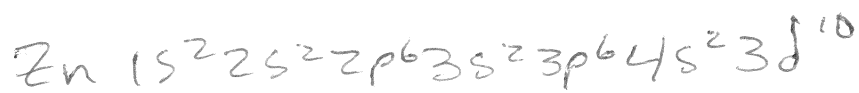
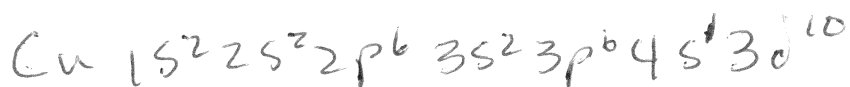
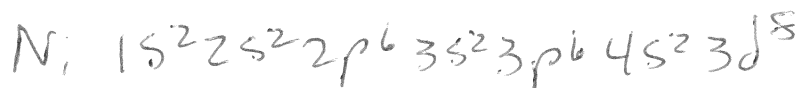
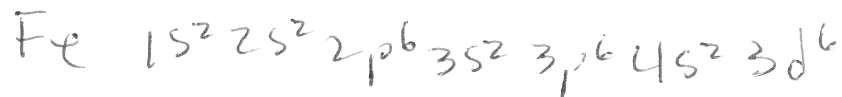
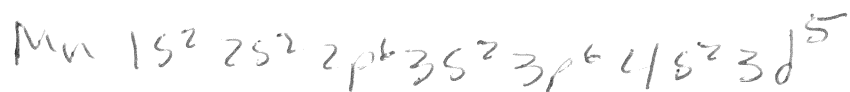
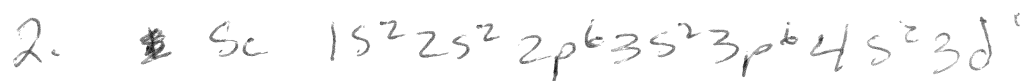
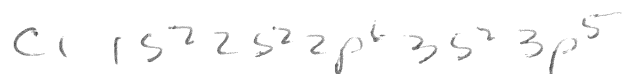
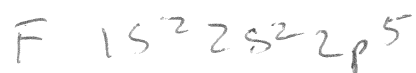
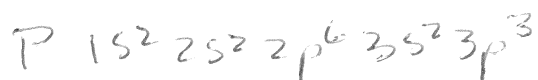
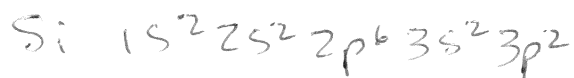


Chem 7 Electron Configuration and Periodic Trends Worksheet

1. Write the EC for C, Si, N, P, F, Cl
2. Write the EC for Sc through Zn and underline the valence electrons.
3. Write the valence EC for group 1A, 2A, 3A through 8A for the first six periods.
4. Which element is larger? Mg or Ba
5. Which element is larger? Cu or Au
6. From which element is it easier to remove an electron? Si or Cl
7. Rank the following elements in increasing ionization energy from left to right:
As, K, Se, Fe, Ni, K
8. Rank the following elements in order of decreasing size from left to right.
Co, Mt, Rh, Ir
9. Which element has a higher force of attraction on its valence electrons? S or Al
10. If the force of attraction on the valence electrons of Ca is greater than the FA on the valence electrons of K, which atom is smaller?
11. Calculate the Z_{eff} on the valence electrons of Br.
12. Which element is largest? Tc, Rb, Cd, I, Te
13. Write the EC for K^+ .
14. Write the EC for the ion S^{2-} .
15. Write the orbital diagram for C.
16. Write the orbital diagram for Al.
17. Calculate the Z_{eff} for the valence electrons of Ba.
18. Calculate the Z_{eff} for the valence electrons of P.

Answer Key EL/P. Trends



3.

<u>1A</u>	<u>2A</u>	<u>3A</u>	<u>4A</u>	<u>5A</u>	<u>6A</u>
1s ¹	2s ²	2s ² 2p ¹	2s ² 2p ²	2s ² 2p ³	2s ² 2p ⁴
2s ¹	3s ²	3s ² 3p ¹	3s ² 3p ²	3s ² 3p ³	3s ² 3p ⁴
3s ¹	4s ²	4s ² 4p ¹	4s ² 4p ²	4s ² 4p ³	4s ² 4p ⁴
4s ¹	5s ²	5s ² 5p ¹	5s ² 5p ²	5s ² 5p ³	5s ² 5p ⁴
5s ¹	6s ²	6s ² 6p ¹	6s ² 6p ²	6s ² 6p ³	6s ² 6p ⁴
6s ¹					

<u>7A</u>	<u>8A</u> (1s ²)
2s ² 2p ⁵	2s ² 2p ⁶
3s ² 3p ⁵	3s ² 3p ⁶
4s ² 4p ⁵	4s ² 4p ⁶
5s ² 5p ⁵	5s ² 5p ⁶
6s ² 6p ⁵	6s ² 6p ⁶

④ Ba

⑤ Au

⑥ Si

⑦ K > Fe > Ni > As > Se

⑧ Mt > Ir > Rh > Co

⑨ S

(10) Ca is smaller than K

(11) +7

(12) Rb

(13) $1s^2 2s^2 2p^6 3s^2 3p^6$

(14) $1s^2 2s^2 2p^6 3s^2 3p^6$

(15) $\frac{1\downarrow}{1s} \frac{1\downarrow}{2s} \frac{1}{2p} \frac{1}{2p} \text{---}$

(16) $\frac{1\downarrow}{1s} \frac{1\downarrow}{2s} \frac{1\downarrow}{2p} \frac{1\downarrow}{2p} \frac{1\downarrow}{3s} \frac{1\downarrow}{3s} \frac{1}{3p} \text{---}$

(17) +2

(18) +5