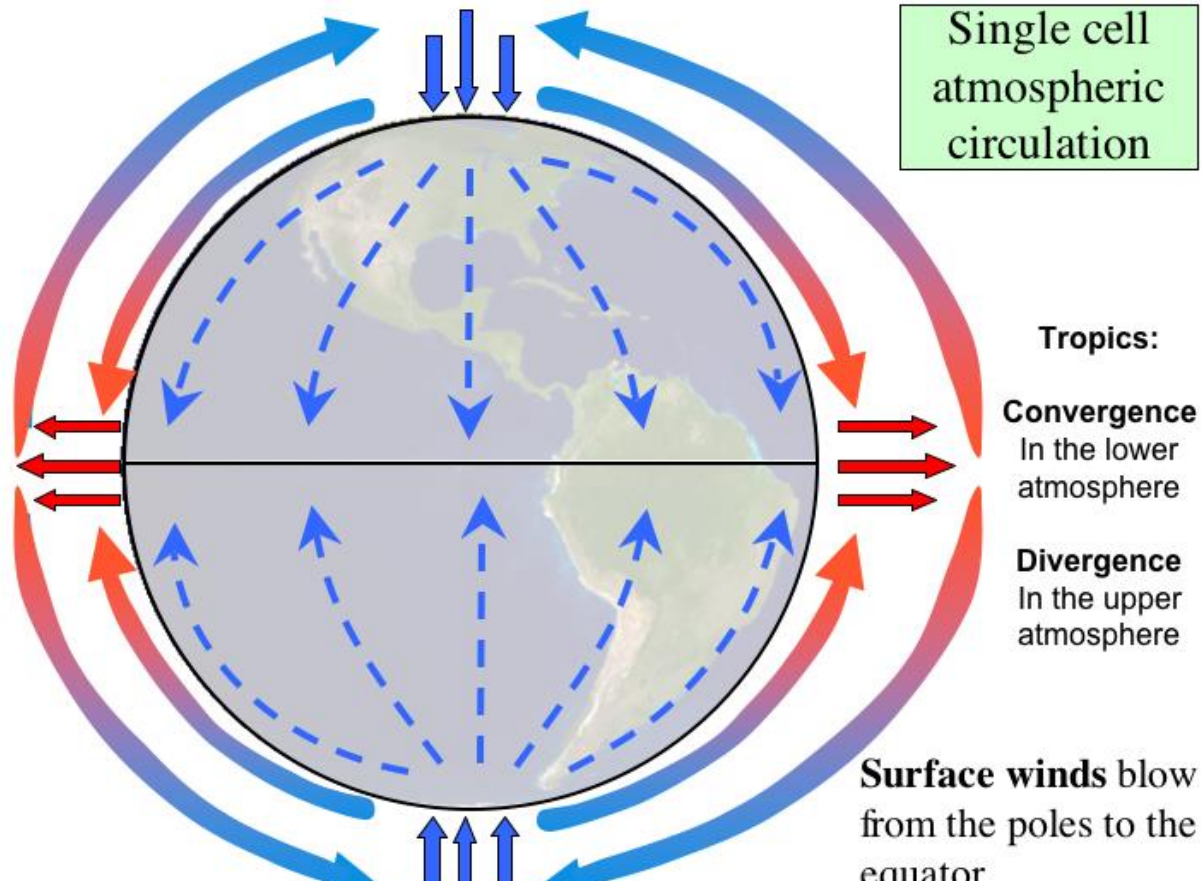
Air moves from high-pressure to low-pressure areas
causing WIND



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:

