Chemistry CP

Name:

Homework: Nuclear Chemistry (Chapter 22)

Section:

Assignment	Due Date
1. Complete the Radiation Dose Chart from the American Nuclear Society or this printer-friendly worksheet	Tuesday, 10/23
2. Handout: Balancing Nuclear Equations	Wednesday, 10/24
3. Virtual Minilab	Friday, 10/26
4. Work on "My life as a radionuclide" project	Monday, 10/29
5. Handout: Half-life (radioactive dating) problems	Tuesday, 10/30
6. Listen to Flash animation on emissions in radioactive decay; take notes; OR…Read pp. 705-707, in textbook, take notes as you read…turn in notes	Wednesday, 10/31
7. Concept map using the following terms: nuclide, stable, radioactive decay, fission, fusion, half-life (You may use any additional terms as needed)	Thursday, 11/1
8. Study for F3 #7 9. Make summary card	Friday, 11/2
10. Complete radionuclide project	Wednesday, 11/7

After studying chapter 22, you should be able to:

- Explain the processes of radioactivity and radioactive decay.
- Distinguish between isotopes and radioisotopes.
- Describe the characteristics of alpha, beta, and gamma radiation and list their origins.
- Define the terms nuclear stability, half-life, and transmutation.
- Write balanced nuclear equations.
- Compare fission and fusion processes.
- Calculate the amount of radioisotope remaining using the half-life method.
- Explain how radioisotopes can be used to date objects.

Some Useful Websites

http://www.shodor.org/unchem/advanced/nuc/index.html
http://www.chem.duke.edu/~jds/cruise_chem/nuclear/nuclear.html
http://particleadventure.org/frameless/decay_intro.html some really cool (weird) stuff here!
http://www.colorado.edu/physics/2000/periodic_table/amu.html The mass defect (enrichment topic)3+
http://www.colorado.edu/physics/2000/isotopes/index.html
http://www.wwnorton.com/college/chemistry/gilbert2/contents/ch20/chemtours.asp
http://lectureonline.cl.msu.edu/~mmp/applist/decay/decay.htm Applet showing effect of half life
http://cwx.prenhall.com/petrucci/medialib/media_portfolio/text_images/005_SEPARATION.MOV
http://chemmovies.unl.edu/ChemAnime/ALPHAD/ALPHAD.html balancing alpha decay equations
http://chemmovies.unl.edu/ChemAnime/BBETAD/BBETAD.html balancing beta decay equations
http://www.brookscole.com/chemistry_d/templates/student_resources/shared_resources/ice/chemsimex/radioactive_win.htm simulations of radioactive decay, with questions
http://www.nrc.gov/reading-rm/basic-ref/teachers/06.pdf Natural and man-made radiation sources