

1. Complete the chart using your knowledge of atoms.

Element	Atomic Symbol	Total # of Electrons	# of Valence Electrons	# of Electrons Gained or Lost	Oxidation #
Iodine					
Lithium					
Magnesium					
Oxygen					
Hydrogen					
Sulfur					
Potassium					
Phosphorus					
Fluorine					

2. **Vocab Review**

- What do we call the electrons in the outermost energy level? _____
- What term refers to an atom that has lost or gained electrons? _____
- What is a cation? _____
- What is an anion? _____
- When elements are joined together (bonded) they form a _____.

3. **Concept Review**

- 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 ionic bond forms between a _____ ion with a positive charge and a _____ ion with a negative charge.
- A covalent bond forms between two _____.
- An atom is chemically stable when its outer energy level is "full" with _____ electrons.
- What is the oxidation number for the Noble Gas elements? _____

4. **Ionic Bonding:** Draw the Lewis structures for each of the following. Use colored pencils (markers, etc.).

a) Potassium Iodide, KI

b) Magnesium Oxide, MgO

c) Lithium Nitride, Li₃N

d) Magnesium Iodide, MgI₂

e) Potassium Sulfide, K₂S

f) Lithium Iodide, LiI

5. **Covalent Bonding:** Draw the Lewis structures for each of the following. Use colored pencils (markers, etc.).

a) Fluorine (diatomic), F₂

b) Hydrogen Phosphide, H₃P

c) Hydrogen Sulfide, H₂S

d) Methane, CH₄

e) Hydrogen Chloride, HCl

f) Hydrogen (diatomic), H₂