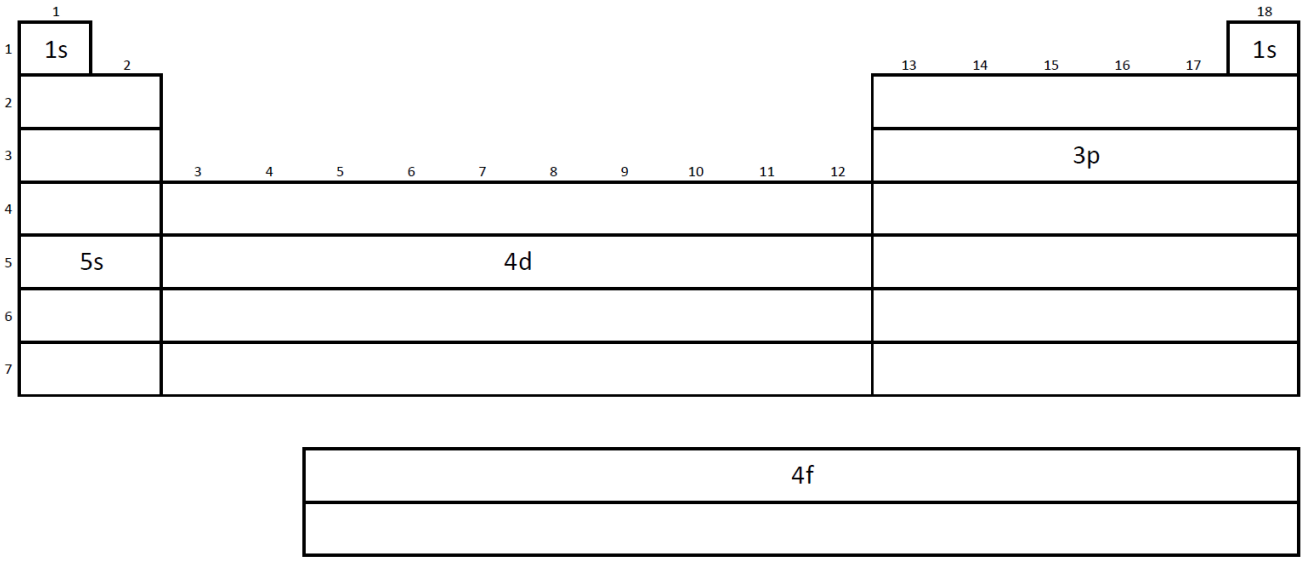
Electron Configuration Practice - Level 1

Electron configurations are used to show locations of electrons in the elements. In order to express the locations of electrons properly you need to commit to memory the energy levels and sublevel regions on the periodic table. **Please label the 4 sublevel regions as well as the energy level in each sublevel.** I have labeled a few for you.



The energy levels must be written in order of increasing energy. Generally an "s" sublevel has less energy than a "p" sublevel if they are in the same period. The "d" sublevel is always one energy level lower than the period it is in.

Please list out the energy levels and sublevels for the first 5 periods (for example: 1s, 2s, 2p, etc…). Your highest energy level and sublevel for this exercise should be 5p.

_1s__ < _____ < _____ < _____ < _____ < __4s__ < _____ < _____ < _____ < _____ < _5p__

Now we use exponents to designate how many electrons are in the sublevel. There is a maximum of 2 electrons in the "s", a maximum of 6 in the "p" sublevel, a maximum of 10 in the "d" sublevel and a maximum of 14 in the "f" sublevel. The only entry that will not have a maximum is the last one. You will need to count how many "over" it is in the region. That will be the exponent for the last entry. **Remember if it is not the last entry it must have the maximum amount of electrons possible!**

For example: the last entry for Al would be $3p^1$ (the whole electron configuration would be: $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^1$)

the last entry for S would be $3p^4$ (the whole electron configuration would be: $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$)

Now please write the electron configuration for each of the following elements:

Li - _____

N - _____

Na - _____

Cl - _____

Ca - _____

Cr - _____

Zn - _____

Se - _____