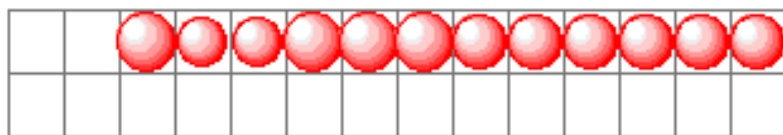
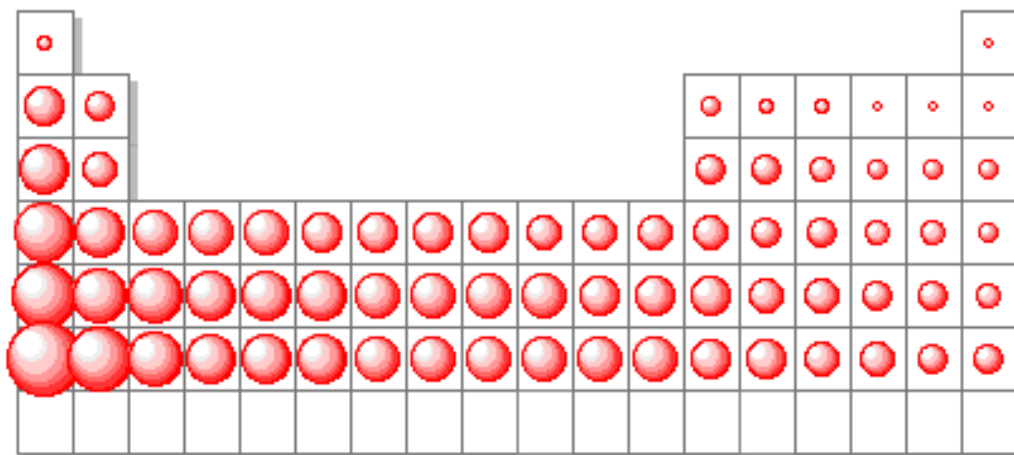
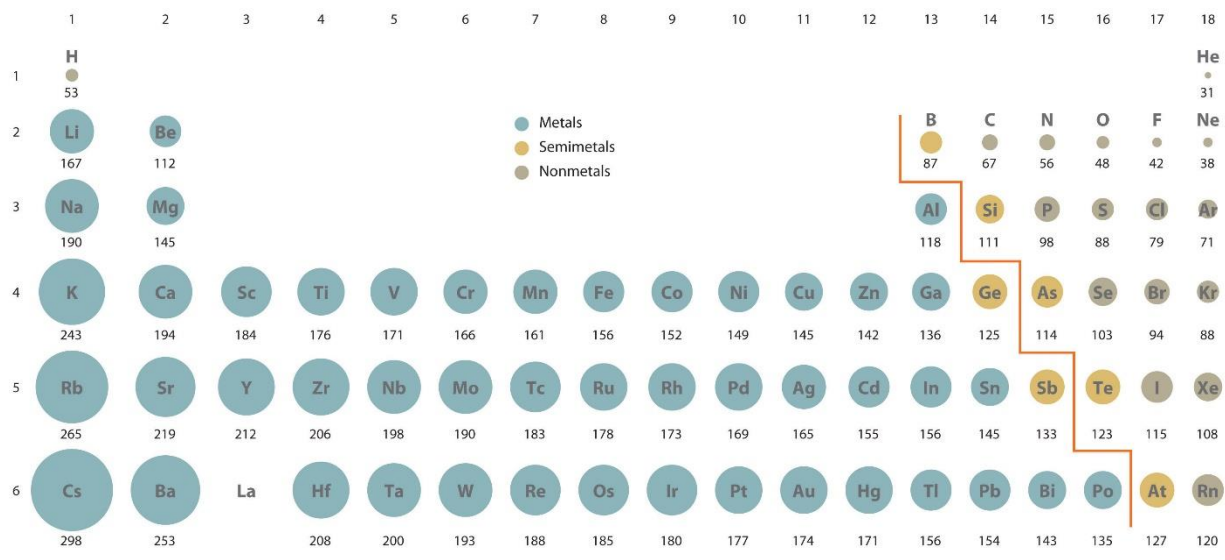


