Section 7.1 Notes

Earth’s structure

What we know comes from both direct evidence, what we see, study, and from indirect evidence – studying things we cannot see directly

4 main layers:

Crust

-like the skin of an apple.

-cracked like an egg shell, into ‘plates’

-thinnest under the oceans (5 km)

-thickest under continents and mountains (50 km)

Mantle

-most complex layer

-topped by the Moho discontinuity

-upper part is solid rock at about 1000 degrees C

-lower layer is plastic in consistency (wax,, taffy, etc.) at about 2500 degrees C

Outer Core

-probably liquid, about 4000 degrees C

-iron and nickel

Inner Core

-high pressure

--solid

-iron, silicon, carbon

-5000 – 5700 degrees C

Plates of the Lithosphere

-Crust + upper mantle = lithosphere

-12 (approximately) large parts, or plates that move and shift between each other

-movement of lates caused by convection currents

-semi-molten layer below this is the asthenosphere

Do demo 7-C, assign p 201 #1(1), 2((1), 3(1), 4(1), 5(1), 6(2)

Convection Currents

-caused by rising hotter material into a body of cooler material

-happens in water, air (causes thunderstorms and high/low pressure zones), and in the Earth

-rocks in the asthenosphere melted by heat from below

-melted rock rises upward (convection current) into lithosphere

-cooler rocks (solid?) sink into asthenosphere and melt….

-friction of this movement pulls plates along, causing Earthquakes, mountains and volcanoes

Earth’s Magnetic Field

(demo using overhead viewer)

(videos on website)

-movement of a magnet shows evidence of magnetic field

-protection for Earth from particles in space

-cause of Northern Lights

Assign p 203 # 1 (4 – labeled diagram), #2 (4), #6 (1), workbook pp 132 - 136