

# 7 ● Chemical Bonding



## Periodic Trends

Define each of the terms and answer the questions that follow.

1. **ATOMIC RADIUS:** \_\_\_\_\_

As you go down the periodic table, the atomic radius \_\_\_\_\_. This happens

because \_\_\_\_\_

\_\_\_\_\_. As you go across the periodic table, the atomic radius

\_\_\_\_\_. This happens because \_\_\_\_\_

\_\_\_\_\_

Rank each set of atoms from largest radius to smallest radius.

| Set of Atoms | Largest Radius |  | Smallest Radius |
|--------------|----------------|--|-----------------|
| a. Li, C, F  |                |  |                 |
| b. Li, Na, K |                |  |                 |
| c. Ge, P, O  |                |  |                 |

2. **IONIZATION ENERGY:** \_\_\_\_\_

As you go down the periodic table, the ionization energy \_\_\_\_\_. This happens

because \_\_\_\_\_

\_\_\_\_\_. As you go across the periodic table, the ionization energy

\_\_\_\_\_. This happens because \_\_\_\_\_

\_\_\_\_\_

Rank each set of atoms from greatest ionization to lowest ionization.

| Set of Atoms  | Greatest Ionization Energy |  | Lowest Ionization Energy |
|---------------|----------------------------|--|--------------------------|
| a. Mg, Si, S  |                            |  |                          |
| b. Mg, Ca, Ba |                            |  |                          |
| c. F, Cl, Br  |                            |  |                          |

3. ELECTRONEGATIVITY: \_\_\_\_\_

As you go down the periodic table, the electronegativity \_\_\_\_\_. This happens

because \_\_\_\_\_

\_\_\_\_\_. As you go across the periodic table, the

electronegativity \_\_\_\_\_. This happens because \_\_\_\_\_

**Rank each set of atoms from greatest electronegativity to electronegativity.**

| Set of Atoms | Highest electronegativity |  | Lowest electronegativity |
|--------------|---------------------------|--|--------------------------|
| a. Li, C, N  |                           |  |                          |
| b. C, O, Ne  |                           |  |                          |
| c. K, Mg, P  |                           |  |                          |