Name: _____

Period:_____

HW—22:1 — Nuclear Power
Mr. Murray, IPC
www.aisd.net/smurray

Assigned: Mon., 12/1/03
Due: Wedn., 12/3/03

1. Give the three kinds of nuclear radiation and what they are:

Kind	What it is

2. What particle decay is this?

$$^{240}_{94}\text{Pu} \rightarrow {}^{240}_{95}\text{Am} + ?$$

3. What particle decay is this?

$$^{240}_{95}\text{Am} \rightarrow {}^{236}_{93}\text{Np} + ?$$

4. If I have 200 kg of carbon-14. Its half-life is 5,730 years. How much carbon 14 will there be in 5,730 years?

5. Which is safer for the environment: fusion or fission? Why?

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Vocabulary (don't forget other side)

Alpha Particle	Radioactive	Fission	Carbon Dating
Gamma Ray	Uranium	Fusion	Nucleons
Beta Particle	Chain Reaction	Half-life	

1. When one nuclear reaction causes another, which causes another, etc. It allows nuclear reactions to sustain themselves.
2. When an atom gives off energy or nuclear particles (like alpha particles).
3. A helium atom (2 protons and 2 neutrons). Lowest in energy. Can be stopped by paper or skin.
4. The splitting of an atom into smaller atoms in a nuclear reaction.
5. A method of using the half-life of a radioactive isotope to determine the age of ancient objects up to 50,000 years old.
6. A neutron splitting into a proton and an electron. Medium energy: wood or clothing can stop them.
7. High energy radiation. Can cause great harm to biological organisms. Hard to stop (takes lead or many feet of concrete).
8. Bringing together two nuclei to make a bigger atom in a nuclear reaction.

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