

# Combining Elements

There are close to 120 elements on the Periodic Table. Everything in the universe – you, the table, the earth and all the stars are made up of combinations of these 120 elements. As you know elements are pure substances. When we combine these pure substances with each other they become compounds. A compound by itself is also a pure substance.

You have learned how to write the symbols for the elements. Some elements have one letter for their symbol while other elements have two letters. When we write symbols for a compound it is called a formula. For example, table salt is a compound made up of one part sodium and one part chlorine. Its formula is written as NaCl. The carbon dioxide gas you breathe out is a compound that will always be made of one part carbon to two parts oxygen (CO<sub>2</sub>). Scientists use the element symbols to write the chemical formula for compounds.

Notice that if there is only one element in the compound there is no subscript written. If there is more than one element in the compound a subscript number is placed after the element in the formula.

## Directions:

Use the numbers 0-9 and make as many 2 number combinations as you can in 30 seconds. Write your combinations below. Your teacher will time you.

As you can see from this there are many combinations with just 10 numbers. Think about how many combinations there are with 120 elements.

**Materials:** Scissors, glue, elements sheet, periodic table

## What To Do:

1. Below you will find 6 compounds listed.
2. Use your periodic table to determine the elements that are found in the listed compounds.
3. Cut out the elements from your elements sheet.
4. Work with your partners to make a model of each compound. Watch those subscripts!

Compound formula	Elements and Symbols	Model
CO <sub>2</sub>		
H <sub>2</sub> O		
NO <sub>2</sub>		
SO <sub>2</sub>		
HCl		
NaCl		





Name \_\_\_\_\_

period \_\_\_\_\_

## EXIT TICKET

Combining Elements

**Directions:** Determine which substance listed below is an element and which is a compound. Write an E for element and a C for compound.

_____	H
_____	CO <sub>2</sub>
_____	Co
_____	Ca
_____	CaCO <sub>3</sub>
_____	O
_____	N
_____	SiO <sub>2</sub>
_____	

**Conclusion:** (formula, atom, elements, molecules, one, subscript, compound)

A \_\_\_\_\_ is a substance made up of more than \_\_\_\_\_ type of element. When we write the symbols for a compound we call it a \_\_\_\_\_. If there is more than one of the same kind of \_\_\_\_\_ in a compound we use a \_\_\_\_\_ after the element in the formula.



Name \_\_\_\_\_

period \_\_\_\_\_

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A \_\_\_\_\_ is a substance made up of more than \_\_\_\_\_ type of element. When we write the symbols for a compound we call it a \_\_\_\_\_. If there is more than one of the same kind of \_\_\_\_\_ in a compound we use a \_\_\_\_\_ after the element in the formula.

C	O	O	Cl
H	O	O	Cl
H	O	O	N
H	O	S	Na

C	O	O	Cl
H	O	O	Cl
H	O	O	N
H	O	S	Na

Make one copy per 4 students.

C	O	O	Cl
H	O	O	Cl
H	O	O	N
H	O	S	Na

C	O	O	Cl
H	O	O	Cl
H	O	O	N
H	O	S	Na