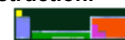


Revised August 2012



HONORS LAB 8b: The Blank Periodic Table

Use the blank periodic table on page two of this worksheet, and www.chemicool.com to complete the tasks.

On the blank periodic table, a vertical column of six, rectangular boxes represents each of the first twenty elements. In the first box the element's atomic number is written. Add the following data to the other boxes, in the order shown, working from the top down. (Hydrogen is completed as an example).

- (1) Insert the symbol for all 20 elements
- (2) Insert the 1st ionization energy in kJ mol^{-1} for all 20 elements
- (3) Insert the 2nd ionization energy in kJ mol^{-1} for all 20 elements
- (4) Insert the atomic radii (in pm) for the following elements only

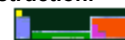
H, Li, Be, O, F, Na, Mg, Al, S, Cl, K, Ca

- (5) Insert the ionic radii (in pm) for the following ions only. Include the charge on the ion in parentheses.

H⁻, Li⁺, Be²⁺, O²⁻, F⁻, Na⁺, Mg²⁺, Al³⁺, S²⁻, Cl⁻, K⁺, Ca²⁺

- (6) Using Excel, create and print the following plots.
 - A column chart of 1st and 2nd ionization energies plotted next to one another, for each of the first 20 elements
 - A column chart comparing the atomic and ionic size plotted next to one another for each of the elements and their ions listed in (4) and (5) above

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		Groups		THE BLANK PERIODIC TABLE	Groups										
		1	2		13	14	15	16	17	18					
Periods	1			1							2				
				H											
				1312											
				n/a											
				37.1											
				208 (-1)											
	2	3	4							5	6	7	8	9	10
	3	11	12							13	14	15	16	17	18
4	19	20													