Name _____ Chemistry
Intro to Bonding Activity

Directions: Answer the questions below according to the activity.

The classroom is divided into two classes: Metals and nonmetals

Pre-Activity:

1. What classification are you? (metal / nonmetal) _____
2. What are three properties of your group of elements?
    a. _____
    b. _____
    c. _____
3. Are you left or right of the staircase on the periodic table? _____
4. What element are you? _____
5. What phase are you at Standard Temperature and Pressure (STP) _____
6. What group are you in on the Periodic Table? _____
7. What is your electronegativity value? _____
8. What is your:
    a. Atomic Number _____
    b. Mass Number _____
    c. Number of protons _____
    d. Number of electrons _____
    e. Number of Neutrons _____

Definitions

Covalent Bond: A type of bond that exists generally between two nonmetals that enables each of the atoms to obtain eight electrons in their outer shells by sharing electrons with each other. A semi weak bond is formed.

Ionic Bond: A type of bond that exists generally between a metal and a nonmetal. The metal looses electrons and becomes positively charged; the nonmetal gains the electrons and becomes negatively charged. The ions are attracted to each other because of their opposite charges. A strong bond is formed.

Metallic Bond: A type of bond that exists between two metals. The electrons of metals are highly mobile and move around like water molecules in the water. This bond is referred to as a sea of mobile electrons. Metallic bonds exist between two of the same metallic elements.

Electronegativity: Is the attraction an atom has for another atom's electrons when in a chemical bond. A higher value indicates a stronger attraction for another atom's electrons. The difference between electronegativity values of two atoms describes the type of bond:

Difference	Type of Bond
0.0 - 0.5	Relatively Nonpolar Covalent (equal sharing)
0.6 - 1.6	Polar Covalent (unequal sharing)
1.7 - up	Ionic (transfer of electrons)

Activity:

1. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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2. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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3. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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4. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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5. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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6. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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7. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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8. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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9. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____

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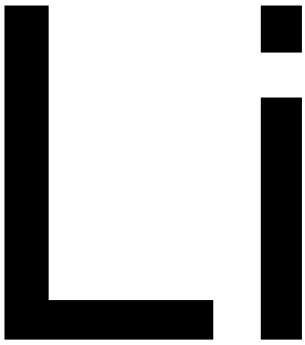
10. You are _____ and want to bond with _____

How do you do it? _____

What is the electronegativity difference in the bond? _____

What type of bond did you make? _____

What is your chemical formula? _____



Atomic Number

Atomic Mass

Electronegativity value

Na

Atomic Number

Atomic Mass

Electronegativity value

K

Atomic Number

Atomic Mass

Electronegativity value

Rb

Atomic Number

Atomic Mass

Electronegativity value

Cs

Atomic Number

Atomic Mass

Electronegativity value

Ca

Atomic Number

Atomic Mass

Electronegativity value

Sr

Atomic Number

Atomic Mass

Electronegativity value

Ba

Atomic Number

Atomic Mass

Electronegativity value

C

Atomic Number

Atomic Mass

Electronegativity value

N

Atomic Number

Atomic Mass

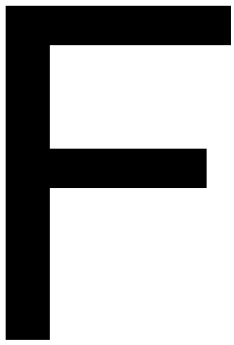
Electronegativity value

O

Atomic Number

Atomic Mass

Electronegativity value



Atomic Number

Atomic Mass

Electronegativity value

Cl

Atomic Number

Atomic Mass

Electronegativity value

Br

Atomic Number

Atomic Mass

Electronegativity value

Atomic Number

Atomic Mass

Electronegativity value

P

Atomic Number

Atomic Mass

Electronegativity value