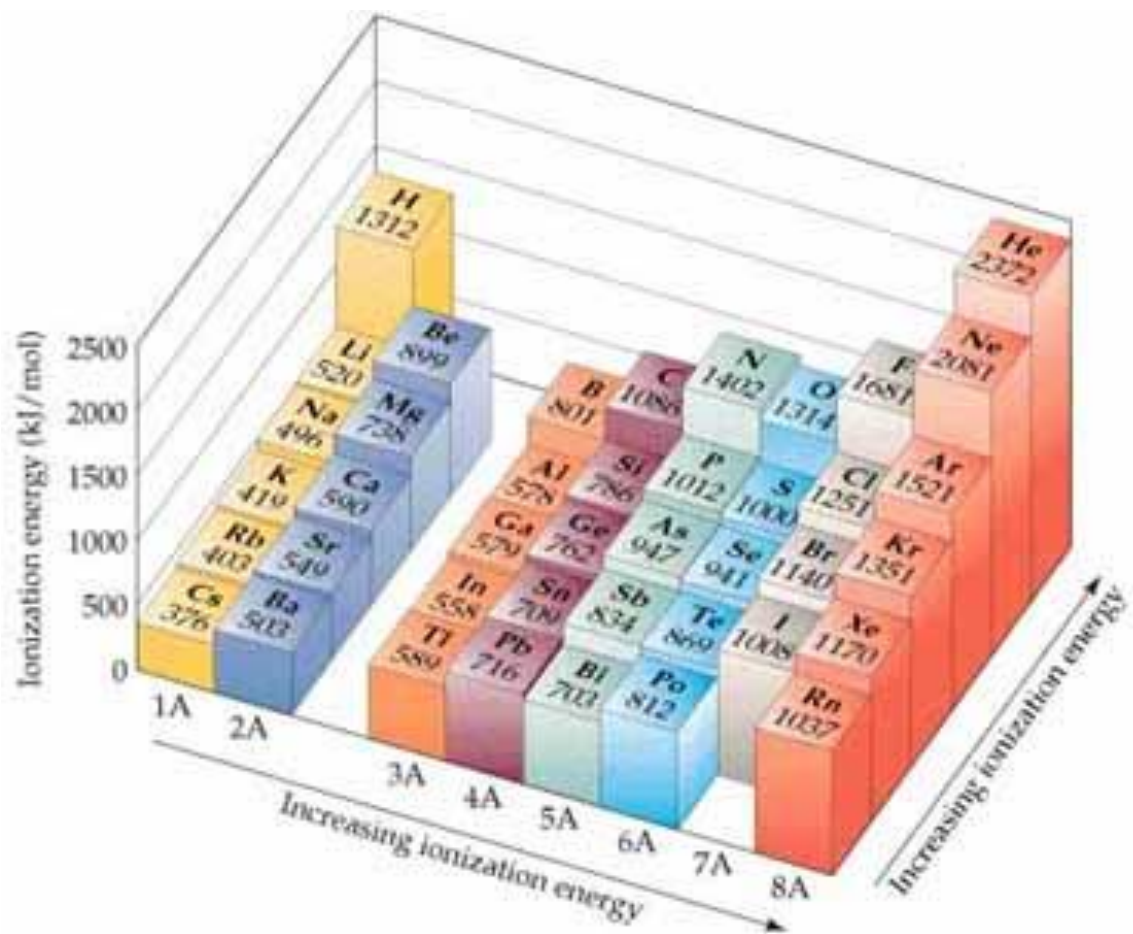
# WebElements

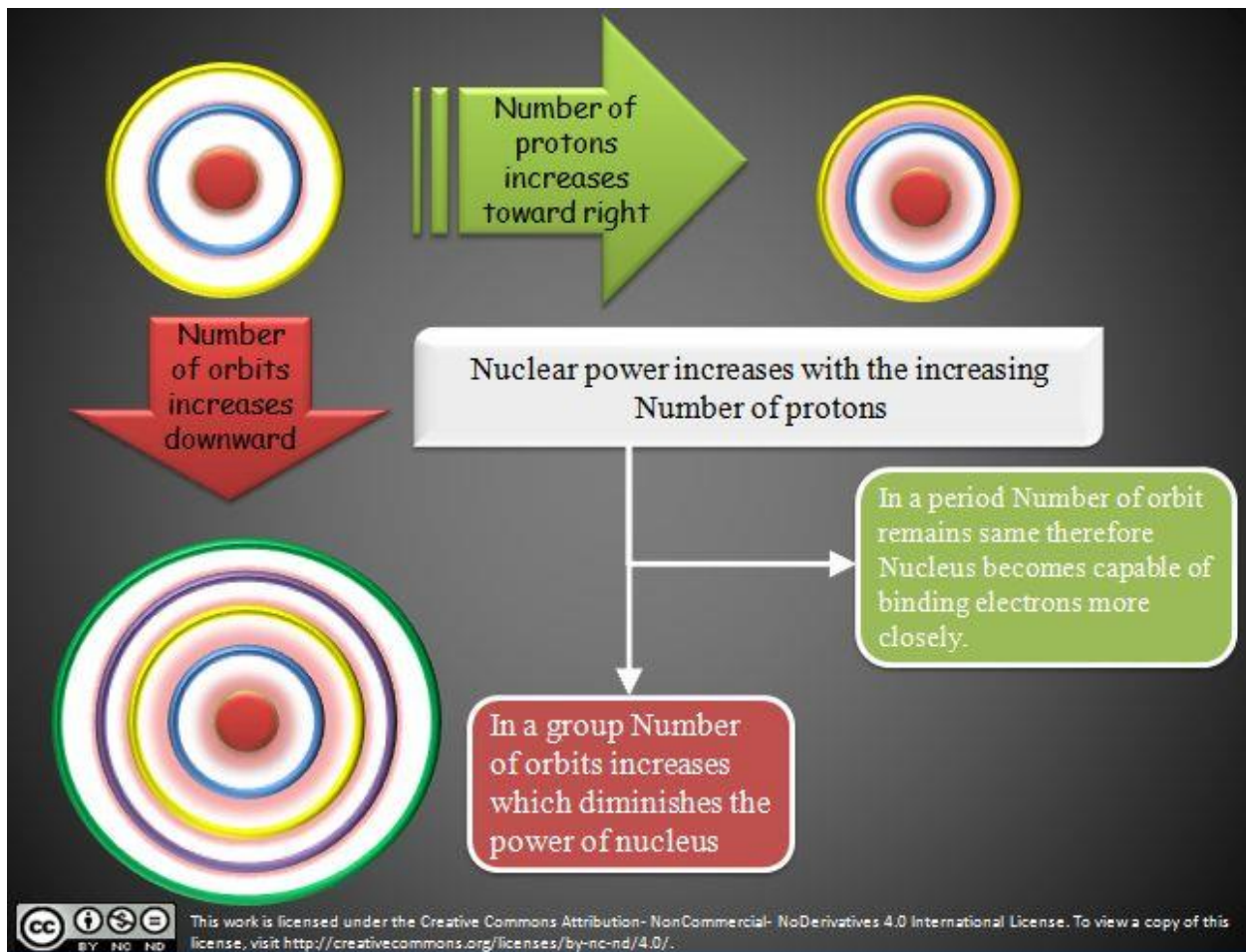
