Bonding Basics

Name _____

Section A: Complete the chart using a periodic table to help you.

Element	Atomic Symbol	Total # of Electrons	# of Valence Electrons	# of Electrons Gained or Lost	Oxidation Number
Chlorine					
Potassium					
Magnesium					
Fluorine					
Aluminum					
Sodium					
Nitrogen					
Oxygen					
Hydrogen					
Carbon					
Iodine					

Answer these questions:

- An atom that gains one or more electrons will have a _____ charge.

- An atom that loses one or more electrons will have a _____ charge.

- An atom that gains or loses one or more electrons is called an _____.

- A positive ion is called a _____ and a negative ion is called an _____.

Section B: What is an ionic bond?

- Atoms will transfer one or more _____ to another to form the bond.

- Each atom is left with a _____ outer shell.

- An ionic bond forms between a _____ ion with a positive charge and a _____ ion with a negative charge.

Example B1: Sodium + Chlorine   **Example B2: Magnesium + Iodine**

Example B3: Potassium + Iodine   **Example B4: Sodium + Oxygen**

Example B5: Calcium + Chlorine   **Example B6: Aluminum + Chlorine**

Section C: What is a covalent bond?

- Atoms _____ one or more electrons with each other to form the bond.
- Each atom is left with a _____ outer shell.
- A covalent bond forms between two _____.

Example C1: Hydrogen + Hydrogen   **Example C2: 2 Hydrogen + Oxygen**

Example C3: Chlorine + Chlorine   **Example C4: Oxygen + Oxygen**
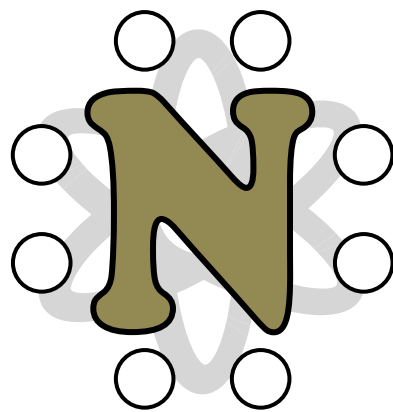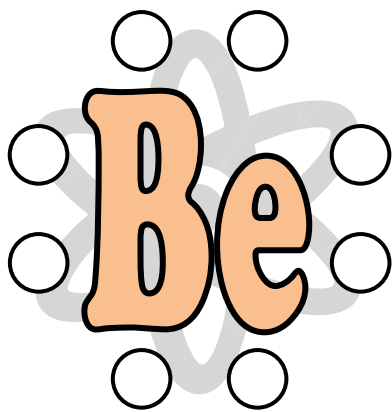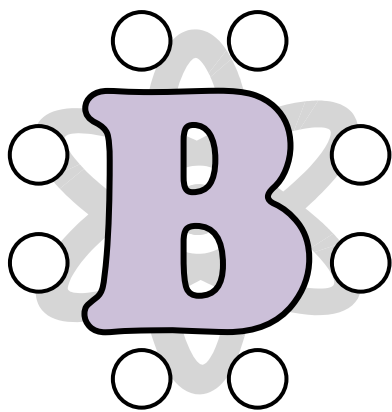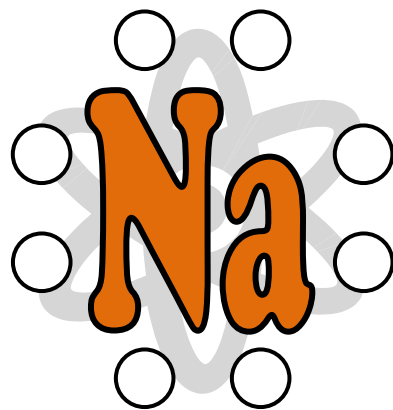
Example C5: Carbon + 2 Oxygen   **Example C6: Carbon + 4 Hydrogen**
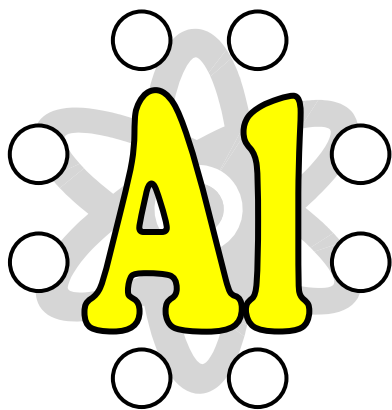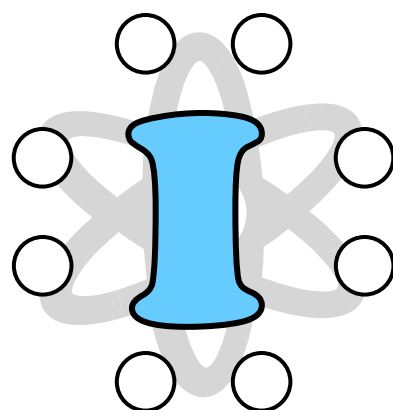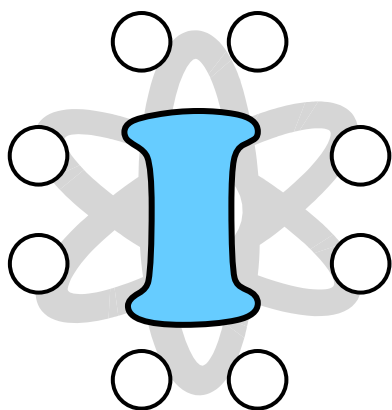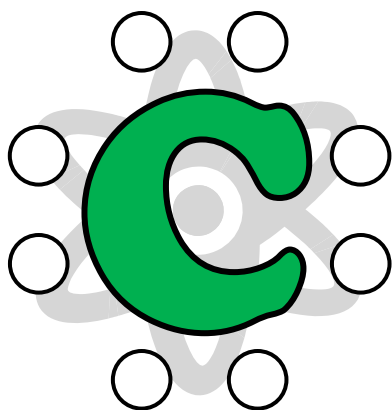
Challenge: What are some other ionic or covalent bonds that can be formed by the elements you see? Write the chemical formula for the compound and its name on a separate piece of paper and attach to this page.

