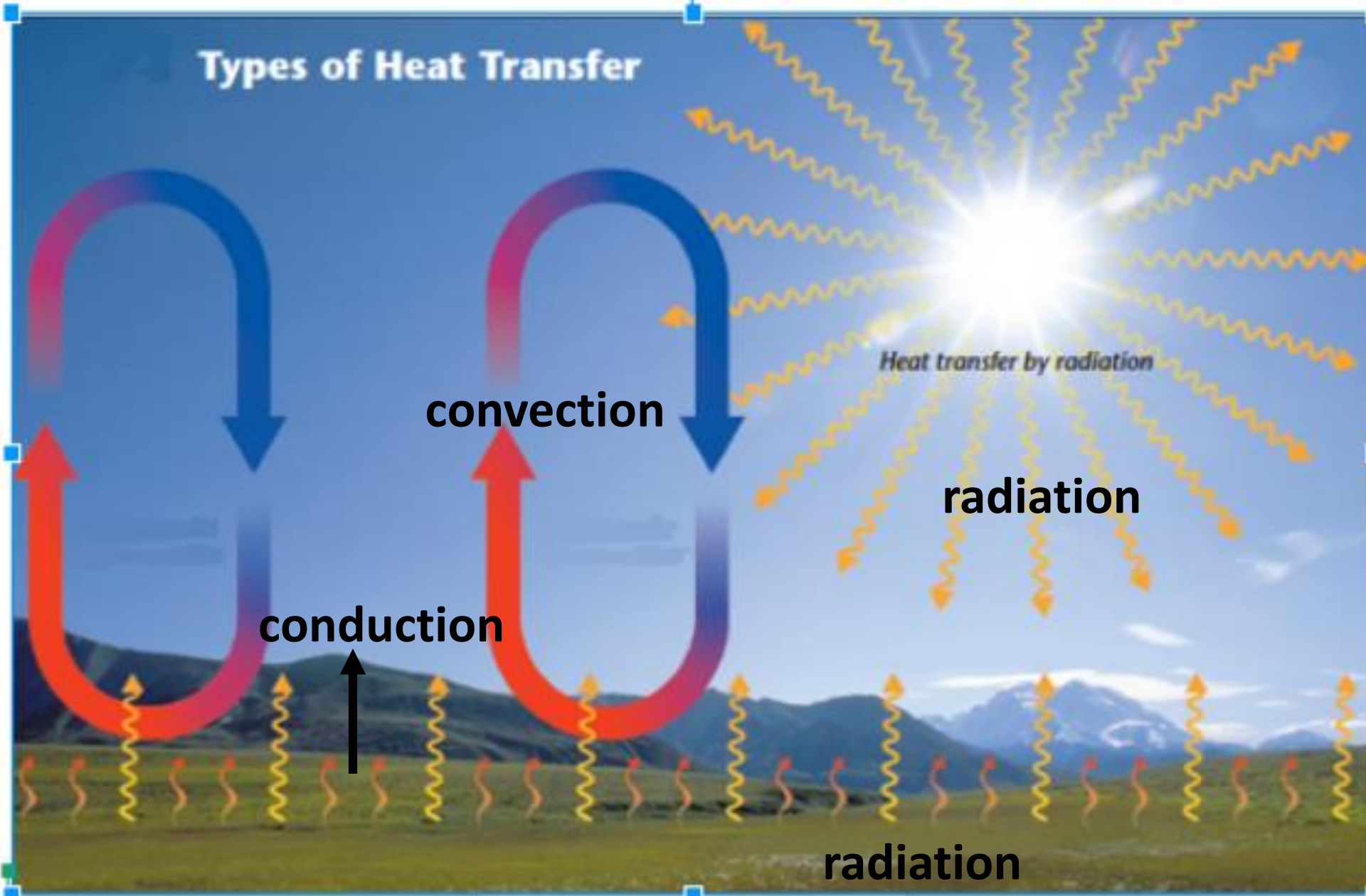


Types of Heat Transfer



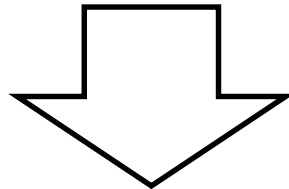
Heated air molecules bump into others and transfer heat



RADIATION

The direct transfer of ENERGY by light waves
50% of sunlight reaches the Earth's surface

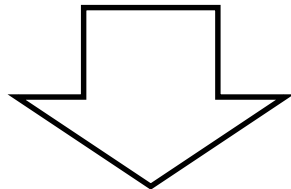
50% of this light is ABSORBED by the
SURFACE (ground, water, etc.)





Surface releases some of this energy as
INFRARED light

This infrared (heat) E is TRANSFERRED to air
molecules near the surface

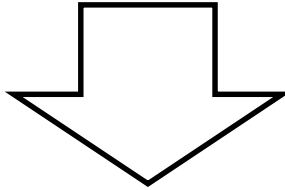


CONDUCTION

Transfer of heat by direct CONTACT

These heated up molecules BUMP into
other molecules near the surface and

TRANSFER heat to them





CONVECTION

transfer of heat by

MOVEMENT of large volumes

of air – hot air rises (because it is

less dense) and cool air sinks,

creating a current

Reflected back to outer space by clouds, air molecules and reflective surfaces.