Atomic radius [pm] coded by ball size

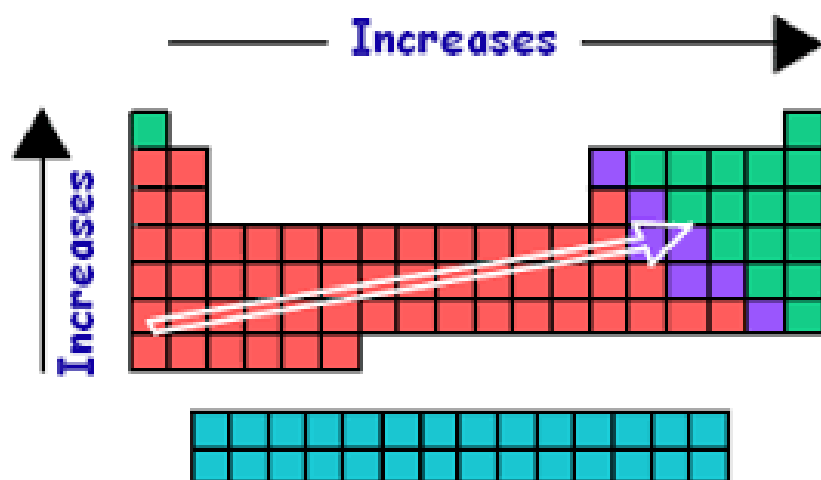


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