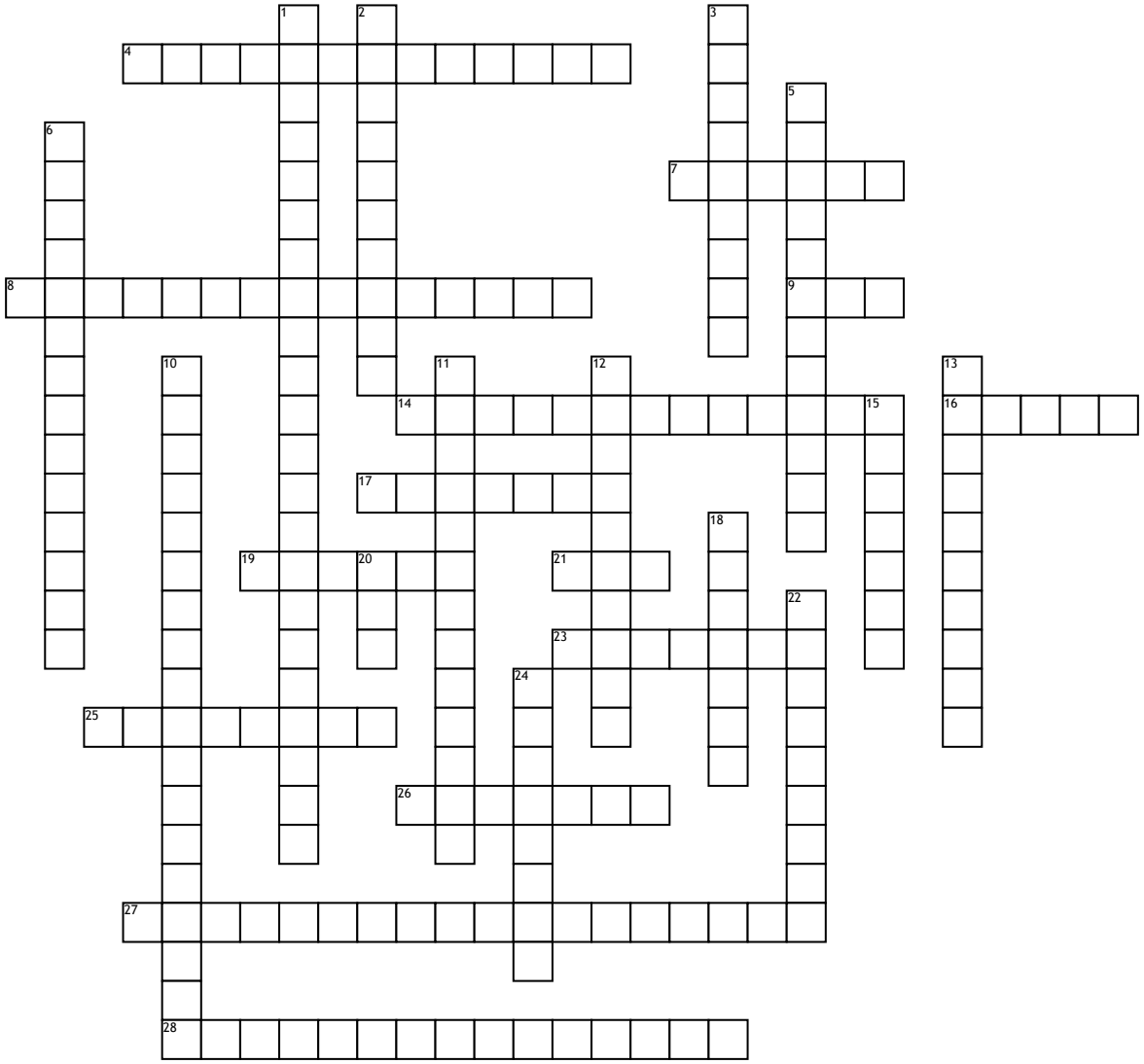
Name: _____ Date: _____

Crossword Puzzle



Across

4. A helium particle emitted by some radioactive elements, +2 charge.
7. Identifies an element; positive charge, found in the nucleus.
8. The stability of elements determined by the ratio if the number of neutrons to the number of protons in the nucleus.
9. The average mass of the atoms of an element.
14. Radioactive decay where beta particles are emitted.
16. A negatively charged ion.
17. The center of an atom that contains the protons and neutrons.
19. A positively charged ion.
21. The energy unit used in e=mc^2
23. A particle with a neutral charge; found in the nucleus.
25. Smallest wavelength with the most amount of energy. High energy photons, no charge.
26. Two or more forms of the same elements with the same amounts of protons but different amounts of neutrons (different amu).
27. One of the four fundamental forces in nature.
28. Represents the reactants and products of radioactive decay.

Down

1. A decay through a sequence of alpha and beta decays until a stable element is reached.
2. The amount of protons and neutrons in an element.
3. The average mass of the atoms of an element.
5. A particle with a charge of -1.
6. Ionizing radiation with alpha particles emitted during radioactive decay.
10. The percent by mass of each element in a compound.
11. Calculated as the mass of a component divided by the total mass of the mixture, multiplied by 100.
12. mass calculated - mass actual = change in mass.
13. Difference in mass between a nucleus and its component nucleus.
15. A proton or neutron.
18. A substance that contains water.
20. An atom or molecule with a net electric charge due to the loss or gain of one or more electrons.
22. The substance that remains after the water is removed from a hydrate.
24. 1 MeV = 1.602 x 10^-13 J.