Bonding Basics - Element Cards

Cl Cl Cl

K Mg F

Al Na Na

N O O
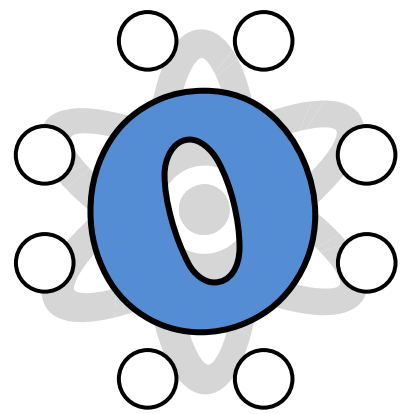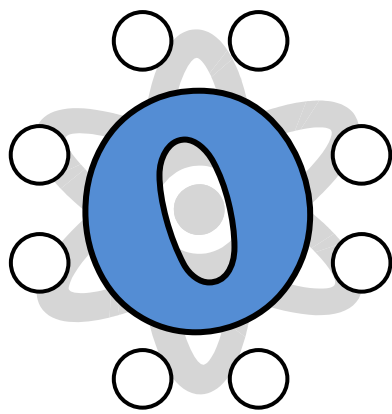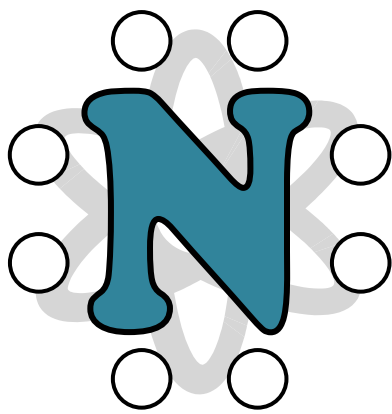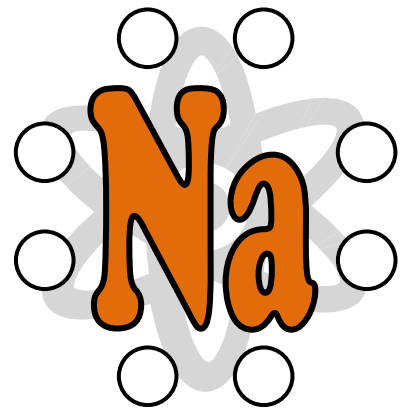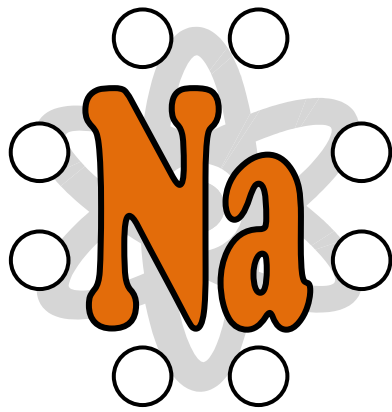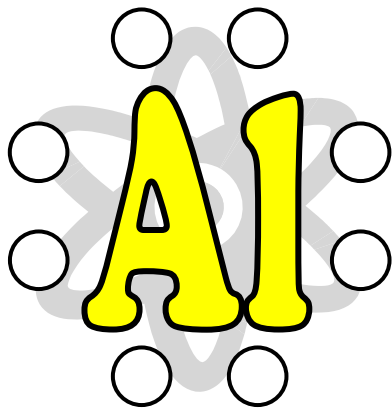