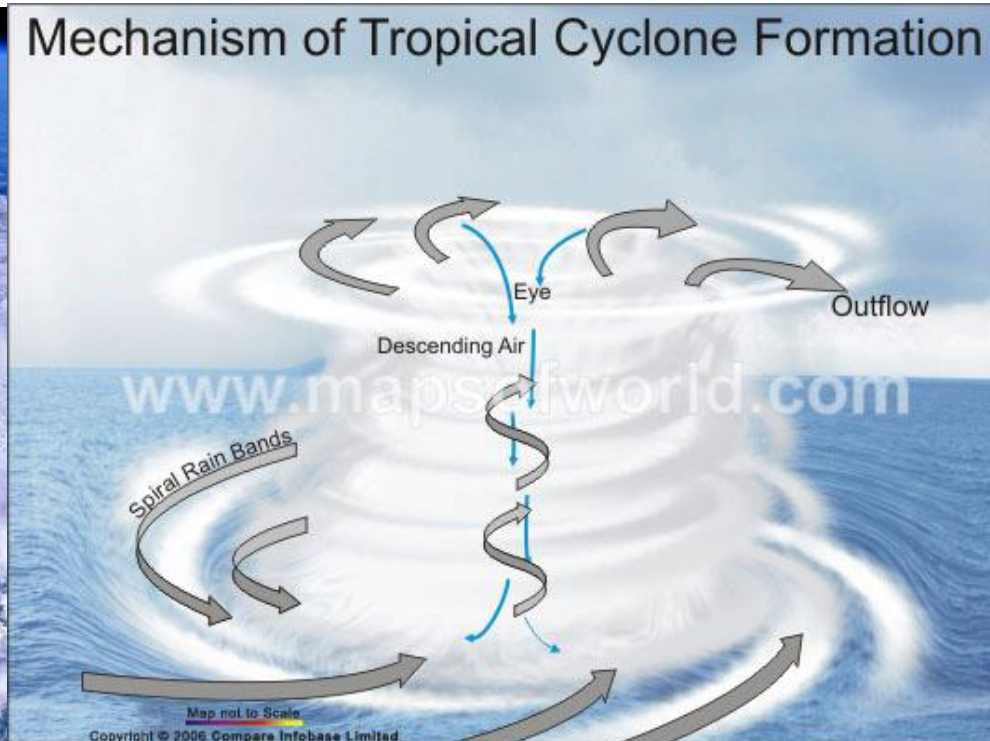
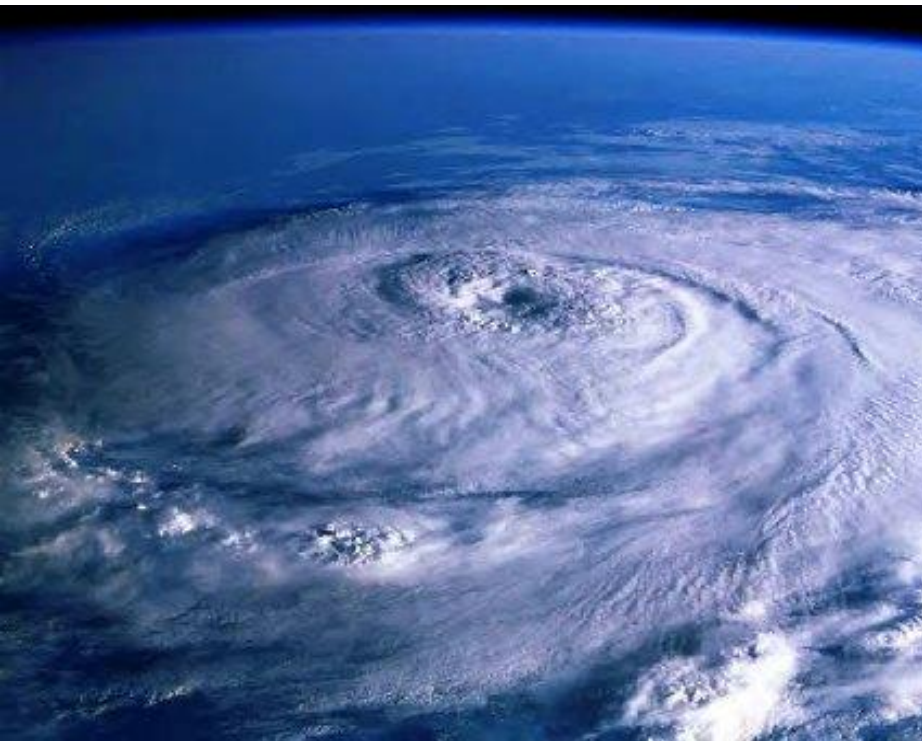
Forms over warm ocean: Hot-moist

