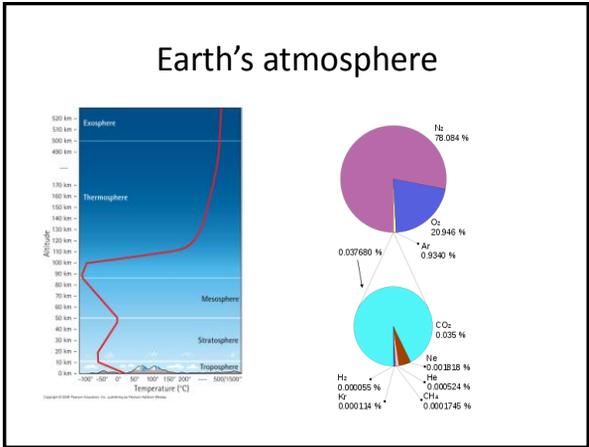


Oceans and atmosphere

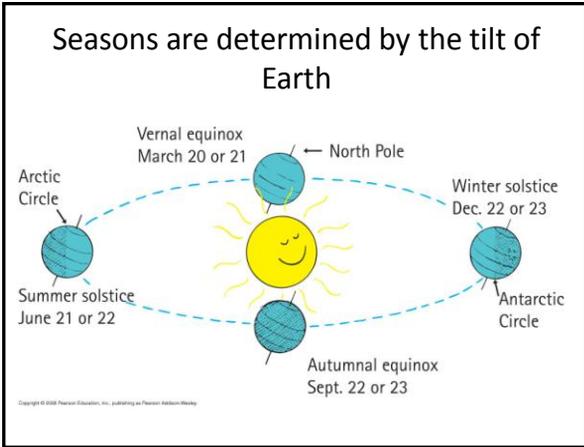
GS 106



Solar energy: why the equator is warmer than the poles

Which of the following best explains why equatorial regions are warmer than polar regions?

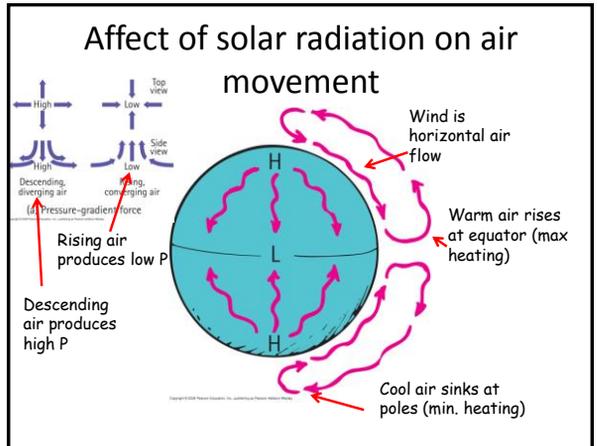
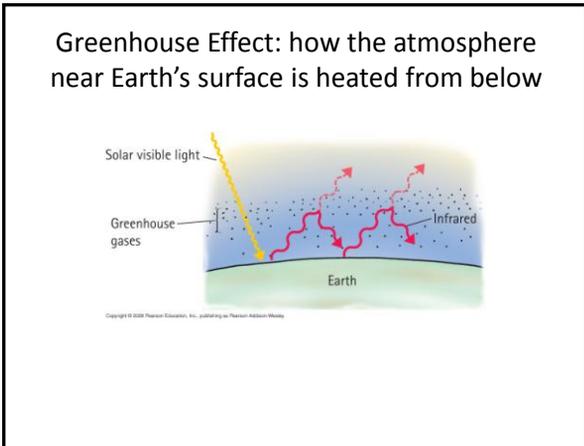
1. Equatorial regions are closer to the Sun
2. Equatorial regions have warmer ocean currents
3. Equatorial regions have warmer winds
4. Equatorial regions receive more concentrated solar radiation



Which of the following best explains the cause of the seasons?

1. Earth gets closer to the Sun in the summer, further away in the winter
2. ✓ Earth's tilt affects the angle at which solar radiation strikes a given location
3. Summers occur when volcanoes are most active

Earth gets closer to the S.	33%
Earth's tilt affects the ang.	33%
Summers occur when vol.	33%



Winds flow from High P to Low P

Wind direction

Higher pressure Lower pressure

Earth's rotation deflects air circulation (Coriolis Effect)

(a) Nonrotating

(b) Rotating

[Click here for an animation](#)

Global air circulation

Can you see the how pressure differences and Coriolis Effect make persistent bands of winds?

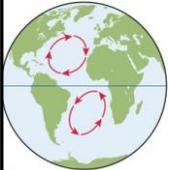
Which location generally has NO persistent winds

- A
- B
- C

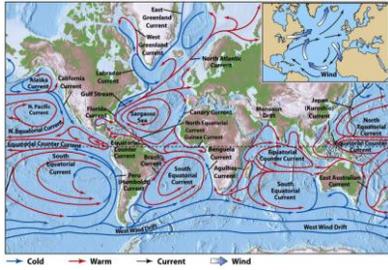
Location	Percentage
A	33%
B	33%
C	33%

10

Winds create surface currents



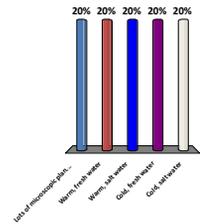
Notice how they are also deflected



Deep-water currents occur when water sinks,  at the ocean floor, and flows parallel to it. What two factors most likely cause ocean waters to sink and form ocean currents?

10 Seconds Remaining

1. Lots of microscopic plant and animal matter
2. Warm, fresh water
3. Warm, salt water
4. Cold, fresh water
- ✓ 5. Cold, salt water



Deep-water currents result from density differences

