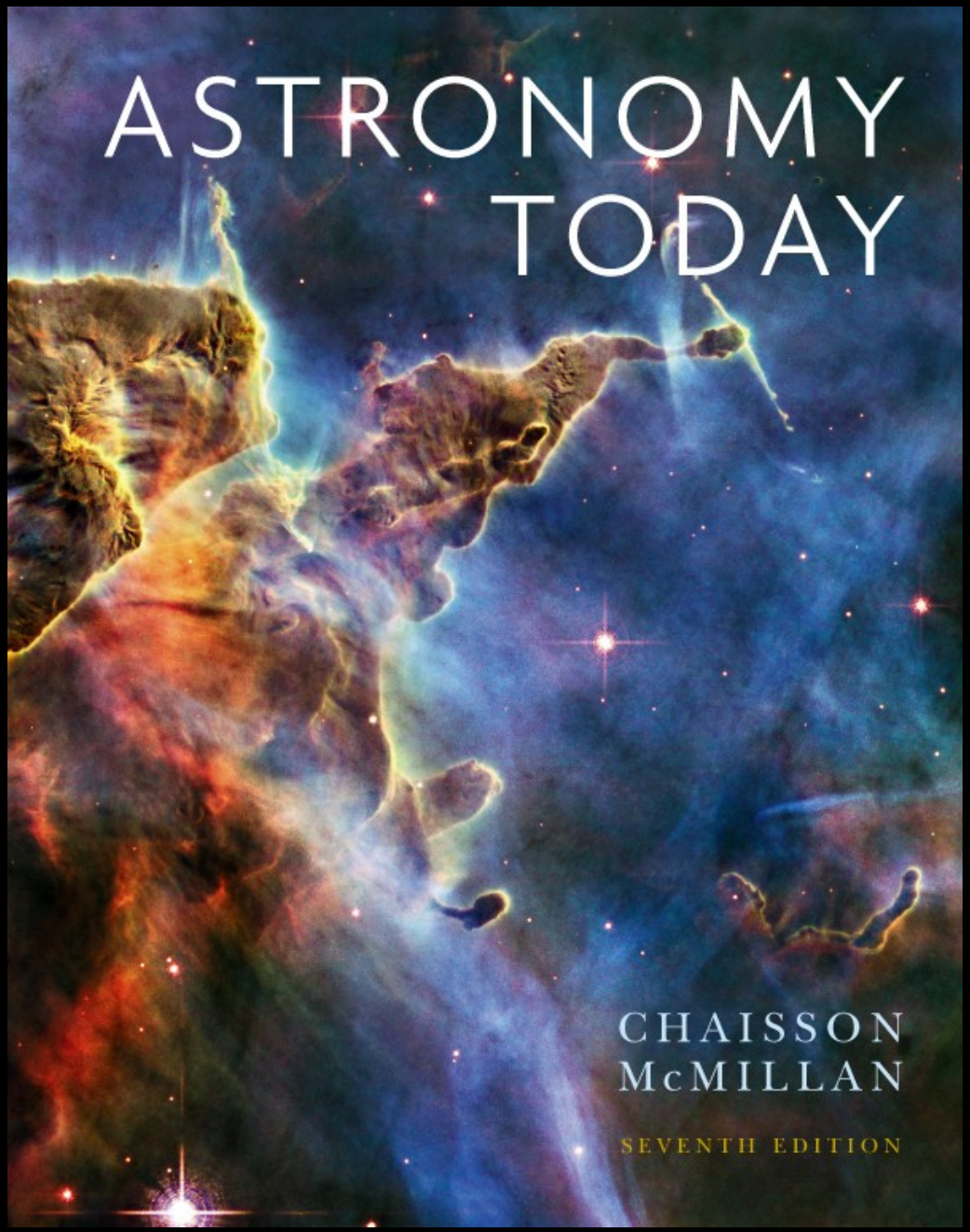

Conceptual Test

Chapter 7

Astronomy Today

7th Edition

Chaisson/McMillan

Question 1

A planetary atmosphere with ozone could protect surface dwellers from

a) ultraviolet radiation.
b) charged particles in the solar wind.
c) meteor impacts.
d) optical radiation.
e) radar waves.

