

HEATING THE ATMOSPHERE

15-3
542-545

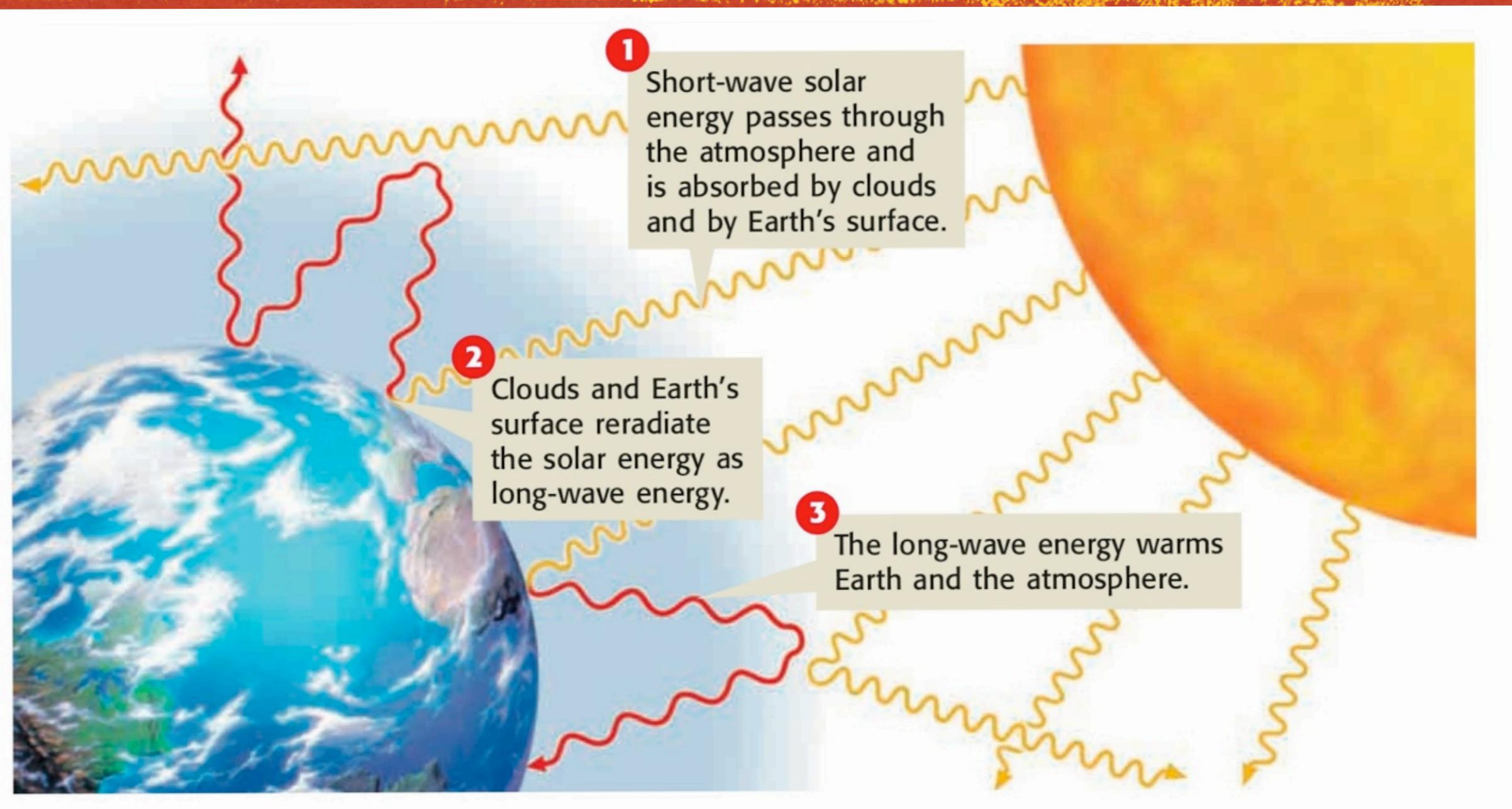
ENERGY TRANSFER

- Energy
- Main source - Sun
- Light heats land - then land heats atmosphere
- 3 types of energy transfer
 - radiation
 - convection
 - Conduction

ENERGY TRANSFER

- Radiation
 - transfer by electromagnetic waves
 - no medium needed
 - Visible Light - most common
 - Infrared & Ultraviolet others

