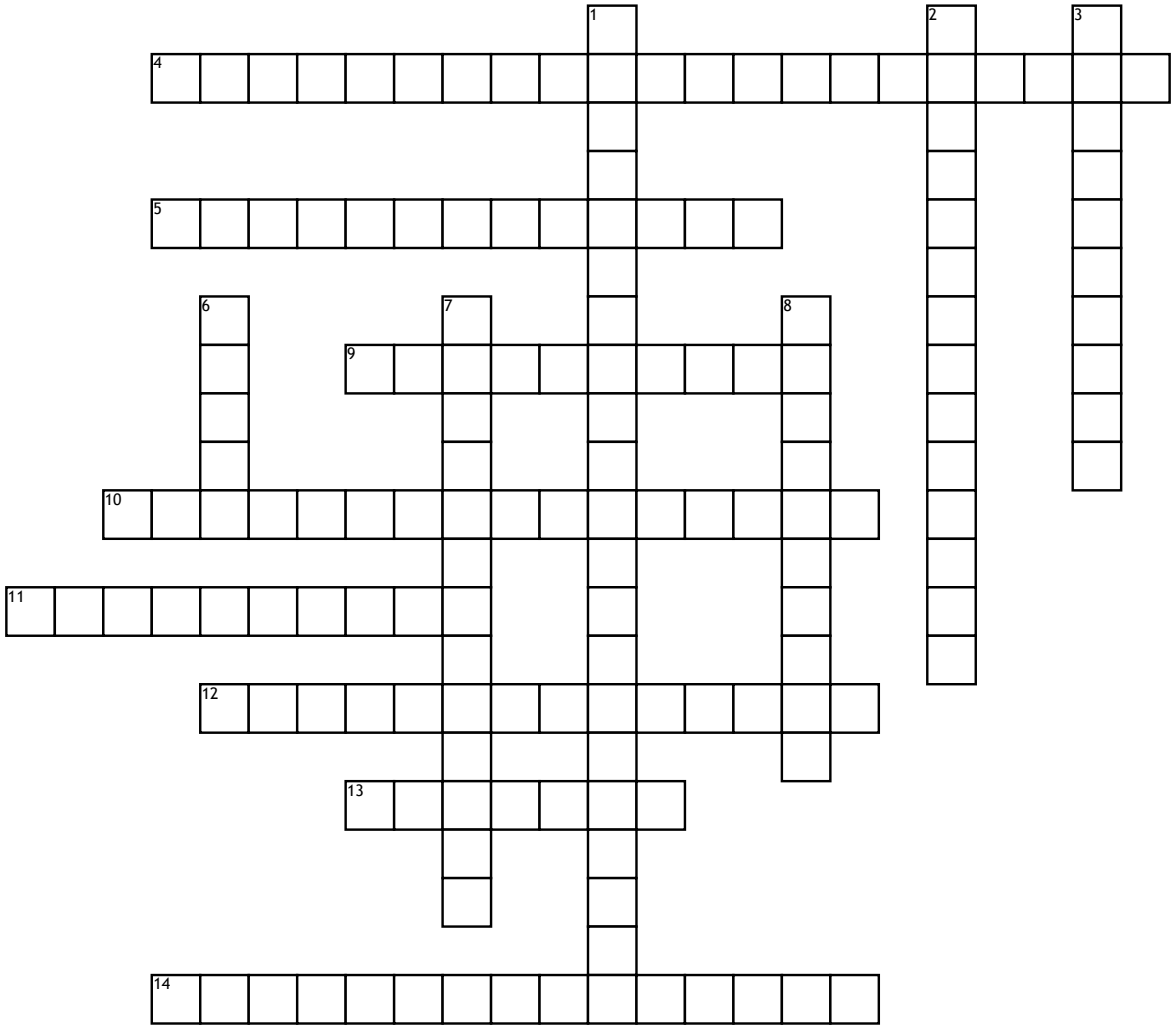
Name: _____ Date: _____

Chapter 4 Sections 2 &3



Across

4. The arrangement of electrons in an atom

5. Describes mathematically the wave properties of electrons and other very small particles.

9. Orbitals of equal energy are each occupied by one electron before any orbital is occupied by a second electron, and all electrons in singly occupied orbitals must have the same spin state

10. Symbolized by n, indicates the main energy level occupied by the electron.

11. Has only two possible values (+1/2,-1/2) which indicate the two fundamental spin states of an electron in an orbital.

12. Specify the properties of atomic orbitals and the properties of electrons in orbitals.

13. A three-dimensional region around the nucleus that indicates the probable location of an electron.

14. An electron occupies the lowest-energy orbital that can receive it.

Down

1. Refers to an outer main energy level occupied, in most cases, by eight electrons

2. Symbolized by m, indicates the orientation of an orbital around the nucleus.

3. The Group 18 elements

6. No two electrons in the same atom can have the same set of four quantum numbers

7. Symbolized by l, indicates the shape of the orbital.

8. States that it is impossible to determine simultaneously both the position and velocity of an electron or any other particle.