**Earth Science - 3rd Hour Exam Review – Concept List**

* Half-lives describe the time it takes for ½ of a sample to decay.
  + Examples of radioisotopes: Carbon 14, Uranium, etc.
  + Isotopes all have different half-lives
* Soil horizons are layers we see in the soil that have different characteristics
  + A – horizon 🡪 dark rich organic matter
  + B – horizon 🡪 lighter but has some nutrients leached from the A-horizon
  + C – horizon 🡪 broken bits of the parent material
* Geological Time Scale is based on the life found in the different rock layers.
  + Eons / Eras / Periods / Epochs
    - Eons – Precambrian Time [Hadean / Archean / Proterozoic] / Phanerozoic
  + Dinosaurs were the life found in Mesozoic rock
  + We are in the Cenozoic
* Relative ages of rock tells us when rocks formed in relation to each other.
  + Six Laws help us determine the relative ages of rock
    - Cross-cutting / Inclusions / Unconformities
      * Unconformities - represents gaps in geological time
        + Angular Unconformities – tilted rock layers are truncated and lateral layers on top
        + Disconformities – between sedimentary rock layers
        + Nonconformities - between metamorphic and igneous rocks
* Seafloor spreading is evidence for plate tectonics.
  + Iceland is located on the MAR which is a place where we observe SFS on land.
  + Convection currents is the mechanism that causes SFS.
    - Radioactivity from Earth’s core drives these convection currents.
* Different types of plate boundaries are found along tectonic plates
  + Divergent – caused by tension force, we see volcanic activity, ridges, minor earthquakes
  + Convergent – caused by compressional forces, we see large mountains, volcanoes, Major Earthquakes
    - Subduction zones (the denser plate goes under the other plate) are found at these boundaries
  + Transform – caused by shear forces, we see major earthquakes.
* Wind is created as a result of uneven heating of the Earth’s surfaces. This creates differences in pressure. Wind blows from high to low pressure.
* Atmosphere describes the protective layers of gas that surrounds the Earth. Temperature fluctuates as you increase in altitude in the atmosphere.
  + Troposphere = temp decreases with height, Stratosphere = increase, Mesosphere = decreases, Thermosphere = increase.
* Weather is the state of the atmosphere over a short period of time. The troposphere contains air masses (cP, cT, mT, mP) that move and create our weather. The edge of these masses are called fronts.
  + Cold – can bring severe weather, like T-storms, we would see cumulus clouds and cumulonimbus clouds
  + Warm - bring mild to moderate rain, stratus clouds
  + Occluded – when a cold front chases a warm front. Storms at first followed by steady rain.
  + Stationary – when neither front advances, you get lasting rain and drizzle for days.