Chemistry
Key Words and Concepts
Test #5

Key Words:

relative atomic mass
relative abundance
percent abundance
alpha decay
beta decay (positive and negative)
gamma decay
half-life
fission
atomic number
mass number
fusion
control rod
reactor
moderator
atomic radius
ionic radius
ionization energy

Key Concepts:

Be able to draw and interpret orbital diagrams
Be able to calculate relative atomic mass using percent or relative abundances, or vice-versa
Be able to calculate percent or relative abundances using average atomic masses
Be able to interpret a decay series
Be able to write decay equations for alpha, beta positive (positron), and beta negative decay
Be able to write electron capture equations
Be able to compare the relative strength of alpha, beta, and gamma radiation
Be able to write and interpret nuclear symbols, and identify elements based on nuclear symbols
Be able to calculate and understand the meaning of penetrating power
Be able to interpret data from a penetrating power experiment
Be able to do half-life calculations
Be able to explain how a nuclear power plant works
Be able to argue the pros and cons of nuclear power
Be familiar with the fundamental causes of the Chernobyl and Fukushima nuclear accidents
Be able to locate important parts of the periodic table (s, p, d, f blocks, alkali metals, alkaline earth metals, transition metals, halogens, lanthanides, actinides)
Be able to describe and explain the causes of the periodic trends for atomic radius, ionic radius, ionization energy

Although the test will focus on the items above, it is necessary for you to have mastery of 1st and 2nd Quarter material in order to be successful with these concepts.

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**Honors only*

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