Forms over arctic continent: cold-dry

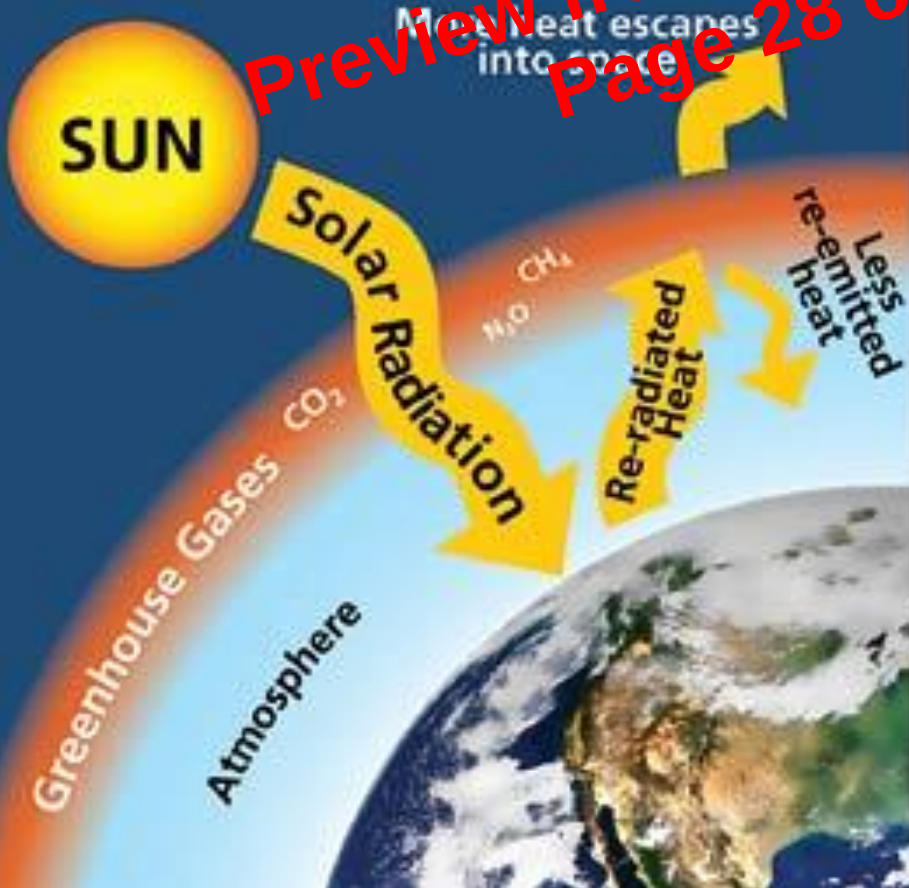
Cyclone

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

Preview from Notesale.co.uk
Page 25 of 56



Natural Greenhouse Effect



Human Enhanced Greenhouse Effect

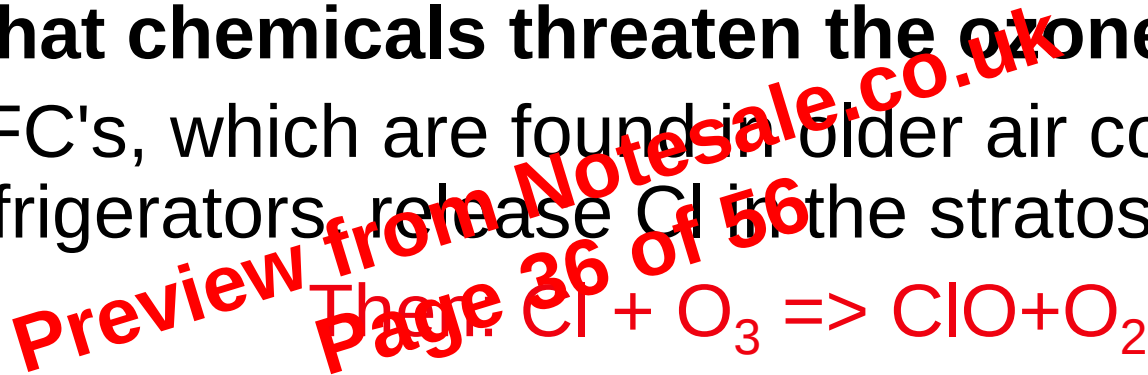


