

**ASSIGNMENT (Read carefully): Construct three graphs. Plot each of the following periodic trends (see key below) versus the atomic number of the respective element. Connect the points in order. Label each peak and valley with the appropriate element symbol. On a separate paper, compare and contrast the three trends. What general statements can you make about each trend individually and all three trends in relation to one another?**

H 37 <b>1312</b> <b>2.1</b>						
Li 152 <b>520</b> <b>1.0</b>	Be 112 <b>900</b> <b>1.5</b>	B 80 <b>801</b> <b>2.0</b>	C 77 <b>1086</b> <b>2.5</b>	N 71 <b>1402</b> <b>3.0</b>	O 66 <b>1314</b> <b>3.5</b>	F 64 <b>1681</b> <b>4.0</b>
Na 186 <b>496</b> <b>0.9</b>	Mg 160 <b>738</b> <b>1.2</b>	Al 143 <b>578</b> <b>1.5</b>	Si 118 <b>786</b> <b>1.8</b>	P 109 <b>1012</b> <b>2.1</b>	S 103 <b>1000</b> <b>2.5</b>	Cl 99 <b>1251</b> <b>3.0</b>
K 227 <b>419</b> <b>0.8</b>	Ca 197 <b>599</b> <b>1.0</b>	Ga 122 <b>579</b> <b>1.6</b>	Ge 123 <b>762</b> <b>1.8</b>	As 121 <b>947</b> <b>2.0</b>	Se 117 <b>941</b> <b>2.4</b>	Br 114 <b>1140</b> <b>2.8</b>
Rb 244 <b>403</b> <b>0.8</b>	Sr 215 <b>550</b> <b>1.0</b>	In 167 <b>558</b> <b>1.7</b>	Sn 141 <b>709</b> <b>1.8</b>	Sb 141 <b>834</b> <b>1.9</b>	Te 138 <b>869</b> <b>2.1</b>	I 138 <b>1008</b> <b>2.5</b>
Cs 262 <b>377</b> <b>0.7</b>	Ba 222 <b>503</b> <b>0.9</b>	Tl 170 <b>589</b> <b>1.8</b>	Pb 175 <b>715</b> <b>1.9</b>	Bi 151 <b>703</b> <b>1.9</b>	Po 164 <b>812</b> <b>1.9</b>	At 145 <b>890</b> <b>2.2</b>

**Key:** H = symbol; 37 = atomic radius (pm) ; **1312** = 1<sup>st</sup> ionization energy (kJ/mol); **2.1** = electronegativity

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