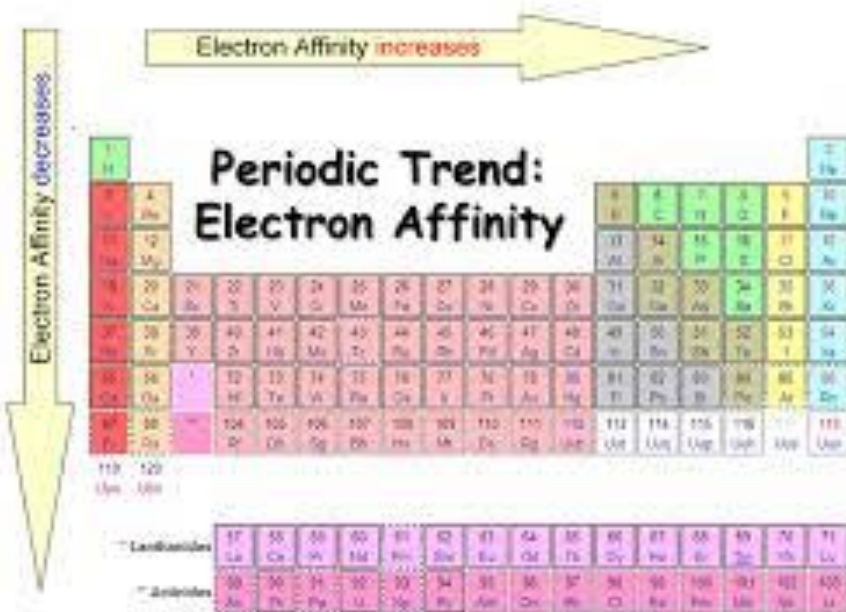
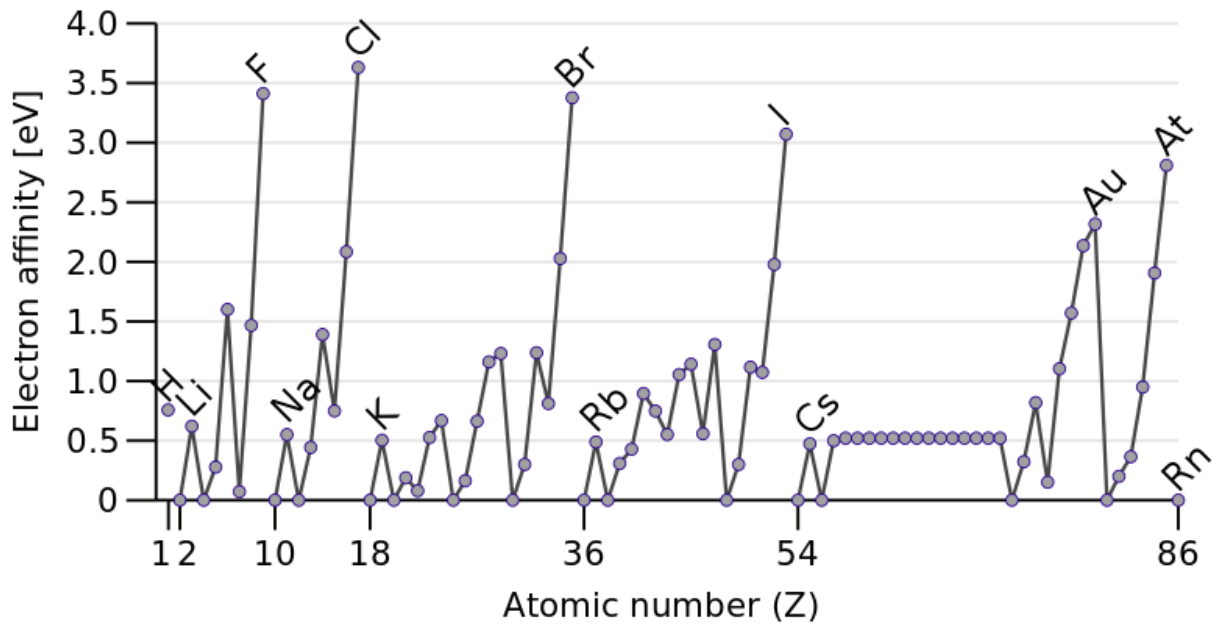


