

**EARTH
HISTORY
SECTION 1
STUDY SHEET**

Terms to Know:

geology
physical geology
historical geology
atom
nucleus
proton
neutron
electron cloud
electron
element
chemical compounds
mineral
rock
igneous rock
melt
magma
lava
intrusive rock
plutonic rock
extrusive rock
volcanic rock
felsic
mafic
intermediate
granite
rhyolite
diorite
andesite
gabbro
basalt
sedimentary rock
weathering
physical weathering
disintegration
chemical weathering
decomposition
salts
soil
sediments
erosion
transportation
deposition
lithification
compaction
pore space
desiccation
cementation
clastic
detrital

conglomerate
breccia
sandstone
siltstone
claystone
shale
chalk
limestone
dolostone
chert
gypsum
rock salt
peat
lignite
bituminous coal
metamorphic rock
metamorphism
metasomatism
hydrothermal fluids
gneiss
slate
quartzite
marble
rock cycle
absolute age
relative age
isotope
radioactivity
radioactive decay
fission
radiation
parent
daughter
radioactive sequence
half-life
magnetosphere
magnetic poles
rotational poles
magnetic axis
rotational axis
curie point
remnant magnetism
paleomagnetism
polar reversals
polarity
normal polarity
reverse polarity
polar wandering
curve
bearing
atmosphere
hydrosphere
geolithosphere
earthquakes
focus (foci)
epicenter
compressional waves

P-waves
shear waves
S-waves
reflection
refraction
seismometer
seismic station
physical state
solid
plastic
liquid
gas
shadow zone
S-wave shadow zone
P-wave shadow zone
crust
continental crust
oceanic crust
discontinuity
Mohorovicic
Discontinuity
Moho
mantle
outer rigid mantle
lithosphere
asthenosphere
mesosphere
Gutenberg
Discontinuity
core
inner core
outer core
plasma
solar wind
geothermal gradient
convection cells
upwelling
downwelling
convection/advection
plate (lithospheric
plate)
continental plate
oceanic plate
continental drift
seafloor spreading
plate tectonics
divergent edge
convergent edge
transform edge
transcurrent edge
megashear
tension
rifting
rift valley
oceanic ridge
pericontinental sea
trench

subduction
subducted plate
overriding plate
island arc
strike-slip fault
fault swarms
fracture zone
arc
spreading pole
axis of rotation
hot spot
mantle plume
aseismic ridge
nematath
thread ridge
terrane
accreted
anomaly
magnetometer
magnetic anomalies
Benioff Zone
gravimeter
gravity anomalies
paleoclimatology
tropical
subtropical
temperate
subpolar
polar
paleontology
stratigraphy
paleogeographic
reconstruction
aulocogen
shelf
slope
continental rise
abyssal plain
abyssal hills
oceanic rises
pillow basalt
ridge crest

Be able to explain:

basic parts of an atom
importance of protons in an atom
how chemical compounds form
what is a mineral
difference between minerals and rocks
differences between various rock types
differences between igneous rock groups in composition and crystal size
types and processes involved in weathering
relationship between physical and chemical weathering
materials produced in weathering
difference between soils and sediments
processes involved in formation of sedimentary rocks
difference among various sediment rocks
processes involved in metamorphism
major agents of metamorphism
rock cycle and its significance to the interpretation of Earth history
uses of various rock groups in determining Earth's history
difference between absolute and relative dating
calculate absolute age from radioactive decay and indicate possible error
what absolute dating indicated for igneous, sedimentary and metamorphic rocks
difference between the rotational and magnetic axes and poles
relationship of the magnetosphere and solar wind
significance of the curie point
paleomagnetism, polar reversals and polar wandering curves
use of earthquake waves in determining the construction of the Earth
types of seismic waves and differences between them
refraction and reflection as relates to earthquake waves
change in seismic waves as they travel through the Earth
change in wave speed with physical state and composition
factors controlling physical state
cause of shadow zones
difference between oceanic and continental crust
structure of the Earth in terms of composition and physical state
what produces the discontinuities within the Earth
why the asthenosphere is plastic, the outer core liquid if the remainder of the Earth is solid

lines of evidence indicating the structure and composition of the core
how the magnetosphere is produced
sources of heat for the Earth
convection cells and their importance in asthenosphere
concepts behind continental drift, sea floor spreading and plate tectonics
differences between oceanic and continental plates
differences between divergent, convergent and transform boundaries
features that develop with each type of plate boundary
the importance of and methods to locate a spreading pole
hot spots and the formation of the chains of volcanoes developed from them
formation of an aseismic ridge
terranes and how they form
several lines of evidence supporting plate tectonics
formation of magnetic and gravity anomalies
difference in seismicity at various types of plate boundaries
Benioff Zones
basics of paleographic reconstructions
problems in paleographic reconstructions
paleoclimatology and relationship to rock types
magnetic field inclination
a possible cause of continental rifting
features of the sea floor
why little is known of ancient ocean sea floor features

From a map be able to:

determine direction of plate motion
identify sea floor features
identify plate tectonic features

Be able to label:

parts of rock cycle
shadow zones
parts of convergent boundaries
cross section of an ocean basin

