Below is a chart for polyatomic ions. Try to determine the pattern from the chart in terms of “gained and lost amount of electrons” use the highlighted row as your “base” and add or subtract from that. Notice, the pattern will **NOT** be # of oxygen atoms.

Fill in the chart.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** **Adjustment** | -ide | Hypo- -ite | -ite | -ate | Per- -ate |
| **Anion****Name** | chloride | Hypochlorite | Chlorite | Chlorate | perchlorate |
| **Formula** | Cl- | (ClO)- | (ClO2)- | (ClO3)- | (ClO4)- |
| **Anion****Name** | Bromide | hypobromite | Bromite | Bromate | perbromate |
| **Formula** |  |  |  |  |  |
| **Anion Name** |  |  |  |  |  |
| **Formula** |  |  |  | (PO4)-3 |  |

1. Use the column “-ate” as your base. From that column, how many oxygen atoms are added onto the “per- -ate” column?
2. How many oxygen atoms are taken away from the “-ite” column?
3. How many oxygen atoms are taken away from the “hypo- -ite” column? (remember “-ate” is the base.)
4. Go to your polyatomic ion sheet and identify which ions this rule applies to and mark them (circle, underline, etc.).