## Ionization Energy

Ionization Energies																																															
H																	He																														
Li	Be															B	C	N	O	F	Ne																										
Na	Mg	<b>Low</b>										<b>High</b>						Al	Si	P	S	Cl	Ar																								
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr																														
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe																														
Cs	Ba			Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn																													
Fr	Ra			Rf	Db	Sg	Bh	Hs	Mt																																						
<table style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="background-color: #00bfff;">La</td> <td style="background-color: #00bfff;">Ce</td> <td style="background-color: #00bfff;">Pr</td> <td style="background-color: #00bfff;">Nd</td> <td style="background-color: #00bfff;">Pm</td> <td style="background-color: #00bfff;">Sm</td> <td style="background-color: #00bfff;">Eu</td> <td style="background-color: #00bfff;">Gd</td> <td style="background-color: #00bfff;">Tb</td> <td style="background-color: #00bfff;">Dy</td> <td style="background-color: #00bfff;">Ho</td> <td style="background-color: #00bfff;">Er</td> <td style="background-color: #00bfff;">Tm</td> <td style="background-color: #00bfff;">Yb</td> <td style="background-color: #00bfff;">Lu</td> </tr> <tr> <td style="background-color: #00bfff;">Ac</td> <td style="background-color: #00bfff;">Th</td> <td style="background-color: #00bfff;">Pa</td> <td style="background-color: #00bfff;">U</td> <td style="background-color: #00bfff;">Np</td> <td style="background-color: #00bfff;">Pu</td> <td style="background-color: #00bfff;">Am</td> <td style="background-color: #00bfff;">Cm</td> <td style="background-color: #00bfff;">Bk</td> <td style="background-color: #00bfff;">Cf</td> <td style="background-color: #00bfff;">Es</td> <td style="background-color: #00bfff;">Fm</td> <td style="background-color: #00bfff;">Md</td> <td style="background-color: #00bfff;">No</td> <td style="background-color: #00bfff;">Lr</td> </tr> </table>																		La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu																																	
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr																																	



