Chapter 16 – Atomic Energy study guide

1. Know the relationship between how an atom is held together, larger atoms, and radiation decay.
   1. Atoms are held together with an ­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_charge. The farther away from the nucleus you get the \_\_\_\_\_\_\_\_\_\_\_\_\_the attraction becomes. Therefore, the larger the atom is the more \_\_\_\_\_\_\_\_\_\_ it becomes. Another way that atoms become unstable is the ratio of \_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_. If the atom is unstable it wants to become stable again. They do this by giving off particles. There are three types of decay. They are \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_and\_\_\_\_\_\_\_\_\_\_\_\_\_. When decay happens the atom loses size and therefore gets smaller. The smaller it gets the more stable it becomes. The escaping particles in the form of energy are called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Which type of decay is the most damaging?
3. Which type of decay is the most penetrating?
4. Why is alpha decay the most damaging?
5. What is the difference between nuclear fission and nuclear fusion?
6. Know what particles can penetrate paper, aluminum, concrete
7. Why does radiation hurt you?
8. How does Carbon-14 work to date objects
9. Know how to determine the age of the iceman.
10. What is the difference between a nuclear power plant and an atomic bomb?
11. What actually creates the electricity in a nuclear power plant?
12. Where did the largest nuclear accident in history take place?
13. Where does nuclear fusion naturally occur?
14. Name one reason for and against nuclear power
15. Why is nuclear fusion not a realistic source of energy at the present time?