ENERGY TRANSFER

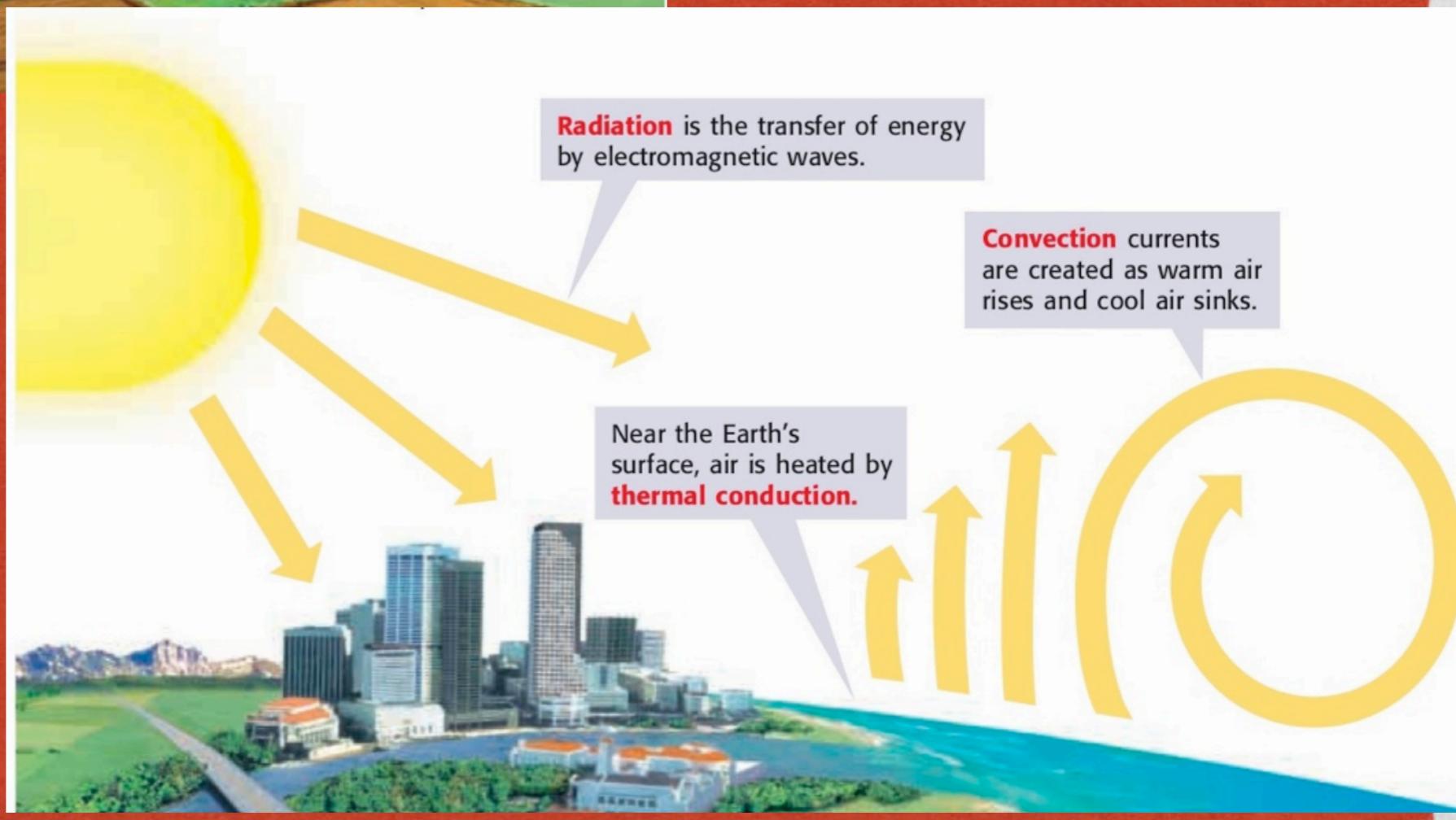
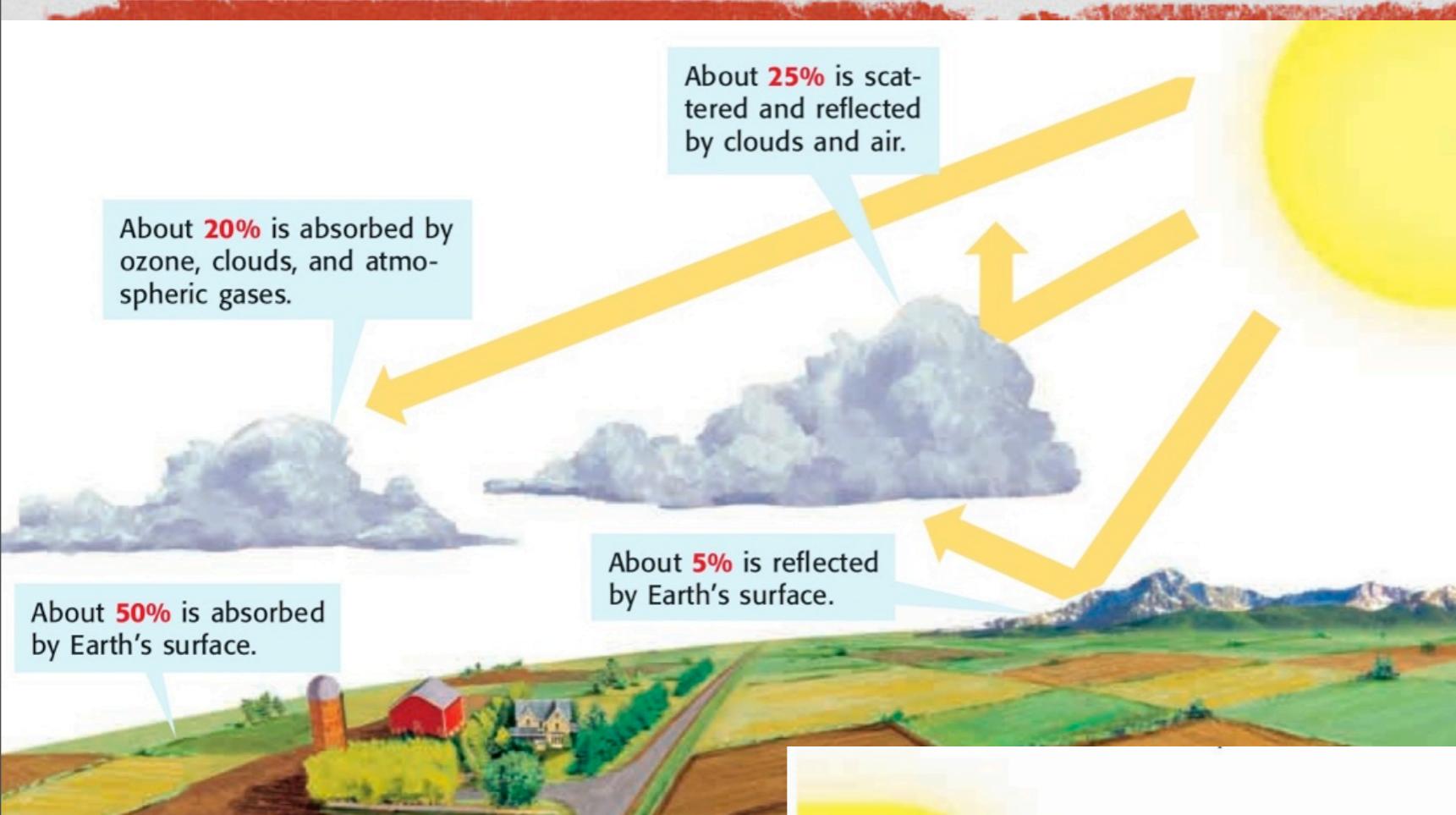


