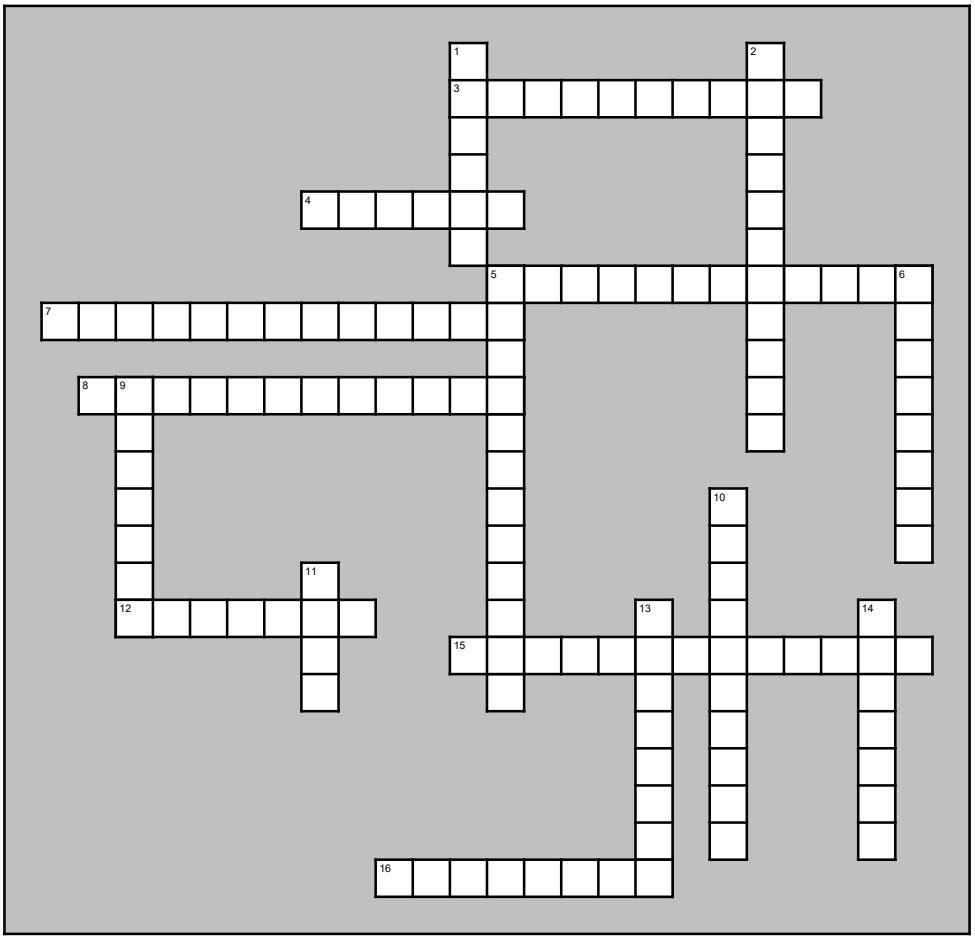
Crossword



Across

3. According to his model, all of an atom's positive charge (and mass) is concentrated in its nucleus. Electrons move randomly in the space around the nucleus.
4. Propsed the theory that all matter is made up of individual particles called atoms, which cannot be divided.
5. Atoms absorb energy and become unstable where electrons change energy level. This less stable condition is known as the ___ ___. Atoms return to the ground state from this condition by losing energy.
7. The arrangement of electrons in the orbitals of an atom. The most stable possesses the lowest energy possible.
8. The number of protons in an atom's nucleus. Different elements have different number of protons.
12. Nuetral subatomic particle that is found in the nucleus. Same mass as a proton (1 amu).
15. Modern model of the atom where the probability of finding an electron is higher in the denser regions. This describes possible locations of electrons around the nucleus.
16. Atoms of the same element that have different numbers of neutrons and, therefore, different mass numbers. H-1 has 1 proton and 0 neutrons; H-2 has 1 proton and 1 neutron; H-3 (tritium) has 1 proton and 2 neutrons.

Down

1. Positively charged (+1) subatomic particle found in the nucleus of an atom. Mass of 1 amu.
2. When electrons in an atom exist in the lowest possible energy configuration, the atom is in the ___ ___.
5. Electrons move with constant speed in fixed orbits around the nucleus. Each electron has a specific amount of energy. The energies are called ___ ___. Electrons can change where they exist by gaining or losing energy.
6. Negatively charged (-1) subatomic particle found outside the nucleus. Considered to have "no" mass.
9. His experiments provided the first evidence that atoms are made of even smaller particles. He worked with "electrons." Plum pudding model of the atom.
10. The sum of the protons and neutrons in the nucleus of the atom. Used to determine the number of neutrons in the atom. # neutrons = __ # - atomic number
11. His model focused on the electrons existing in energy levels (spherical orbits) outside the nucleus (planetary model of the atom).
13. A region of space around teh nucleus where an electron is likely to be found. Two electrons can be found in each of these aspects of the electron cloud.
14. The dense, positively charged mass located in the center of the atom. Discovered by Rutherford.