Sea level to 12 km above

Weather and life

N₂ and O₂

CO₂, H₂O and noble gases

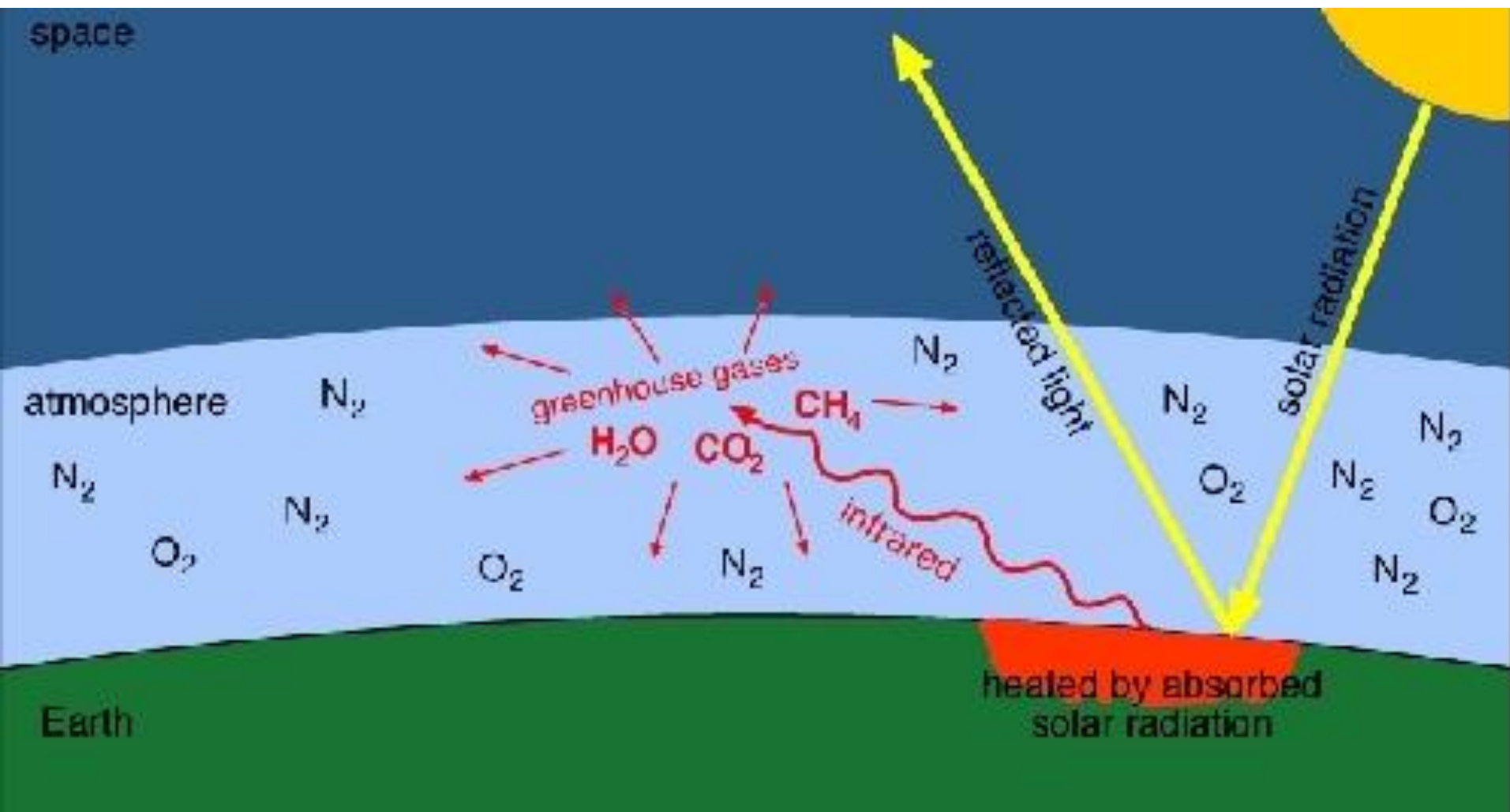
Gravity pulls air molecules towards the earth's surface; air pressure occurs because of the weight of the column of air above pushing down on objects/surfaces below.

In all directions; otherwise, you would be smooshed

Air density and therefore air pressure decreases as altitude increases (due to gravity pulling much of the air into the lower troposphere)

Scattering of visible blue light waves

CO₂ and H₂O



The phenomena of greenhouse gases absorbing some of the infrared light radiated from the earth's surface and then releasing some of this heat energy into the troposphere (keeps the troposphere much warmer than without the phenomena)

The Blue Sky

Oxygen and Nitrogen molecules in the Air are the right size to scatter blue light best.

Thus if you look anywhere but at the Sun you see the scattered, Blue Light.

