Name _____ Date _____ Period _____

Activity 10-13 Naming and Writing Formulas for Common Acids

Acids are written with the hydrogen ion first. Compounds that are not acids write the hydrogen ion second.

Binary Acids

Made of the hydrogen ion and a halogen (Group VIIA)
When acidic, binary acids will be dissolved in water, aqueous (aq)
Start with the prefix Hydro-
End with –ic Acid

Name the following Binary Acids:

1. HF (aq) _____
2. HCl (aq) _____
3. HBr (aq) _____
4. HI (aq) _____

Oxyacids

Made of hydrogen ions and oxyanions
Oxyanion ending in –ate changes to –ic Acid
Oxyanion ending in –ite changes to –ous Acid
Does not start with the prefix hydro-

Name the following Oxyacids:

H_2SO_4 _____ H_2CO_3 _____

HNO_3 _____ H_3PO_4 _____

$HClO_4$ _____ $HClO_2$ _____

H_2SO_3 _____ H_3PO_3 _____

$HC_2H_3O_2$ _____ $HClO_3$ _____

Writing Formulas for Common Acids

1. All acids start with the hydrogen ion.
2. Determine if the acid is binary or is an oxyacid by whether it starts with the prefix Hydro-
3. Change oxyanion ***–ic Acid*** suffixes to the ***–ate ion***.
4. Change oxyanion ***–ous Acid*** suffixes to the ***–ite ion***.
5. If binary, hydrogen is first and the halogen is second.
6. Write the oxidation number for the ions.
7. Crisscross the oxidation numbers from superscripts to subscripts.

Write the formula for Phosphoric Acid:

Hydrogen and Phosphate Oxyanion

H^{+1} PO_4^{-3}

H PO_4

3 1

H_3PO_4

Write the formula for the following common acids:

1. Sulfuric Acid _____
2. Nitric Acid _____
3. Phosphoric Acid _____
4. Chlorous Acid _____
5. Hydroiodic Acid _____
6. Carbonic Acid _____
7. Sulfurous Acid _____
8. Nitrous Acid _____
9. Hydrochloric Acid _____
10. Hypochlorous Acid _____