LEARNING AS ONE NATION

Expanded Project

GC1 Q1_12

SHS LEARNING ACTIVITY

Name: _____ **Score/Mark:** _____

Grade and Section: _____ **Date:** _____

Strand: ☑ STEM ☐ ABM ☐ HUMSS ☐ ICT (*TVL Track*)

Subject: *General Chemistry 1*

Type of Activity: ☑ Concept Notes ☐ Skills: Exercise/Drill ☐ Illustration ☐ Performance Task ☐ Essay/Report ☐ Others: _____

Activity Title: **A-10. Names and Chemical Formulas of Acids**

Learning Target: To name and write chemical formulas of acids

References: *(Author, Title, Pages)* Brown et al., Chemistry: The Central Science 12th edition. p. 64. M.D.A.D. Cadeliña, CVIF-DLP Learning Activities

Hydrogen is a nonmetal, but when it is paired with another nonmetal, rules in naming binary molecular compounds cannot hold. Instead, rules in naming ionic compounds are followed. Examples are:

HCl Hydrogen chloride and HF Hydrogen fluoride

There are also hydrogen-containing compounds that, when dissolved in water, yield hydrogen ions (H^+). Such compounds are known as acids and are named in a special way.

1. Cation H^+ paired with anions ending in –ide is named by changing –ide to –ic, adding prefix hydro– to the name of the anion, and adding the word "acid" following the name. The general form is

   "hydro{elem-}ic acid".

   Examples:

   HCl (aq) anion: chlor**ide**
   change to: chlor**ic**
   add hydro- and acid: **hydro**chloric **acid**

   HF (aq) anion: fluor**ide**
   change to: fluor**ic**
   add hydro- and acid: **hydro**fluoric **acid**

   Note: The "(aq)" after the chemical formula indicates that it is dissolved in water. Therefore, instead of naming the formula as an ionic compound, naming it as an acid is more appropriate.

2. Cations H^+ paired with oxyanions ending in –ate or –ite are named by changing –ate to –ic and –ite to –ous, and adding the word "acid". So just remember that: __ite ion → __ous acid and __ate ion → __ic acid.

   Examples:

   NO_2^- nitr**ite** ion → HNO_2 (aq) nitr**ous** acid

   NO_3^- nitr**ate** ion → HNO_3 (aq) nitr**ic** acid

Exercises:

1. Name both nitrous acid and nitric acid as a pure ionic compound.
2. Write the name or formula.

   a] H_2CO_3 (aq) c] $HClO_4$ (aq) e] dichromic acid

   b] HBr (aq) d] hydroiodic acid f] chromic acid