**Key Vocabulary: Week 5.0: Nuclear and Review**

***Complete ALL Week 5.0 and 5.5 flashcards and study over the weekend.***

***Week 5.0- Flashcards on Monday AND Tuesday, Quiz on Tuesday, 7/16.***

1. **Nuclear Fusion:** the process by which two smaller atoms join to create a new, larger atom, releasing energy. Our sun, Sol, fuses hydrogen to make Helium.
2. **Nuclear Fission:** the splitting of larger atoms to produce smaller atoms with a release of energy. Atomic bombs and nuclear reactors use this.
3. **Isotope:** different versions of the same element which have different numbers of neutrons. Some are stable, others are unstable (radioactive).
4. **Radioisotope:** a radioactive isotope of an element. Many elements have stable AND unstable isotopes.
5. **Radioactive Decay:** the process by which unstable elements release energy and matter to become stable isotopes.
6. **Critical Mass:** the amount of radioactive material necessary to start a sustained nuclear chain reaction.
7. **Half-Life:** the amount of time it takes for half of a radioisotope to undergo decay.
8. **Alpha Particle:** a helium nucleus with a mass of 4 and a charge of +2.
9. **Gamma Radiation:** high frequency energy released by decaying atoms.
10. **Beta Particle:** a high energy electron released by a decaying atom. Mass of 0, charge of -1.
11. **Hyphen Notation:** method of writing isotopes which shows their masses. Ex. Uranium-238.
12. **Emit:** to release, to give off.