

Periodic Trends Worksheet #3

- 1) Rank the following elements by increasing atomic radius: carbon, aluminum, oxygen, potassium.
- 2) Rank the following elements by increasing electronegativity: sulfur, oxygen, neon, aluminum.
- 3) Why does fluorine have a higher ionization energy than iodine?
- 4) Why do elements in the same family generally have similar properties?
- 5) Indicate whether the following properties increase or decrease from left to right across the periodic table.
 - a) atomic radius (excluding noble gases)
 - b) ionization energy
 - c) electronegativity
- 6) What trend in atomic radius occurs down a group on the periodic table? What causes this trend?
- 7) What trend in ionization energy occurs across a period on the periodic table? What causes this trend?
- 8) Circle the atom in each pair that has the largest atomic radius.

| | |
|------------|-------------|
| a) Al or B | d) Na or Al |
| b) S or O | e) Br or Cl |
| c) O or F | f) Mg or Ca |
- 9) Circle the atom in each pair that has the greater ionization energy.

| | |
|-------------|-------------|
| a) Li or Be | d) P or Ar |
| b) Ca or Ba | e) Cl or Si |
| c) Na or K | f) Li or K |
- 10) Define electronegativity.
- 11) Circle the atom in each pair that has the greater electronegativity.

| | |
|-------------|-------------|
| a) Ca or Ga | d) Ba or Sr |
| b) Br or As | e) Cl or S |
| c) Li or O | f) O or S |

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