Ch 7-1: What is a chemical formula? Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Basic Physical Science Notes S2 2019

Key Terms Ch 7-1:

1. Chemical formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
EX:

1. Subscript: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   EX:
2. Coefficient: a number that goes in front of a chemical formula to balance the equation  
   EX: **4** H2O

Fill-in-the-blank Ch 7-1:

1. When there is no subscript after a symbol in the formula, you know there is only one \_\_\_\_\_\_\_\_\_\_ of that element.
2. In a chemical formula, the symbol for the \_\_\_\_\_\_\_\_\_\_\_\_ element is always written first.

Short Answer:

1. How are chemical symbols and chemical formulas alike? How are they different?
2. Chemical formulas tell how many atoms of each element are in a molecule or an ion of a compound. For each of the compounds below, write how many of each atom there are:  
   1. Salt (NaCl) 🡪 \_\_\_\_\_ atoms of Na, \_\_\_\_\_ atoms of Cl
   2. Ammonia (NH3) 🡪 \_\_\_\_\_ atoms of N, \_\_\_\_\_ atoms of H
   3. Glucose or sugar (C6H12O6) 🡪 \_\_\_\_\_ atoms of C, \_\_\_\_\_ atoms of H, \_\_\_\_\_ atoms of O
3. The chemical formula for water is H2O. The chemical formula for hydrogen peroxide is H2O2. How does a molecule of water differ from a molecule of hydrogen peroxide?
4. List the names for the elements that make up each of the following compounds:  
   1. Carbon dioxide (CO2) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Ammonia (NH3) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Calcite (CaCO3) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ch 7-2: What is an oxidation number? Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
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Key Terms Ch 7-2

1. Valence electron: electrons in the outermost energy level of an atom (REVIEW)
2. Oxidation number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Short Answer Ch 7-2:

1. What determines how many electrons an atom will gain, lose, or share when it forms a chemical bond?
2. Is the oxidation number of an atom that gains electrons positive or negative?
3. How many valence electrons does Chlorine have? \_\_\_\_\_   
     
   How many does it need to be happy? \_\_\_\_\_  
     
   What will it’s charge be when it gains the electron(s) it needs? \_\_\_\_\_ 🡨 this is its oxidation #!!!
4. In general metals (gain / lose) electrons, making them have (positive / negative) oxidation numbers.
5. In general nonmetals (gain/lose) electrons, making them (positive / negative) oxidation numbers.
6. What elements are in AlCl3? \_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_.  
     
   How many atoms of each are there? \_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_ and   
   \_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_.  
     
   What is the number of valence electrons of each atom? \_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_ and   
   \_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_.  
     
   What is the oxidation number of each atom? \_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_ and   
   \_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_.
7. What is the relationship between valence electrons and oxidation numbers?