ENERGY TRANSFER

- Conduction
- Transfer through direct contact with material
- Always transfer from warm to cold
 - air touches Earth's surface
 - you touch a hot pan

ENERGY TRANSFER

- Convection
 - Transfer through fluid movement
 - Hot rise, cool sink
 - Most energy transferred this way in atmosphere



ANGLE OF LIGHT & EARTH

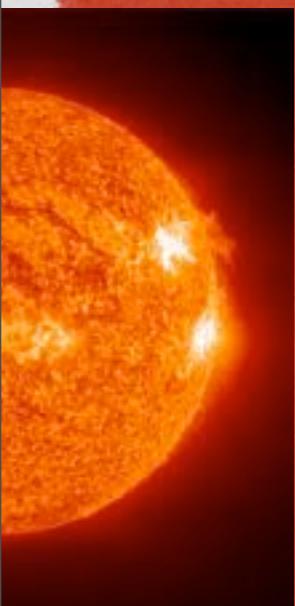
- Sun Light

- Earth tilted 23.5° - causes angles of light to change
 - Latitude effects degree of angle change

- Seasons

- caused by latitude and path around the sun
 - changing angles of light on Earth

ANGLE OF LIGHT & EARTH



60° 

90° 

30° 

ABSORPTION & REFLECTION

- Solar Energy Breakdown
 - 30% - Reflected back into space
 - 51% absorbed by Land and Water
 - 23% by the oceans
 - 19% - Atmosphere
 - 3% - clouds

ABSORPTION & REFLECTION

