Chemical Formulae

1. Write the correct chemical formula for the following substances:
   a. Water
   b. Carbon dioxide
   c. Oxygen gas
   d. Hydrogen gas
   e. Hydrochloric acid

2. Determine how many atoms of each element are present in the following formulae and name each compound. The first has been done for you:
   a. NaCl *(sodium chloride)* contains *1 atom of sodium and 1 atom of chlorine*
   b. MgO _____ contains
      _____
   c. SO_2 _____ contains
      _____
   d. Na_2S _____ contains
      _____
   e. Fe_2O_3 _____ contains
      _____
   f. $AgNO_3$ _____ contains
      _____

3. Determine how many atoms of each element are present in the following compounds.

   a. Sulfuric acid, H_2SO_4, contains

   _____

   b. Barium hydroxide, $Ba(OH)_2$, contains

   _____

   c. Glucose, $C_6H_{12}O_6$, contains

   _____

   d. Ethanol, C_2H_5OH, contains

   _____

   e. Nitric acid, HNO_3, contains

   _____

   f. Potassium hydroxide, KOH, contains

   _____

4. The formula for methane is **CH_4**.

   a. Is methane an element or a compound? Explain your answer.

_____

_____

   b. Look at the formula. What is the **ratio** of carbon atoms to hydrogen atoms?

_____

   c. Describe the **molecule** in words.

_____

_____

5. Describe the following equation in words (NH_3 is ammonia).

$$N_2 + 3\ H_2 \rightarrow 2\ NH_3$$

6. Describe the following equation in words.

$$2\ H_2 + O_2 \rightarrow 2\ H_2O$$

Stretch: Circle all the compounds from Questions 2 and 3 that would form molecules.