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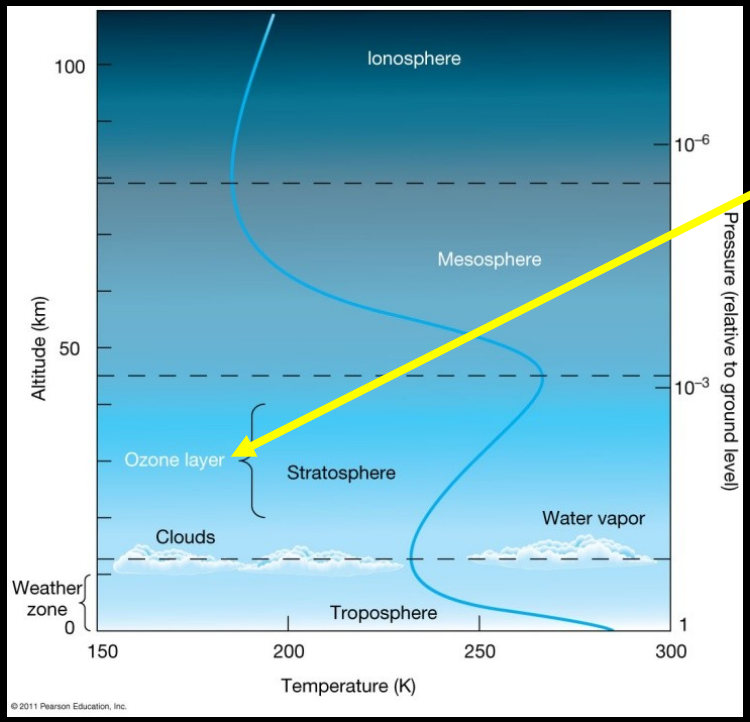

Ozone in the stratosphere (about 30-50 km high) absorbs UV light, and heats the upper atmosphere.

Question 2

The principal greenhouse gases in our present atmosphere are

a) hydrogen and helium.

b) oxygen and nitrogen.

c) water vapor and carbon dioxide.

d) methane and ammonia.

e) sulfuric acid vapor and CO_2.

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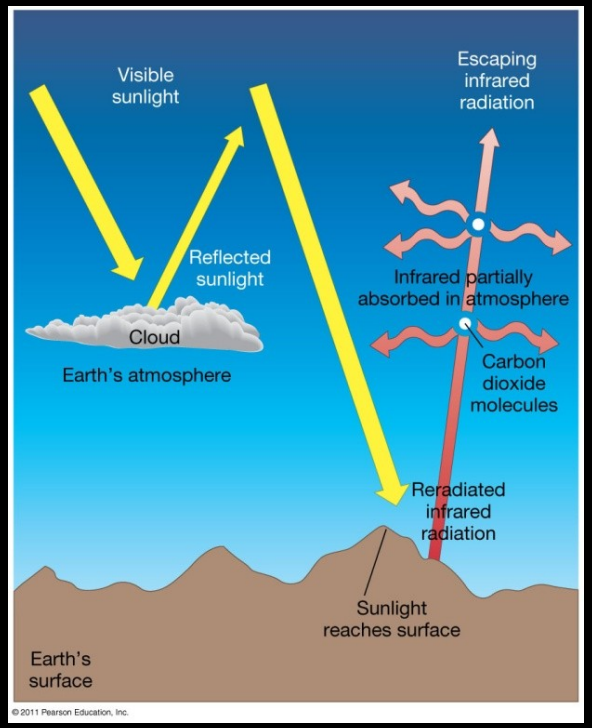

A *greenhouse gas* lets shorter-wavelength light pass through, but absorbs longer-wavelength light.

Question 3

Without the g*reenhouse effect* in our atmosphere

a) we would not have to worry about ecological problems.

b) the Earth's oceans would be frozen.

c) the amount of nitrogen & oxygen would be much less.

d) the icecaps would have melted.

e) global warming would still occur.

