Notes 12-3

III. **Absolute Age** = The ACTUAL age of an object in years

Absolute Dating Method:

1) **Radiometric Dating**-- a dating method that compares parent isotopes with daughter isotopes
more parent = younger
more daughter = older

a) **radioactive decay**-- the process in which a radioactive isotope breaks down into a stable isotope

b) **isotope** -- an atom with the same number of protons as other atoms, but a different number of neutrons

(1) **parent isotope** -- the unstable radioactive isotope

(2) **daughter isotope**-- the stable isotope produced after a radioactive decay

c) **half-life** -- the time it takes one half of the parent material to decay into daughter material

d) types of radiometric dating

Parent Isotope	Daughter Isotope	Half-life	Effective range
Carbon-14	Nitrogen-14	5730 years	less than 70,000 years
Uranium-235	Lead-207	704 million	10 mill - 4.6 bill
Uranium-238	Lead-206	4.5 bill	10 mill - 4.6 bill
Potassium-40	Argon-40	1.25 billion	50,000 - 4.6 bill
Thorium-232	Lead-208	14 bill	up to 200 mill
Rubidium-87	Strontium-87	48.8 bill	10 mill - 4.6 bill