Preview from Notesale.co.uk
Page 28 of 56

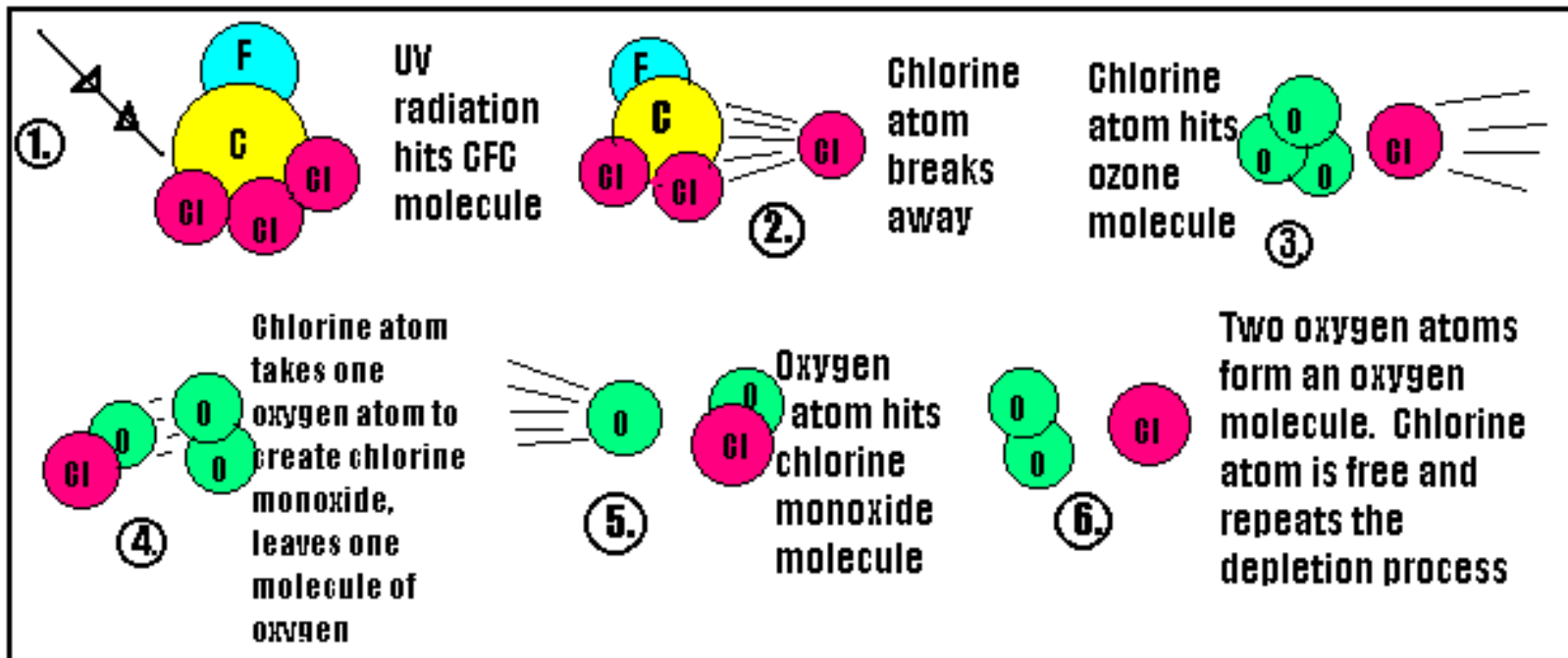
Depletion of ozone layer

1. What chemicals threaten the ozone layer?

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



Cl is recycled and free to attack more ozone.



