**Know the vocabulary terms in your Course Notebook for all these chapters**

**Chpt 8: Climatic Zones & Types  (pp 211-247)**

- Know the seven major determinants of climate (latitude, proximity to water, elevation, etc., etc.)
- Be able to read & MAKE a climograph. (See “Climograph Practice” sheet following this section.)
- Know that Köppen climate classification is based on average monthly temp & average monthly precip.
- Know what the six major climate groups are & general temperature & precipitation patterns in each:
  - A (Tropical/Hot), B (Dry), C (Mild Winters), D (Continental), E (Polar/Cold), & H (Highland)

**Chpt 8: Global Climate Change  (pp 247-257)**

- Know the major greenhouse gases: (H2O vapor, carbon dioxide & methane) & that these gases trap Earth’s outgoing heat radiation & thus keep Earth warmer than it would otherwise be
- Know that scientists have reconstructed hundreds of 1000’s of yrs of Earth’s climate history thru “proxy” measures (e.g. air & water trapped in glacial ice, tree ring & pollen studies, etc.) & learned that Earth has had numerous ice ages followed by periods of natural warming
- Know Earth’s average surface temps are currently rising & that most scientists feel these increases are not natural because the rate of change is much faster than past natural warming periods
- Know what Milankovitch cycles are & that they explain some of Earth’s past climate changes
- Know how global climate change is likely to affect Earth & where those effects will be most felt
- Know that Earth’s past temp changes correlate closely to changes in CO2 levels in the atmos & that CO2 levels have been rising since the Industrial Revolution, esp since the 1950’s
- Know that nearly all scientists connect the rise in Earth’s global temperature to human greenhouse gas emissions
- Recognize that science cannot prove a clear causal relationship between rising global temp & greenhouse gas emissions because many complicated factors are involved
- Know that despite differences of opinion on the rate & scale of change, scientists ARE in general agreement about likely effects of continued warming. Those effects include rising sea levels, unpredictable weather patterns, species extinctions, habitat change, & loss coral reefs
- Be prepared to discuss proposed methods to slow warming & methods to prepare for expected changes

**Chpt 9: Underground Water  (pp. 280-285)**

- Know that more water is held underground in “aquifers” than in all Earth’s lakes & streams combined
- Know what porosity & permeability measure
- Know that confined water is under pressure & will push to the surface when a well is dug or when it finds a natural outlet as a spring
- Know the water table falls when underground water is withdrawn faster than it is replenished. Know this can cause wells to go dry & land to subside (e.g. Mexico City & San Joaquin Valley)
- Know what it means to “mine” water & that some aquifers (e.g. Ogallala) are gradually being depleted
- Know that it takes a very long time for most aquifers to recharge so underground water must be treated as a nonrenewable resource in the short term. It’s ‘fossil water’

**Chpt 10: Cycles & Patterns in the Biosphere**

- Know that nearly all life on Earth is solar-powered. (Plants convert solar energy to chemical energy through photosynthesis & store it. This makes it available to other living things)
- Know what biomass is and that it’s highest in tropical rainforests & cold ocean waters
Know what plant succession is, that it occurs when a habitat is disturbed, & that it concludes with a stable “climax” vegetation
Know the basic needs of different plant types & how these determine their locations: (e.g., trees need more water than grasses; broadleaf trees need more water than needleleaf trees, etc.)

Chpt 11: Terrestrial Flora & Fauna / Biomes (pp. 313-322 & pp. 331-343)

Know what a biome is
Know what ‘vertical zonation’ is (plant communities change w/ elevation--found in highland regions)
Know that slope & slope orientation can greatly affect the local environment. Warmer drier slopes are those facing the Sun. Water collects in low spots/ basins
Know wildfires are natural & expected in Mediter. biomes & native plants/animals are adapted to them
Know the basic climate, flora & fauna, & location (e.g. latitude, east or west coast, etc.) of the ten major biomes we studied
Know generally why those biomes have the climates they do (climate determinants such as latitude, prox to water, ITCZ influence all or part of the year, etc.)
Know anything that makes any of these biomes unique (e.g. Medit. is only one that has dry summers & wet winters; Boreal forest only occurs in the N. Hemis, Tropical rainforest has huge biomass & species diversity (estimate over 50% of world’s species live here), etc.
Know how various biomes are threatened & what those threats are
Know what “xerophytic” adaptations are and how they help plants cope with drought
a. Roots designed to seek widely or deeply
b. Stems modified into spongy structures to store moisture
c. Leaf adapted to reduce water loss (small, leathery or waxy, & light colored)
d. “Ephemeral” life cycles so plant matures & develop seeds quickly when water is avail
Know what permafrost is & how it impacts the landscape

Chpt 17: Karst & ‘Solution’ Topography

Know that caverns are generally formed through unchanneled water seeping underground & dissolving limestone or other carbonate sedimentary rocks
Know that cavern formation is a very slow chemical process.
Know how karst landscapes form, what they look like (karst towers, sinkholes, & disappearing streams on surface), & where they are found (usually limestone areas w/ warm, wet climates)
Know how hot springs, geysers, & fumaroles are formed & where they are found
Know that Yellowstone National Park has the greatest concentration of hydrothermal activity found anywhere in the world

BRING A SCANTRON #882, #2 PENCIL & ERASER
Come to class early for a pre-test review 😊