

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

Date: \_\_\_\_\_ Core: \_\_\_\_\_

## Let's Bond Guided Notes

### Ions- When an atom isn't neutral

- **An ion** is an atom that \_\_\_\_\_
- When an atom has \_\_\_\_\_ numbers of Protons (+) and Electrons (-) it has a positive or negative charge and is considered an \_\_\_\_\_
- An atom with more protons than electrons is a \_\_\_\_\_ **ion**
- An atom with more electrons than protons is a \_\_\_\_\_ **ion**

### Chemical Bonding

- Just like the 26 letters of the alphabet combine to form words, the 118 elements combine to form **compounds**
- A compound is formed when **2 or more elements** chemically combine (go through a chemical change)

### Examples of compounds

- H<sub>2</sub>O

- CO<sub>2</sub>

### Chemical Bonding

- Atoms chemically bond in an attempt to feel stable like \_\_\_\_\_
- They do this by
  - \_\_\_\_\_ their valence shells OR
  - \_\_\_\_\_ in their valence shell

### Who wants to be a noble Gas?

- Every atom!
- Since all atoms want to resemble noble gasses they have a few options, go \_\_\_\_\_ or \_\_\_\_\_
- Atoms with few valence electrons may \_\_\_\_\_ in order to go backwards

### Who wants to be a noble gas

- Losing one or two electrons means they will have an \_\_\_\_\_
- The atom that \_\_\_\_\_ electrons becomes **positive**
- The atom that \_\_\_\_\_ electrons becomes **negative**

### Ionic Bonding- Lose an electron

- When an atom \_\_\_\_\_ to another atom in order to become \_\_\_\_\_ the atoms form an **Ionic Bond**

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- Number of electrons **lost** must be \_\_\_\_\_ to the number of electrons **gained**

#### Ionic Bonding- Lose an electron

- In Ionic Bonds \_\_\_\_\_ LOSE electrons and \_\_\_\_\_ GAIN electrons
- The atoms in an ionic compound are held together by \_\_\_\_\_ of positive and negative \_\_\_\_\_

#### Ionic Bond Examples

#### Properties of Ionic Bonds

- Great \_\_\_\_\_ when dissolved in water
- Have \_\_\_\_\_ melting points
- Most are \_\_\_\_\_ at room temperature

#### Covalent bonding- sharing an electron

- Covalent bonds are formed when two or more atoms \_\_\_\_\_ electrons
- Occurs between two or more \_\_\_\_\_
- A \_\_\_\_\_ is an individual group of covalently bonded atoms.
  - Ex. Two hydrogen atoms bond with one oxygen atom to form one water

#### Covalent Bond Examples

#### Properties of Covalent Bonds

- \_\_\_\_\_ conductors of electricity
- Have \_\_\_\_\_ melting points
- Mostly \_\_\_\_\_ at room temperature (any that ARE solid feel like plastic)