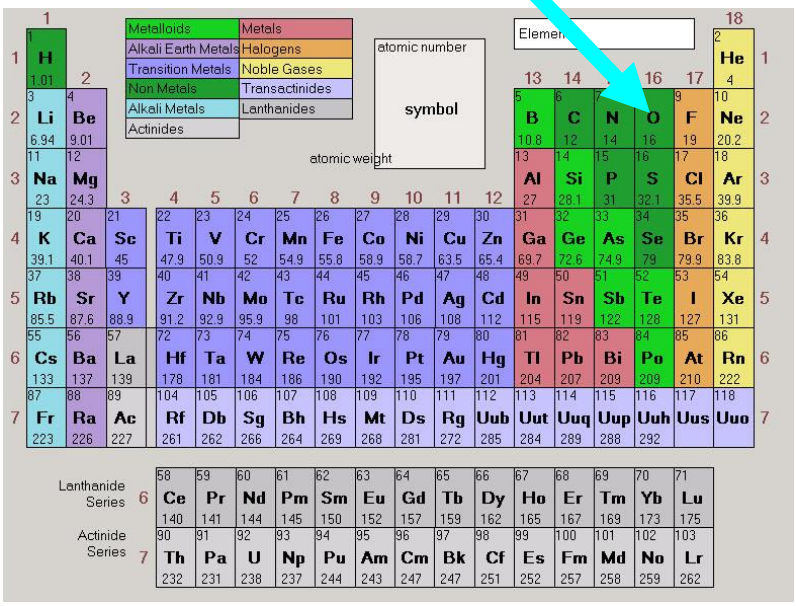
Electron Configuration Problems

Electron Configuration = a walk through the table

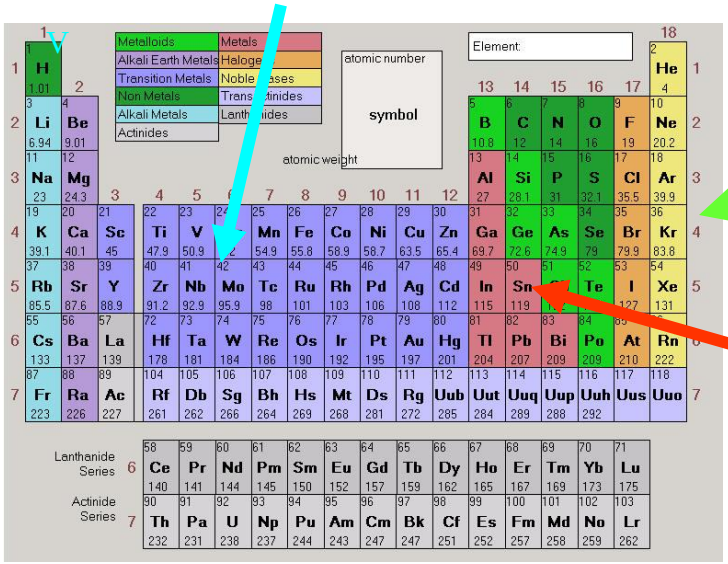
What element has the electron configuration $1s^2 2s^2 2p^4$? **Oxygen**
What period is it in? 2
What group is it in? 6

Without "Table"
Coefficient = period
" A" Group = s + p



Identify the elements with electron configurations

$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^3$



$1s^2 2s^2 2p^6$

Ne

$1s^2 2s^2 2p^6 3s^2 3p^2$

Si

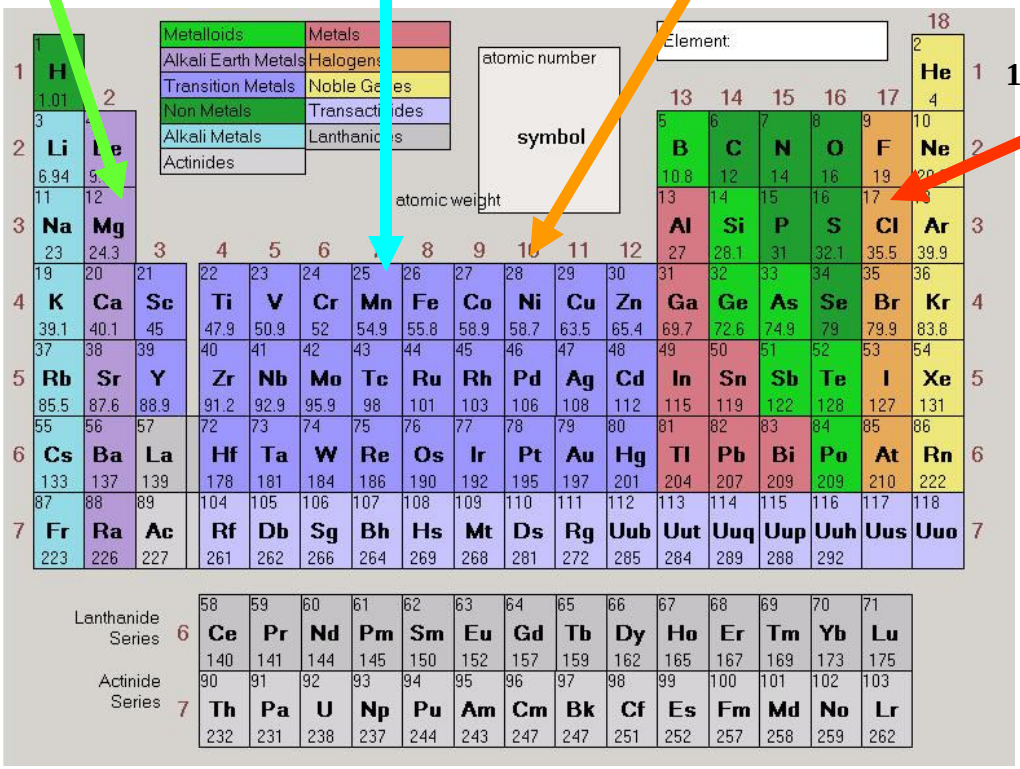
Write the ground state electron configuration of:

