Engage

Chemical Formulas

What to Do:
1. Read through the list of items below.
2. Place an X next to each one you think is made of molecules.

____ candy

____ bread

____ rocks

____ clouds

____ element sulfur

____ water

____ sand

____ egg

____ your skin

____ worm

____ cells

What rule did you apply when choosing the items that are made of molecules?

How are molecules related to compounds?

Explore

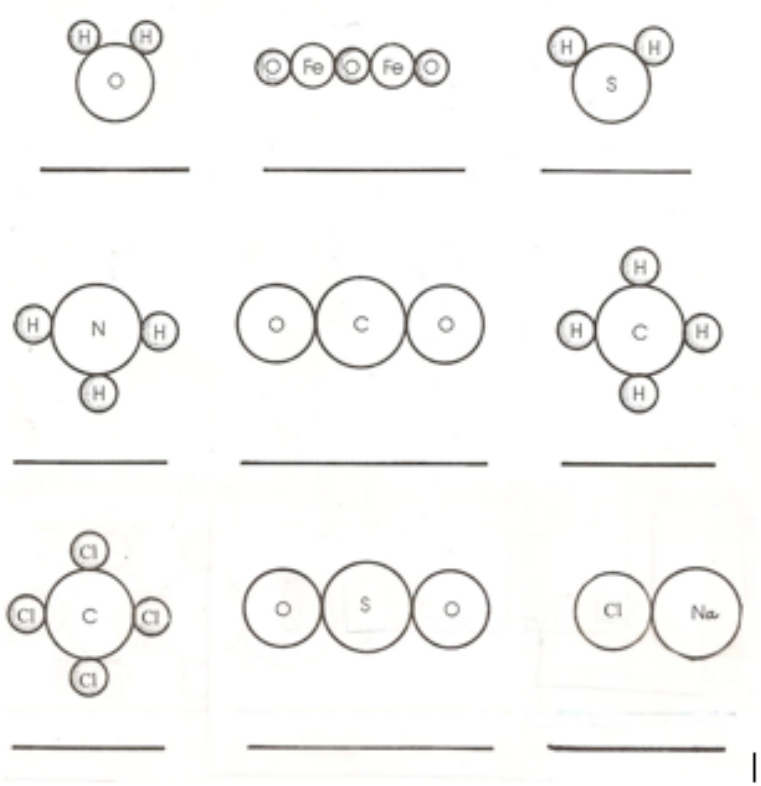
What To Do:
1. Look at the chemical formula of each compound below.
2. Count the number of element by counting the capital letters.
3. Count the number of atoms by counting and adding up the subscripts.
4. If an element doesn't have a subscript that means the subscript is 1.
5. The first one is done for you.

Chemical Formula	Number of elements	Number of atoms
Fe_3C	**2**	**4**
$NaHCO_3$		
CH_3COOH		
HCl		
H_2O_2		
H_2O		
Fe_2O_3		
SH_2		
NH_3		
CO_2		

Scientists draw pictures to represent compounds. The larger the atom, the larger the circle. There are some rules for writing chemical formula.

- When writing chemical formulas, the metal always comes first. Use the Periodic Table to determine this.
- If there is no metal, then the element closest to the metal side comes first – EXCEPT Hydrogen. It usually is last but not in water.

Write the formulas for the following compounds.



CHEMICAL FORMULAS

Explain

SUBSCRIPT

METALS

NONMETALS

METALOIDS

Elaborate

Materials: Copy of the Periodic Table

What To Do:

In the activity below you will write the chemical formula for each compound using the element symbols and the subscript numbers. Use the periodic table from the previous lesson.

1. Hydrogen peroxide has 2 atoms of hydrogen and 2 atoms of oxygen.

Write the formula. _____

2. Baking soda has 1 atom of sodium, 1 atom of hydrogen, 1 atom of carbon and 3 atoms of oxygen.

Write the formula. _____

3. Ammonia has 1 atom of nitrogen and 4 atoms of hydrogen.

Write the formula. _____

4. Calcium chloride has one atom of calcium and 2 atoms of chlorine.

Write the formula. _____

5. Lactose contains 12 atoms of carbon, 22 atoms of hydrogen and 11 atoms of oxygen.

Write the formula. _____

6. Ammonium nitrate has 1 atom of ammonia and 4 of hydrogen. Then it has another atom of ammonia and 3 atoms of oxygen.

Write the formula. _____

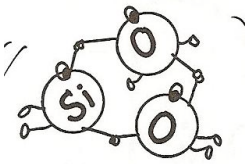
Evaluate

Name _____ period _____

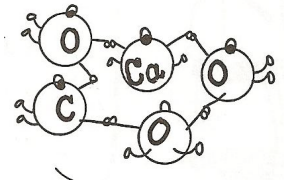
EXIT TICKET

Chemical Formulas

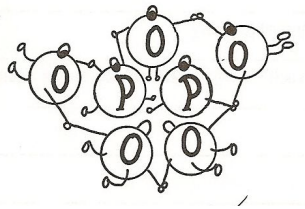
1. The compound below is called silicon dioxide. What is its chemical formula?



2. The compound below is called calcium carbonate. What is its chemical formula?



3. The compound below is called phosphorus pentoxide. What is its chemical formula?



4. How many elements are in the compound H_2SO_4?

_____

5. How many atoms are in the compound H_2SO_4?

_____