Electron Configuration Notes

* **The arrangement of electrons in the atom is called the electron configuration**
* **Each energy level has sublevels:**



* **These are the energy levels and sublevels attached to each:**



* **The order to filling up the energy levels with sublevels included:**



* **The positions on the periodic table:**



**Rules to follow**

The **aufbau principle** states that each electron occupies the lowest energy orbital available.

**Hund’s rule**states that single electrons with the same spin must occupy each equal-energy orbital before additional electrons with opposite spins can occupy the same energy level orbitals.

The **Pauli exclusion principle** states that a maximum of two electrons can occupy a single orbital, but only if the electrons have opposite spins.

**Electron Configuration for Iron (Fe)**



**1s22s22p63s23p64s23d6**

**Noble Gas Notation (shortcut)**

Noble gas notation uses noble gas symbols in brackets to shorten inner electron configurations of other elements.

For iron above would be:

**[Ar]4s23d6**