

Name: _____ Date: _____

MAKING MOLECULES

BACKGROUND

Each type of atom has a symbol and a name. Here are some examples:

Symbol	Name
H	Hydrogen
O	Oxygen
N	Nitrogen
Na	Sodium (Natrium)
C	Carbon
Cl	Chlorine

These atoms combine in certain ways to make molecules. These molecules have symbols and names, too. Here are some examples:

Symbol	Name
H ₂ O	Water
CO ₂	Carbon Di-oxide (bubbles in soda)
CO	Carbon Mon-oxide (car exhaust)
NaCl	Sodium Chloride or table salt
NH ₃	Ammonia (kitchen cleaner)

The symbol, H₂O, means that a water molecule contains two hydrogen atoms and one oxygen atom. Each of the hydrogen atoms is connected to the oxygen atom.

MATERIALS

Let's make some of these molecules. Look at the symbols for the molecules. Count up the number of each type of atoms that you need to make one of each molecule. Write it below.

Symbol	Name	Quantity	Color
H	Hydrogen		
O	Oxygen		
N	Nitrogen		

Na	Carbon		
C	Sodium		
Cl	Chlorine		

PROCEDURE

1. Get enough gum drops of each color to make one of each molecule. You will also need 9 toothpicks to hold the atoms together and a piece of paper to work on.
2. Draw five large boxes on the paper and label each one with the symbol for one of the molecules.
3. Build each molecule from your "atoms" and toothpicks and put it in its box.
4. Now get enough gum drops and toothpicks to make one more water molecule and one more salt molecule.
5. Turn your paper over and draw a large circle that will be our "bowl".
6. Put your two water molecules in the bowl. Then add your two salt molecules. What did you just make?

7. Now add your carbon dioxide (careful - don't add the carbon monoxide since it is poisonous). Now what do you have in the bowl?

8. Normally we do not taste anything we use in a science experiment. However, if your teacher says it's ok, you may eat your molecules.



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