Magnesium
$1s^2\ 2s^2\ 2p^6\ 3$

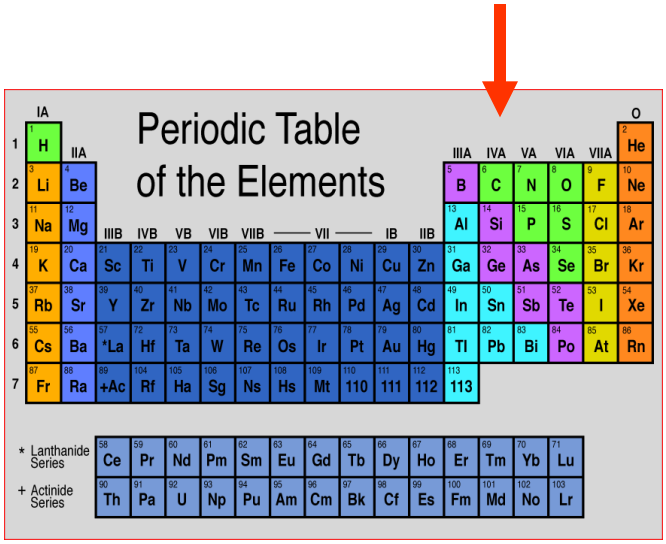
Manganese
$1s^2\ 2s^2\ 2p^6\ 3s^2 3p^6 4s^2\ 3d^5$

Nickel
$1s^2\ 2s^2\ 2p^6\ 3s^2 3p^6 4s^2\ 3d^8$

Chlorine
$1s^2\ 2s^2\ 2p^6\ 3s^2 3p^5$



What is the # of valence electrons in atoms of carbon & silicon?
Carbon and Silicon members of family 4A ➔ 4 electrons



Which group of the Periodic Table does ns^2np^4 represent? VI A

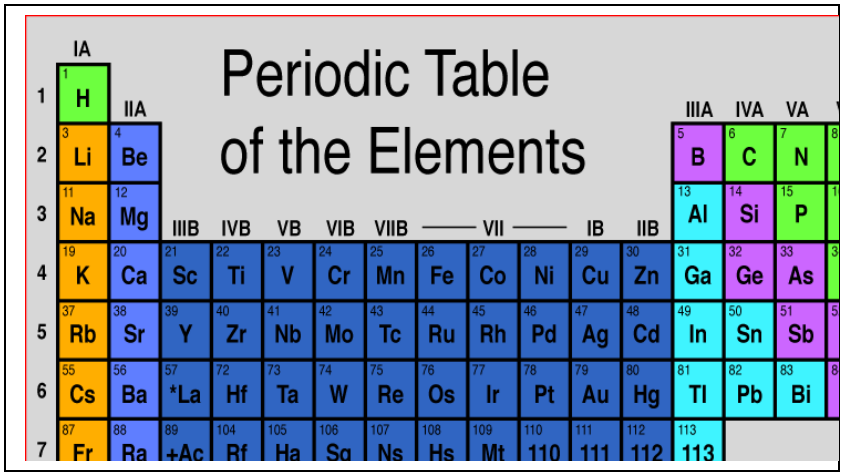
Which Atoms Are Isoelectronic?

N^{3-} [Ne] & F^- [Ne] Yes, both have same configuration (Ne)

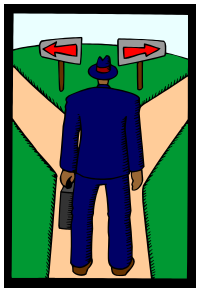
K^+ [Ar] & Br^- [Kr] No, different outer shells

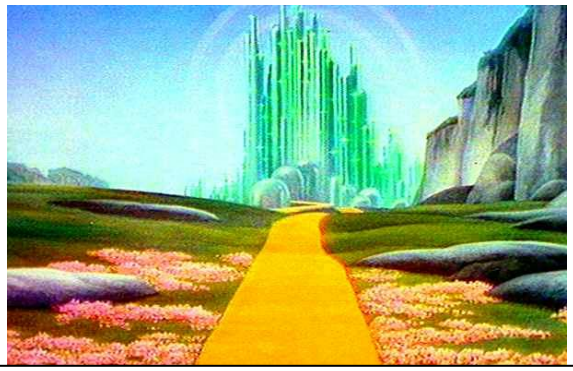
C^{4+} [Ne] & O^{2-} [Ne] Yes, both have same configuration (Ne)

Mg^{2+} [Ne] & Ca^{2+} [Ar] No, different outer shells



Path To Success





Start at Hydrogen
Walk Through Tables –one electron at a time
until
Element or Configuration is reached