

## Electron Configuration Simulation

### C12-2-5 & 6

#### Introduction:

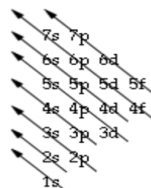
The electron configuration of an atom is the particular distribution of electrons among available shells. It is described by a notation that lists the subshell symbols, one after another. Each symbol has a subscript on the right giving the number of electrons in that subshell. For example, a configuration of the lithium atom (atomic number 3) with two electrons in the 1s subshell and one electron in the 2s subshell is written  $1s^2 2s^1$ .

sublevel	orbital	maximum # of electrons
s	1	2
p	3	6
d	5	10
f	7	14

The notation for electron configuration gives the number of electrons in each subshell. The number of electrons in an atom of an element is given by the atomic number of that element.

On the left we have a diagram to show how the orbitals of a subshell are occupied by electrons. On the right there is a diagram for the filling order of electrons in a subshell.

7s 7p  
 6s 6p 6d  
 5s 5p 5d 5f  
 4s 4p 4d 4f  
 3s 3p 3d  
 2s 2p  
 1s



Here are some examples that show how to use the filling order diagram to complete the electron configuration for a certain substance.