Crash Course in Chemistry #38 – Nuclear Chemistry

Welcome to the new age. Radioactivity is prominent in popular imagination and at the same time completely misunderstood. Radioactivity is different than "normal" chemistry which is what happens when an atom's outermost _____ do stuff. When the protons and neutrons get directly involved and their numbers do change, huge amounts of _____ can be released – far more than by the transfer of electrons.

Transmutation	When protons change:	When neutrons change:
Changing one element to another, or one isotope to another		

While it is so ridiculously expensive to use transmutation to produce gold from lead, the very fact that it is possible should clue you in that nuclear chemistry is an entirely different flavor of chemistry sauce. When it comes down to it, the changes that take place in nuclear chemistry come from a desire for what we all want: _____. Certain combinations of protons and neutrons make the nucleus more stable. Unstable nuclei will spontaneously release things to become stable. This is called _____.There are three types of decay – describe them below:

Half Life The time it takes for exactly one half of a radioactive sample to decay	**Phosphorus-32** You start with 25 grams of P-32Track the amount of P-32 (half life = 14.3 days) left after each number of days. 0 days 14.3 days 28.6 days 42.9 days
Radioactivity (AKA Radioactive Decay) Decomposition of a nucleus to form a different nucleus	α
	β
	γ

Why are there still radioactive elements around? Shouldn't they go away?

Questions raised by this video? Things you are wondering about?

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