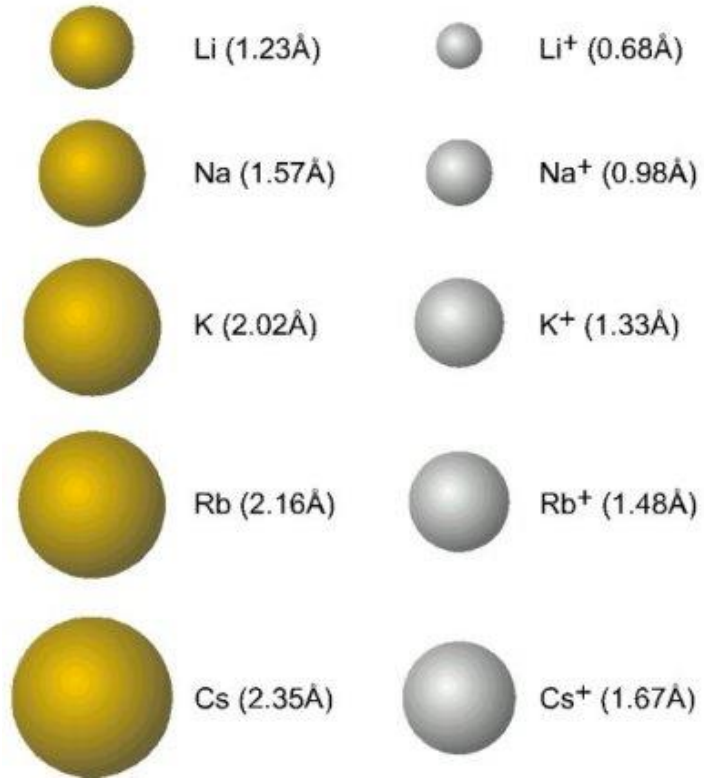
# Electron Affinity





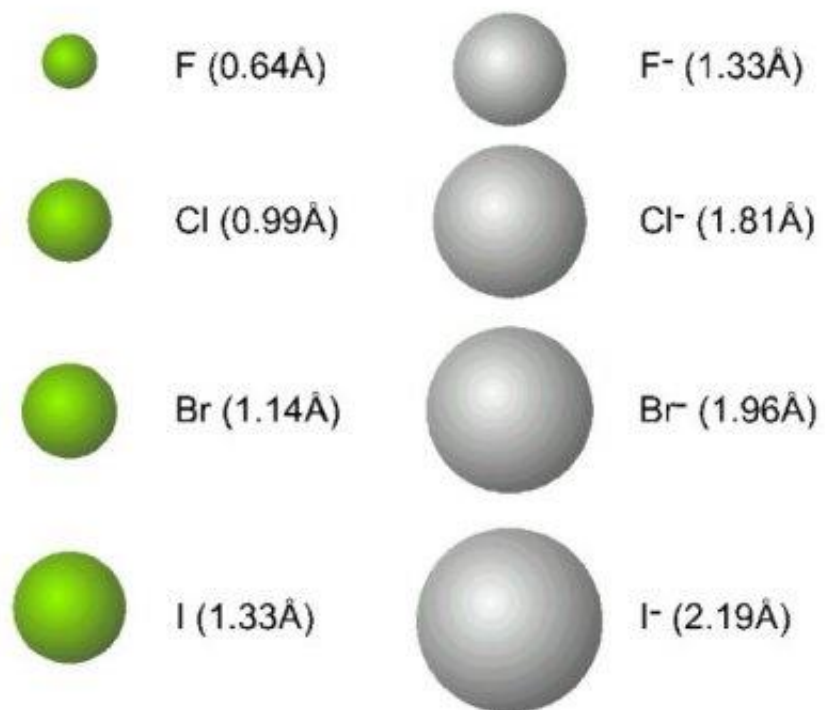
## ION SIZE

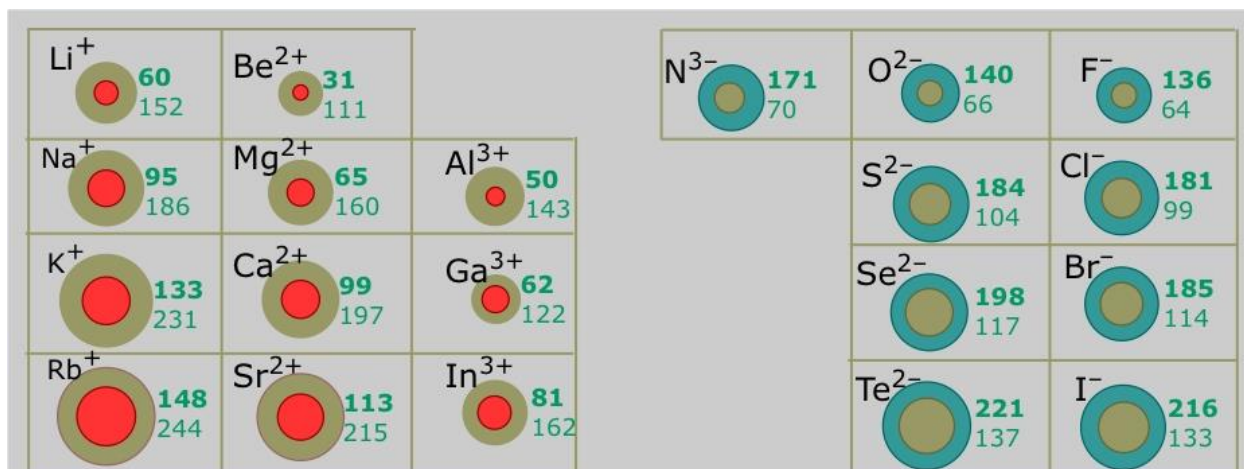
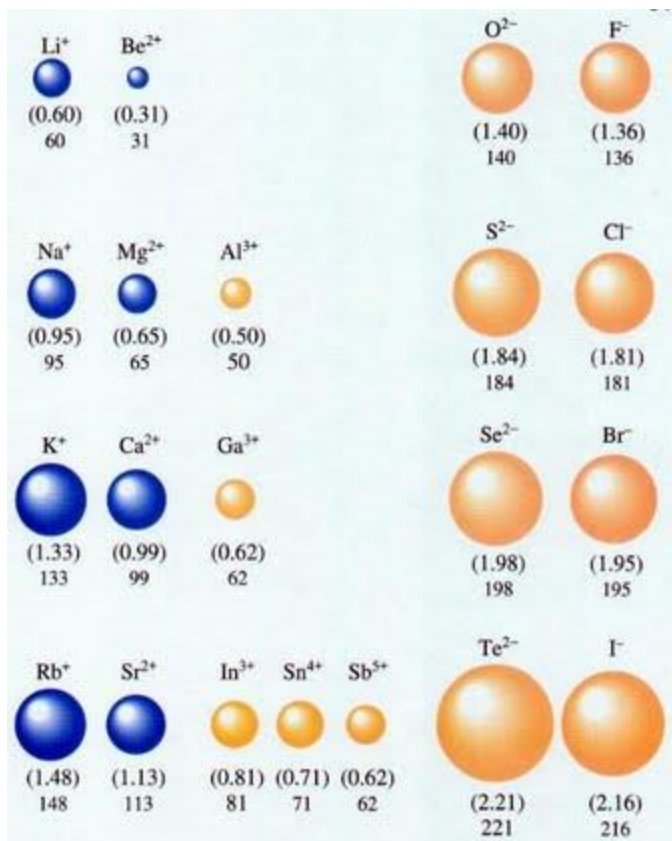
### Atomic Radii of Alkali Metal Elements and Ions





## Atomic Radii of Halogen Elements and Ions





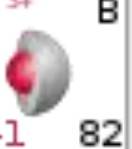

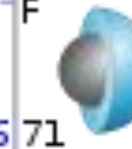











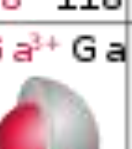

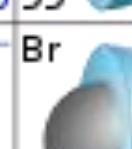


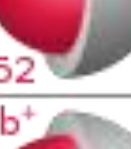
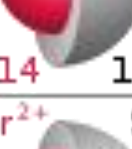
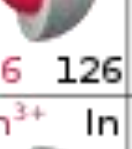
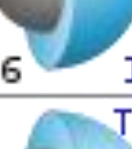
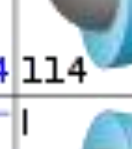




## Ionic radii

S.K. Lower

Ions are colored red and blue; parent atoms brown.  
Radii are in picometers.

## Sizes of atoms and their ions in pm

Group 1		Group 2		Group 13		Group 16		Group 17	
$\text{Li}^+$  90	Li 134	$\text{Be}^{2+}$  59	Be 90	$\text{B}^{3+}$  41	B 82	O  73	$\text{O}^{2-}$  126	F  71	$\text{F}^-$  119
$\text{Na}^+$  116	Na 154	$\text{Mg}^{2+}$  86	Mg 130	$\text{Al}^{3+}$  68	Al 118	S  102	$\text{S}^{2-}$  170	Cl  99	$\text{Cl}^-$  167
$\text{K}^+$  152	K 196	$\text{Ca}^{2+}$  114	Ca 174	$\text{Ga}^{3+}$  76	Ga 126	Se  116	$\text{Se}^{2-}$  184	Br  114	$\text{Br}^-$  182
$\text{Rb}^+$  166	Rb 211	$\text{Sr}^{2+}$  132	Sr 192	$\text{In}^{3+}$  94	In 144	Te  135	$\text{Te}^{2-}$  207	I  133	$\text{I}^-$  206