Solar Radiation

Solar Energy is caused by nuclear fusion of hydrogen atom into helium atom in the sun

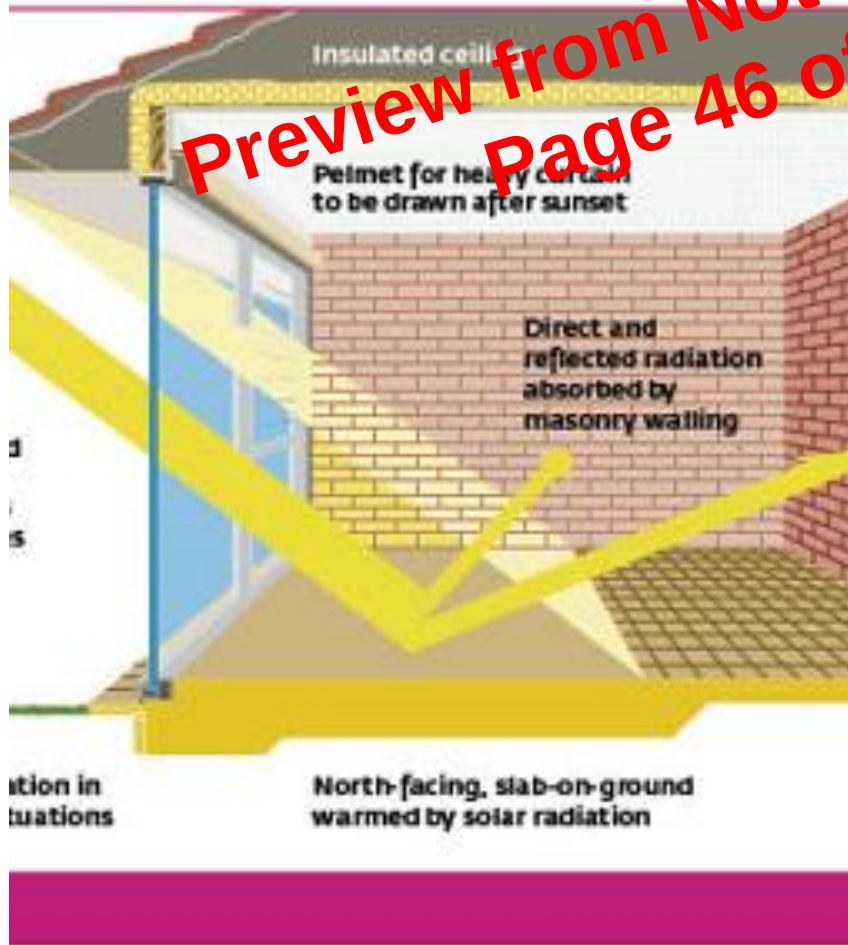
- 75% Hydrogen
- 25% Helium
- 15 million degrees Celsius
- Electromagnetic wave energy

Kinds of Radiation that reach Earth's surface:

- Infrared, UV, Visible light



Solar Energy



- **Passive Heating:** 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

Preview from Notesale.co.uk
Page 49 of 56

During middle to late stages of Earth accretion, about 4.5 billion years ago, a Mars-sized body impacted the Earth.

...and the giant impact quickly propelled a sheaf of debris from both the impactor and Earth into space.

Impactor

Earth

4.2 min. after impact

8.4 min.

125 min.

The impact sped up Earth's rotation and tilted Earth's orbital plane 23°.

Earth re-formed as a largely molten body...

...and the Moon aggregated from the debris.

Ancient moon rocks brought back by the Apollo astronauts support this impact hypothesis.

