TOPICS IN GEOPHYSICS

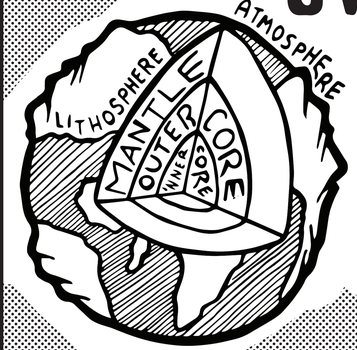
PRESENTS

# The Carbon Cycle

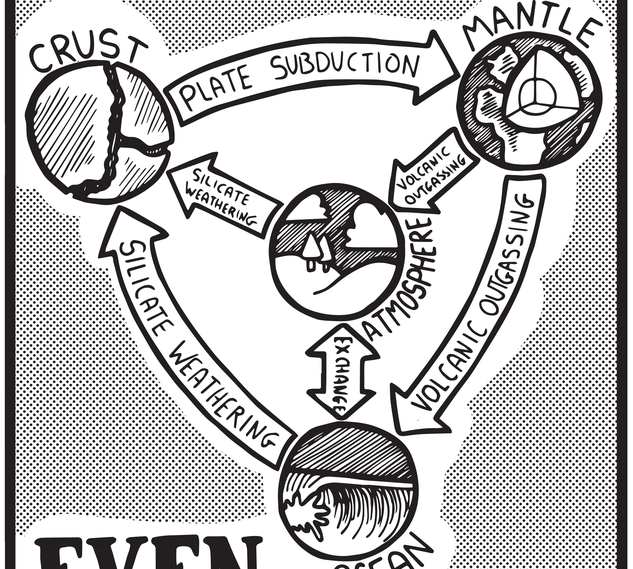
SUMMER 2014

**CARBON** JOINED THE EARTH SYSTEM AS ALL ELEMENTS DID: BY THE GRAVITATIONAL CLUMPING OF ROCKS & DUST IN THE EARLY SOLAR SYSTEM.

**OVER TIME**

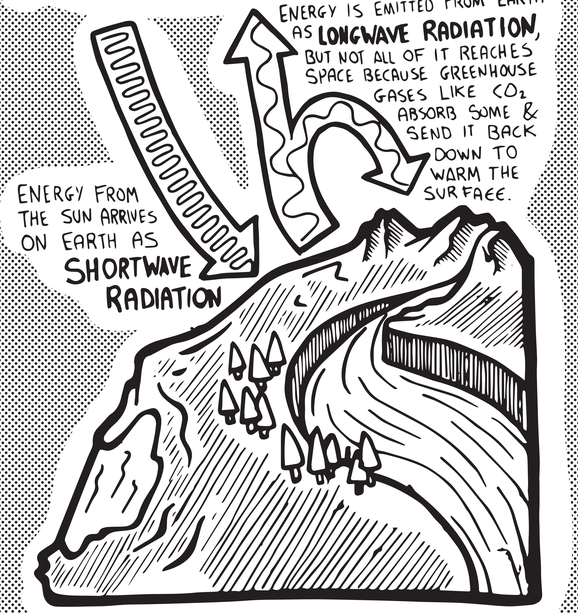



THINGS SETTLED DOWN, & THE CLUMP DIFFERENTIATED **INTO** CHEMICALLY & PHYSICALLY DISTINCT **LAYERS**.




**EVEN AFTER** THE HUBBUB OF PLANETARY FORMATION DIED DOWN, CARBON DID NOT STAY PUT. IN FACT CARBON HAS BEEN CYCLING BETWEEN THE MANTLE, CRUST, ATMOSPHERE, & OCEANS EVER SINCE.

**THE** CYCLING OF CARBON IS IMPORTANT TO SURFACE DWELLERS LIKE YOU & I BECAUSE THE AMOUNT OF CARBON IN THE ATMOSPHERE INFLUENCES CLIMATE. SPECIFICALLY, CARBON CAN FORM COMPOUNDS THAT TRAP HEAT ON EARTH THAT WOULD OTHERWISE GET LOST TO SPACE.




THIS KIND OF WARMING BY GREENHOUSE GASES SUCH AS CARBON DIOXIDE ($CO_2$) IS KNOWN AS THE GREENHOUSE EFFECT.