***Finding Oxidation Number and Forming Compounds***

**Background**: We have learned that the number of electrons and atom gains, loses or shares when it forms chemical bonds is called its **oxidation number**. We can use oxidation numbers to predict how atoms will combine and what the formula for the resulting compound will be.

I. Complete the chart using your Periodic Table and/or PPT notes. The first one is done for you as an example.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Element | Atomic number | # of protons (+) | # of electrons (-) | Number of valence (outer) electrons only | Will it lose or gain electrons? | Oxidation # |
| Hydrogen | 1 | 1 | 1 | 1 | Lose | 1+ |
| Neon |  |  |  |  |  |  |
| Lithium |  |  |  |  |  |  |
| Aluminum |  |  |  |  |  |  |
| Beryllium |  |  |  |  |  |  |
| Carbon |  |  |  |  |  |  |
| Nitrogen |  |  |  |  |  |  |
| Oxygen |  |  |  |  |  |  |
| Sodium |  |  |  |  |  |  |
| Calcium |  |  |  |  |  |  |
| Chlorine |  |  |  |  |  |  |
| Sulfur |  |  |  |  |  |  |

II. Predict how the following pairs of atoms will combine by writing the formulas for the resulting compounds. Oxidation numbers are give in ( ). EXAMPLE: H (1+) and O (2-) make H2O.
\*Remember to write the positively charged ion (cation) first in the formula!

1. Ca (2+) and F (1-)

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2. Sn (2+) and I (1-)

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3. B (3+) and O (2-)

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4. Mg (2+) and S (2-)

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5. H (1+) and SO4 (2-) (Hint: treat SO4 like it’s a single element)

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Now for #6 - #9, form compounds BUT look in the table above for the oxidation number.

6. Li and O

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7. Al and F

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8. Na and S

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9. Ca and Cl

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