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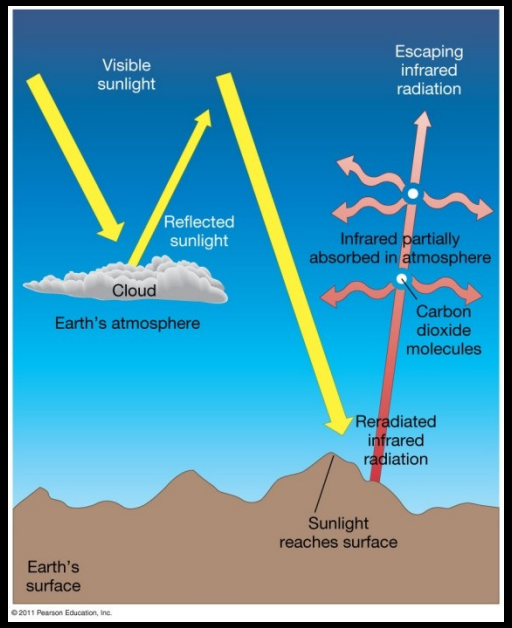

Earth's greenhouse effect makes the planet about 40 °C hotter than it would otherwise be.

This raises the average surface temperature above the freezing point of water.

Question 4

The region(s) around Earth where the magnetic field traps charged particles is(are) the

a) ozone layer.

b) exosphere.

c) Van Allen radiation belts.

d) corona.

e) aurora borealis and australis.

Question 4

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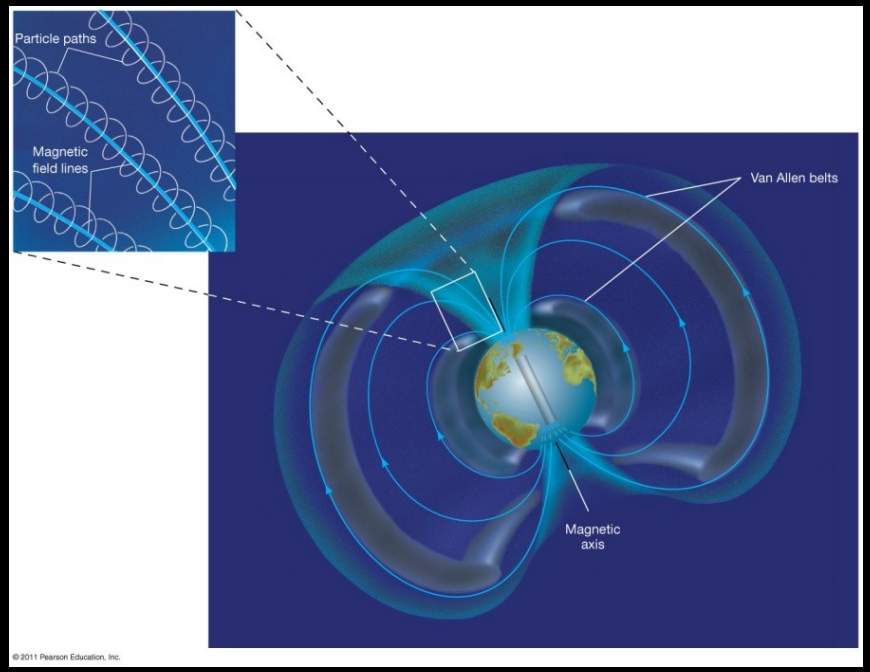

The Earth's magnetosphere influences the charged particles of the *solar wind*.

Some particles are channeled toward the poles, creating the aurora.

Question 5

Which of these is NOT a result of the Earth's magnetic field?

a) a compass pointing north
b) aurorae
c) the Van Allen radiation belts
d) volcanic eruptions
e) the comet-like tail of charged particles that extends past our Moon

Question 5

Which of these is NOT a result of the Earth's magnetic field?

