

Name: \_\_\_\_\_

**Chemistry: Periodic Table- Periodic Trends Practice**

1) How did **Mendeleev** organize the periodic table?

2) Identify each element below as a metal, metalloid or nonmetal:

A) Fluorine = \_\_\_\_\_

D) Oxygen = \_\_\_\_\_

B) Calcium = \_\_\_\_\_

E) Iron = \_\_\_\_\_

C) Silicon = \_\_\_\_\_

F) Aluminum = \_\_\_\_\_

3) Identify each element in the families below:

A) Noble Gases = \_\_\_\_\_

C) Alkali Metals = \_\_\_\_\_

B) Halogens = \_\_\_\_\_

D) Alkaline Earth Metals = \_\_\_\_\_

4) What trend in **atomic radius** do you see as you move **downward** in a **group/family**? What causes this trend?

5) What trend in **atomic radius** do you see as you go **across a period** on the periodic table? What causes this trend?

6) 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) O or F

C) Br or Cl

F) Mg or Ca

7) For each of the following sets of atoms, rank the atoms from **smallest** to **largest** atomic radius:

A) Li, C, F = \_\_\_\_\_

B) C, N, Al = \_\_\_\_\_

C) Li, Na, K = \_\_\_\_\_

D) Al, Cl, Ga = \_\_\_\_\_

8) What trend in **electronegativity** do you see as you move **downward** in a **group/family**? What causes this trend?

9) What trend in **electronegativity** do you see as you go **across** a **period** on the periodic table? What causes this trend?

10) Circle the atom in each pair that has the **largest 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

11) For each of the following sets of atoms, rank the atoms from **smallest** to **largest** electronegativity:

A) Li, C, N = \_\_\_\_\_

C) F, Cl, Br = \_\_\_\_\_

B) C, O, Ne = \_\_\_\_\_

D) Ca, Ga, F = \_\_\_\_\_

12) What trend in **ionization energy** do you see as you move **downward** in a **group/family**? What causes this trend?

13) What trend in **ionization energy** do you see as you go **across** a **period** on the periodic table? What causes this trend?

14) Circle the atom in each pair that has the **largest ionization energy**:

A) Li or Be

D) Ca or Ba

B) Na or K

E) P or Ar

C) Cl or Si

F) Li or K

15) For each of the following sets of atoms, rank the atoms from **smallest** to **largest** ionization energy:

A) Mg, Si, S = \_\_\_\_\_

C) F, Cl, Br = \_\_\_\_\_

B) Mg, Ca, Ba = \_\_\_\_\_

D) Na, P, Cl = \_\_\_\_\_