RECOMMENDED STUDY TECHNIQUES

1) review the "How to Study Physical Science" guide available on the web site.
2) use the concepts below as a guide to help you focus on your notes
3) memorize terms and concepts (make flash cards, rewrite definitions 100 times, etc.)
4) go back over the labs and make sure you can do the tricks / skills
5) review some of the important figures in your lab manual and text
7) be able to link the terms to concepts, and the concepts to Earth processes
8) go over the lab exercise answer keys posted on the web site, check your lab work
9) change your socks and drink plenty of water
10) clean your room....
11 Go to the class website and view all notes, answer keys, and material currently available

I would spend a MINIMUM of 3-4 hours studying for this quiz... if I wanted to do well!

Key Words for New Material Since Mid-Term

Introduction to Earth Systems

age of Earth forcing effect deep sea drilling
Earth history work
astronomy thermal energy
geology thermodynamics
meteorology heat flow
oceanography conservation of energy
geosphere potential energy
lithosphere kinetic energy
outer core system
inner core closed system
mantle open system
atmosphere isolated system
gaseous envelope positive feedback
atmospheric composition negative feedback
hydrosphere energy flux
hydrologic cycle mass flux
evaporation solar energy
advection geothermal energy
transpiration photosynthesis
precipitation tidal energy
groundwater energy transformation
surface water albedo
basic earth facts gravity
rotational period acceleration due to gravity
revolitional period Newton's second law
matter hydrologic cycle
energy history of ocean exploration
Physics Review

mass
length
time
temperature
force
kg, m, newton
angle
area
volume
(know all units)
Energy
force
pressure
density
work
heat
heat flow
heat flux
heat expansion
heat contraction
solid
liquid
gas
heat transfer
conduction
convection
radiation
heat gain
heat loss
evaporation
freezing
condensation
sublimation
conservation of mass
conservation of energy
newtons' 2nd law
properties of water
heat capacity
fluidity
viscosity
density
salinity
bipolar molecule
temp. vs. density
temp vs. viscosity
bouyancy
buoyant force
gravitational force
"sinker" vs. "floater"
Archimede's Principle
upward force vector
downward force vector
density vs. buoyancy

Maps and Charts

sonar
v = d/t
two-way travel time
bathymetry
contour lines
isobaths
magnetic north
magnetic declination
true north
longitude
latitude
equator
prime meridian
greenwich
degrees, minutes, seconds
north / south pole
fathom
feet, meters
map scale
fractional scale
vertical exaggeration
contour pattern
slope of ocean floor
contour maps
profiles

Intro to Geology / Tectonics

seafloor spreading
mid-oceanic ridge
basalt
sediment
sand, gravel, mud
biogenic sediment
microscopic organisms
volcanic rocks
volcanic eruption
sedimentary rocks
limestone
lithogenic sediment
chemical sediment
plate tectonics
convergent
divergent
transform
Atom
Molecule
Compound
Mineral
Element
Rock
Rock Types
Igneous
e.g. basalt
e.g. granite
Sedimentary
e.g. sandstone
Magma
Lava
Weathering
Sediment
Erosion
Sediment Transport
Deposition
Lithification
Cementation
Crust
Oceanic
Continental
Lithosphere (Plate)
Crust
Upper Mantle
Asthenosphere
Silly Putty
Deep Mantle
Outer Core
Inner Core
Plate Tectonics
Plate Boundaries
Convergent
Divergent
Transform
Convergent
Subduction
Trench
Volcanic Arc  
(e.g. Cascades)  
Plate Destruction

Divergent
  Seafloor Spreading  
  Mid-Oceanic Ridge  
  Plate Creation

Transform
  Fault  
  e.g. San Andreas  
  e.g. Offset Mid-
  Ocean Ridge

Continental Drift
  Jig-Saw Fit of Continents  
  Pangaea  
  Match-up of Fossils  
  Match-up of Geology

Modern Evidence
  Paleomagnetism  
  Seafloor Stripes  
  Polar Wandering  
  Normal Polarity  
  Reverse Polarity

Hot Spots
  Hot Spot Tracks  
  Hawaiian Islands  
  Emperor Seamount  
  Seamounts  
  Volcanic Islands

Subduction Zone Types
  Oceanic-Oceanic  
    e.g. Japan  
  Oceanic-Cont.  
    e.g. Cascades  
  Cont.-Cont.  
    e.g. Himalayas

Plate Motion Rates
  1-10 cm/yr

Plate Driving Mechanism
  Internal Heat  
  Radioactive Source  
  Heat Exchange  
  Mantle Convection  
    Convection cells  
    rising hot rock  
    sinking cool rock
Key Concepts / Skills

Understand the basic interaction between the ocean and the atmosphere (from video 1 we watched).
Understand the hydrologic cycle, be able to sketch it.
Be able to draw bathymetric maps
Be able to draw a profile and determine the vertical exaggeration.
Be able to read a marine map, determine directions, located positions in long. and lat.
Can you solve basic physics problems / equations if given data? Convert Units?
What are the reasons that ocean water circulates?
What density and salinity contrasts would you observe at various positions in the ocean? Why?
How does salinity and density relate to ocean circulation?
Why is the second law of thermodynamics important for ocean processes?
What are the fundamental driving forces of ocean processes? How do they influence the ocean?
Can you determine the rates of plate spreading given paleomagnetic data?