EARTH SCIENCE SPRING FINAL STUDY GUIDE 2019

Chapter 17: The Atmosphere- Structure and Temperature

Vocabulary

Ozone	summer solstice	temperature	scattering
troposphere	winter solstice	conduction	greenhouse effect
stratosphere	spring equinox	convection	albedo
mesosphere	autumnal equinox	radiation	weather
thermosphere	heat	climate	electromagnetic spectrum

Key Concept Questions:

How does weather differ from climate?
Why do seasonal changes occur?
How are heat and temperature related?
What are the three major mechanisms of heat transfer?
How is the atmosphere affected by each mechanism of heat transfer?

Chapter 18: Water in the Atmosphere

Vocabulary

Precipitation	humidity	frontal wedging			orographic lifting
latent heat	condensation	condensation nuclei			hygrometer
evaporation	relative humidity	cirrus	stratus	cumulus	dew point

Key Concept Questions:

What happens during a change of state?
How do warm and cold air compare in their ability to hold water?
What can change the relative humidity of air?
What happens to air when it is compressed?
What are the four mechanisms that cause air to rise?
What must happen in order for precipitation to form?

Chapter 19: Air Pressure & Wind

Vocabulary

Air pressure	jet stream	westerlies	anemometer
barometer	cyclone	polar easterlies	El Nino
pressure gradient	anticyclone	polar front	equatorial low
Coriolis effect	trade winds	prevailing wind	subtropical high

Key Concept Questions:

What is the ultimate energy source for wind?
How does the Coriolis effect influence free-moving objects?
How does wind blow around pressure centers in the Northern and Southern hemispheres?
What are the air pressure patterns in cyclones and anticyclones?
What are the three major global wind belts and where are they located?

Chapters 8 & 9: Plate Tectonics

Vocabulary

continental drift
Pangaea
plate tectonics
plate
divergent boundary
convergent boundary
transform fault boundary
oceanic ridge
rift valley
seafloor spreading
subduction zone
trench
continental volcanic arch
volcanic island arch
paleomagnetism
normal polarity
reversed polarity
hot spot
earthquake
focus
epicenter
fault
elastic rebound hypothesis
aftershock
foreshock
seismograph
seismogram
surface wave
P wave
S wave
moment magnitude scale
modified mercalli scale
Richter scale
liquefaction
tsunami
seismic gap

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Key Concept Questions: (Plate Tectonics)

Who developed the hypothesis of continental drift and what is it?
What evidence was used to support the hypothesis of continental drift?
What are the three types of plate boundaries and where can they be found on Earth?
What is seafloor spreading and what is being created?
What is a subduction zone and what is being destroyed?
What evidence supports the theory of plate tectonics?
How does paleomagnetism support the theory of plate tectonics?
What is the cause of earthquakes?
What are the types of seismic waves and in what order do they occur?
How is an earthquake epicenter located?
What different scales are used to measure earthquakes and what do they measure?
What destructive events can be triggered by earthquakes?
What determines the types of volcanic eruptions?
What are the three main types of volcanoes and what are some of their distinct characteristic

ASTRONOMY- OUR SOLAR SYSTEM (Chapters 22 & 23)

Vocabulary

Astronomy
geocentric
heliocentric
retrograde motion
ellipse
astronomical unit (AU)
Eratosthenes
Hipparchus
Claudius Ptolemy
Nicolas Copernicus
Tycho Brahe
Johannes Kepler
Galileo Galilei
Sir Isaac Newton
revolution
rotation
precession
perihelion
aphelion
perigee
apogee
full moon
new moon
waxing moon
waning moon
solar eclipse
lunar eclipse
crater
maria
rille
regolith
nebular hypothesis
terrestrial planet
asteroid
comet
coma
meteoroid
meteorite
meteor

Key Concept Questions:

How does the geocentric model of the solar system differ from the heliocentric model?
What were the accomplishments of early astronomers?
In what ways does Earth move in space?
What causes the phases of the moon?
Why are eclipses relatively rare events?
What processes create the surface features on the moon?
How did the moon form?
How did the solar system form?
Where are most asteroids located?
What is the structure of a comet?
What is the origin of most meteoroids?

ASTRONOMY- OUR UNIVERSE (Chapters 24 & 25)

Vocabulary

electromagnetic spectrum
photon
spectroscopy
continuous spectrum
absorption spectrum
emission spectrum
Doppler effect
red shift
blue shift
refracting telescope
reflecting telescope
radio telescope
photosphere
chromosphere
corona
nuclear fusion
solar interior layers
light-year
apparent magnitude
absolute magnitude
main-sequence star
red giant
nebula
H-R diagram
protostar
supernova
white dwarf
neutron star
black hole
galaxy
spiral galaxy
Hubble's Law
big bang theory

Key Concept Questions:

What types of radiation make up the electromagnetic spectrum?
What can scientists learn about a star by studying its spectrum?
How can astronomers determine if a star is moving towards or away from Earth?
What is the structure of the Sun?
What are characteristics or features of the sun?
How does the Sun produce energy?
What can we learn by studying star properties?
What factors determine a star's apparent magnitude?
What relationship is shown on a Hertzsprung-Russell diagram?
What stage marks the birth of a star?
Why do all stars eventually die?
What stages make up the Sun's life cycle?
What is the size and structure of the Milky Way Galaxy?
In what ways do galaxies differ from one another?
What evidence indicates the universe is expanding?
According to the big bang theory, how did the universe begin?