Name: _____

Date: _____

# Making Molecules

If you look in the first column of the periodic table, you'll see elements such as hydrogen, lithium, and sodium. Each of these elements has one electron in the outermost shell of the atom; that's why they're in the first column. If you look at the second to last column, you'll see elements such as fluorine, chlorine, and bromine. Each of these elements has one empty space in the outermost shell of the atom; that's why they're in the second to last column.

One atom of hydrogen can bond with one atom of fluorine, because the outer electron from the hydrogen atom occupies the one empty space in the outer shell of the fluorine atom. This forms hydrogen fluoride. The same thing can happen for any two elements from the first and second to last columns.

How many different kinds of molecules can be formed by combining two atoms in this way?

*Show your work, and write your answer in a complete sentence.*