Bohr Model of the Atom:

* Named for the Danish physicist Neils Bohr (1885-1962) who developed the model.
* Bohr developed the model to explain the unique pattern of light that each element gives off when heated or electrified.
* Bohr’s model also explains many of the chemical properties of the elements that we will be studying.
* Like the planetary model, the protons and neutrons are in the nucleus and are responsible for (nearly) all of the mass of the atom. The electrons orbit the nucleus.
* What the Bohr model added was a distinct and strict pattern to the electron arrangement:
  + The electrons are arranged in **shells**, also called orbitals or energy levels.
    - The first (innermost) shell can hold 2 electrons
    - The second shell holds 8 electrons
    - The third shell holds 8 electrons
    - the fourth shell holds 18 electrons (2,8,8)
  + The INNER SHELLS are lower energy and FILL FIRST.
  + Single electrons fill before pairs.
* The number of electrons is determined by looking at the number of protons and the *ion charge*. Most atoms are electrically neutral.
* The outer most shell is called the *valence shell*. The electrons in the valence shell are called *valence electrons*.
* The valence electron arrangement largely determines the chemical behavior of the atom.

Examples:

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