

Name: _____ Date: _____ Block: _____

Electronegativity chart of the Elements

1 H 2.1																	2 He
3 Li 1.0	4 Be 1.5											5 B 2.0	6 C 2.5	7 N 3.0	8 O 3.5	9 F 4.0	10 Ne
11 Na 0.9	12 Mg 1.2											13 Al 1.5	14 Si 1.8	15 P 2.1	16 S 2.5	17 Cl 3.0	18 Ar
19 K 0.8	20 Ca 1.0	21 Sc 1.3	22 Ti 1.5	23 V 1.6	24 Cr 1.6	25 Mn 1.5	26 Fe 1.8	27 Co 1.9	28 Ni 1.9	29 Cu 1.9	30 Zn 1.6	31 Ga 1.6	32 Ge 1.8	33 As 2.0	34 Se 2.4	35 Br 2.8	36 Kr 3.0
37 Rb 0.8	38 Sr 1.0	39 Y 1.2	40 Zr 1.4	41 Nb 1.6	42 Mo 1.8	43 Tc 1.9	44 Ru 2.2	45 Rh 2.2	46 Pd 2.2	47 Ag 1.9	48 Cd 1.7	49 In 1.7	50 Sn 1.8	51 Sb 1.9	52 Te 2.1	53 I 2.5	54 Xe 2.6
55 Cs 0.7	56 Ba 0.9	57 La 1.1	72 Hf 1.3	73 Ta 1.5	74 W 1.7	75 Re 1.9	76 Os 2.2	77 Ir 2.2	78 Pt 2.2	79 Au 2.4	80 Hg 1.9	81 Tl 1.8	82 Pb 1.9	83 Bi 1.9	84 Po 2.0	85 At 2.2	86 Rn 2.4
87 Fr 0.7	88 Ra 0.9	89 Ac 1.1	104 Rf	105 Ha	106 Sg	107 Ns	108 Hs	109 Mt	110 Uun	111 Uuu	112 Uub	113 Uut	114 Uuq	115 Uup	116 Uuh	117 Uus	118 Uuo

1) In each of the following pairs, circle the species with the larger atomic radius:

a) Mg or Ba

b) S or S⁻²

c) Cu⁺² or Cu

d) H or H⁻

e) Na or Cl

2) Circle the best choice in each list:

a) largest radius: S⁻² or Cl

b) highest electronegativity: As, Sn, S

c) smallest atom: Na, Li, Be

3) Rank the following elements by increasing atomic radius:

carbon, aluminum, oxygen, potassium

4) Rank the following elements by increasing electronegativity:

sulfur, oxygen, neon, aluminum

- 5) Why do elements in the same family generally have similar properties?
- 6) Within a period, does the size of the atom increase or decrease with increasing atomic number?
- 7) Within a family, does the size of the atom increase or decrease with increasing atomic number?
- 8) When metallic atoms lose electrons do they form smaller or larger ions?
- 9) When nonmetallic atoms gain electrons do they form smaller or larger ions?
- 10) From each of the following pairs, circle the larger particle.
- a) Na or Li
 - b) Br or I
 - c) Cs or Ba
 - d) Ne or Ar
- 11) List the three lightest members of the noble gases.
- 12) Within a group, what happens to the atomic radius as you go down the column?
Why does that happen?

- 13) Within a period, what happens to the atomic radius as the atomic number increases? Why does this occur?
- 14) How are the shielding effect and the size of the atomic radius related?
- 15) How are neutral atoms converted into cations?
- 16) How are neutral atoms converted into anions?
- 17) When an atom becomes an anion, what happens to its radius?
- 18) When an atom becomes a cation, what happens to its radius?