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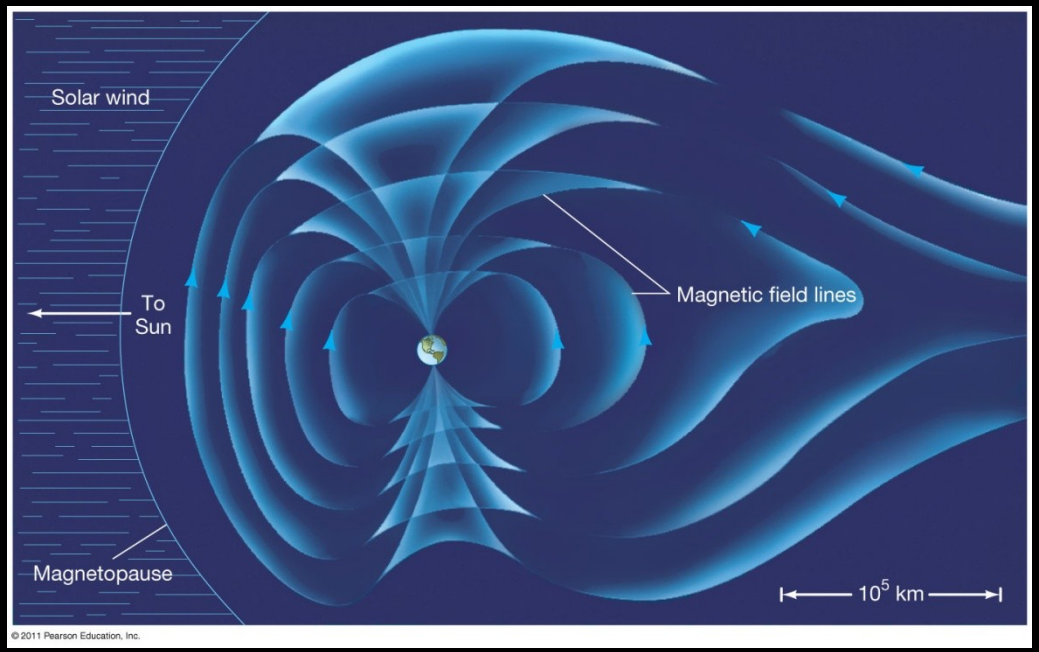
b) aurorae
c) the Van Allen radiation belts
d) volcanic eruptions
e) the comet-like tail of charged particles that extends past our Moon



Our planet's magnetosphere is generated by the Earth's rotation and its liquid metal core.

In contrast, the Moon doesn't have a magnetic field.

Question 6

At what lunar phase would the *variation between high & low tides* be greatest?

a) new moon
b) waxing crescent moon
c) full moon
d) third quarter moon
e) both new and full moon

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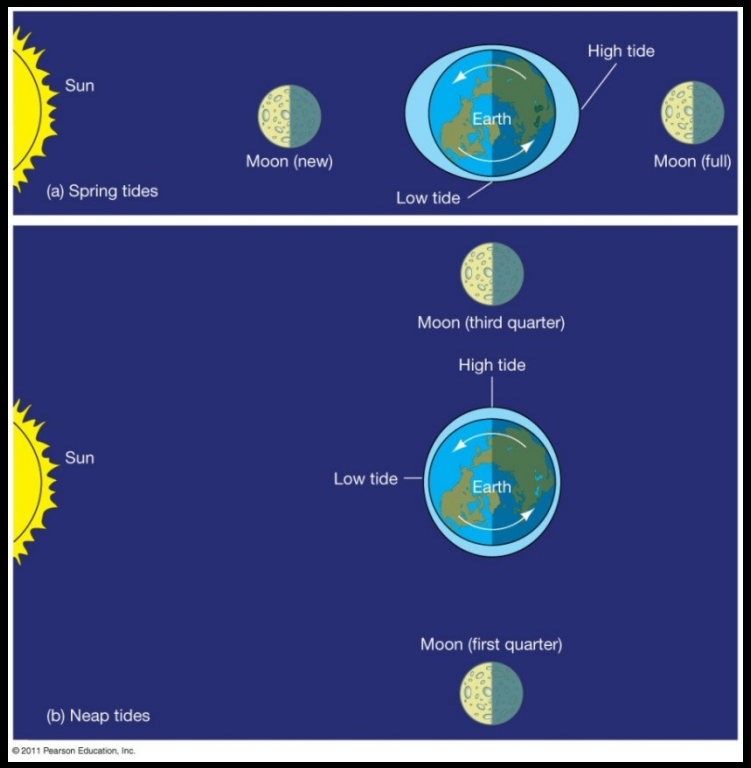

At new & full moon phases, the Sun and Moon combine to stretch the Earth and its oceans even more.

We see *higher high tides* and *lower low tides*.