**Nuclear Power Quiz**

**Directions:** *Identify the letter that best answers each question by placing it on the line of the corresponding number. You may use your notebook.*

\_\_\_\_1. Which of the following is not found in the nucleus of an atom?

1. electron
2. neutron
3. proton
4. isotope

\_\_\_\_2. The process that involves splitting large nuclear atoms and releasing large amounts of energy.

1. Fusion
2. Fission
3. Radiation
4. Uranium-235

\_\_\_3. Made of neutron absorbing material, this tool can be inserted into a nuclear reactor to slow a chain reaction.

1. Fuel pellets
2. Fuel rods
3. Control rods
4. Containment Vessels

\_\_\_4. The partial meltdown that occurred in 1979 that made people pessimistic towards nuclear energy.

1. Chernobyl
2. Fukushima
3. Three Mile Island
4. China Syndrome

\_\_\_5. At the end of 2003, how many nuclear power plants were operating in the U.S.?

1. 47
2. 66
3. 94
4. 104

\_\_\_6. The “bullet” that starts the chain reaction in nuclear fission is a:

1. proton
2. neutron
3. electron
4. nucleus

\_\_\_7. What causes the turbine blades to rotate in a nuclear power plant?

1. Removing the control rods
2. The condensation of the H2O
3. The vaporization of the H2O
4. the expansion of the vaporized H2O

\_\_\_8. What are the products of uranium-235 fission?

1. Ba-139
2. Kr-94
3. Energy
4. a, b, and c

\_\_\_9. This type of radiation is composed of 2 protons and 2 neutrons.

1. alpha
2. beta
3. gamma
4. delta

\_\_\_10. Gamma radiation can pass through a human.

1. True
2. False

**Directions**: *Fill in the blank with an appropriate word or phrase that best completes the statement.*

11. The only thing that exits the cooling tower of a nuclear power plant is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

12. The Chernobyl meltdown occurred in what year \_\_\_\_\_\_\_\_\_\_\_\_\_

13. Nuclear waste disposal has been proposed under \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mountain, Nevada.

14. Which type of nuclear reaction is occurring in our sun? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. About what percentage of US energy supply comes from nuclear energy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** *Answer each question completely.*

16. What is radon and why is it hazardous?

17. If the half-life of strontium-90 is 25 years, how much strontium-90 will remain after 75 years if the initial amount is 40g?

18. Identify 4 biological effects of radioactive emissions.

19. What are the 3 important criteria for long term waste storage of radioactive material?

20. How are nuclear power plants and coal power plants similar in how they operate? Be specific.