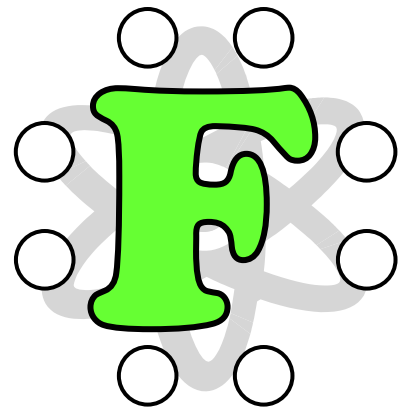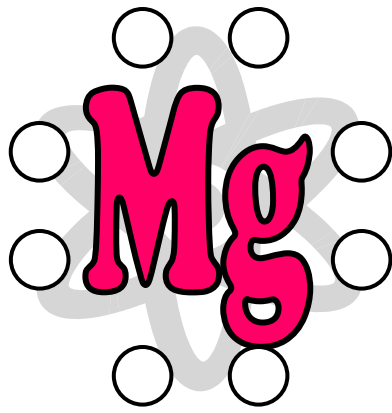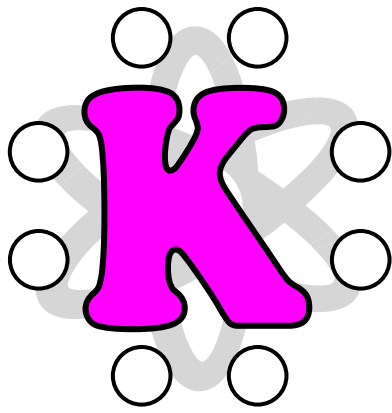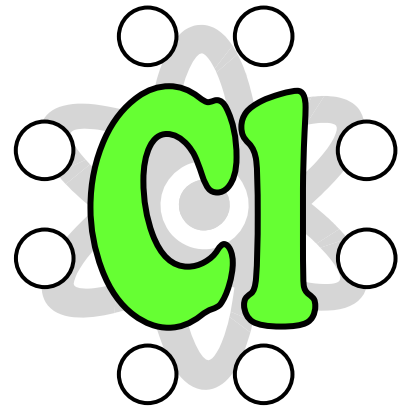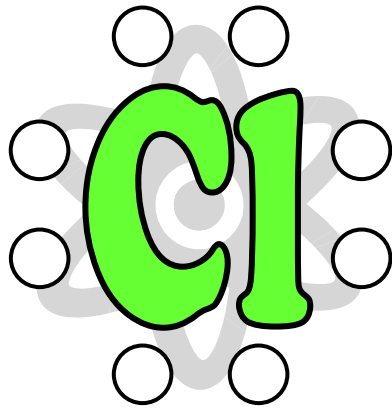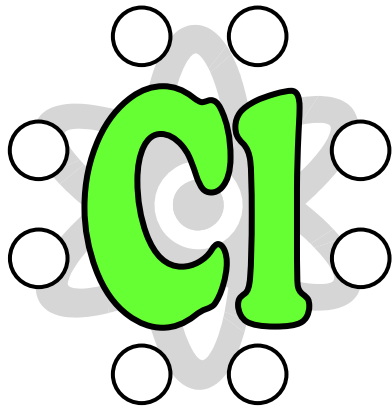
Bonding Basics - Element Cards

Bonding Basics - Element Cards

Ne

Al

Si

P

S

Ar