

NAME: _____ PERIOD: _____ DATE: _____

Molecule & Compound Notes

Most atoms are _____ unless they are combined with other atoms.

Two or more **atoms** chemically joined together forms a _____.

Molecules can be made up of the _____ type of atom (O_2) or _____ types of atoms (H_2O).

A substance made of two or more **different** types of atoms (elements) that are chemically bound together in a **set ratio** forms a _____.

_____ : Force that holds the atoms of molecules and compounds together.

Properties of a compound are totally _____ than the properties of the individual elements that make it up.

Examples:

carbon (black solid) + oxygen (clear odorless gas) => carbon dioxide (clear odorless gas)

hydrogen (clear odorless gas) + oxygen (clear odorless gas) => water (clear odorless liquid)

sodium (dull silvery metal) + chlorine (green stinky gas) => table salt (white solid crystals)

_____ => Uses element symbols and subscripts to show the ratio of elements in a compound.

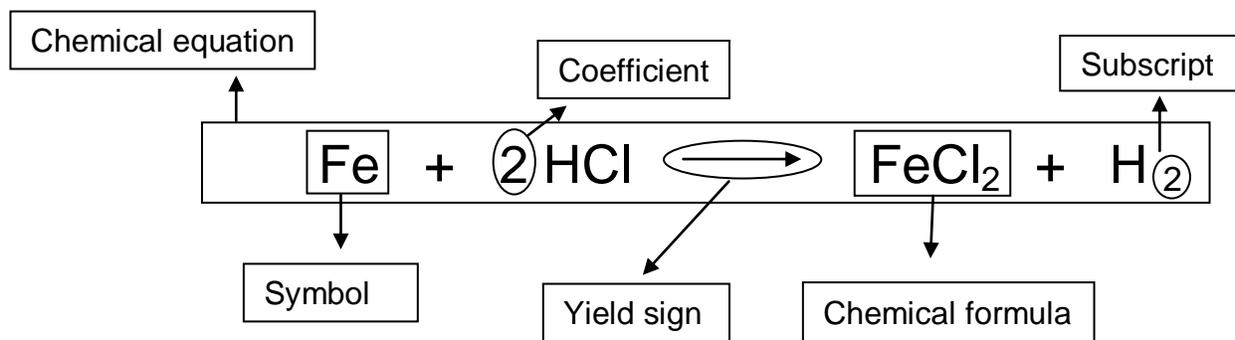
Salt=> (1 sodium, 1 chlorine) _____

Carbon dioxide=> (1 carbon, 2 oxygen) _____

Glucose=> (6 carbon, 12 hydrogen, 6 oxygen) _____

_____ occurs when bonds are formed or broken=> requires or gives off _____.

_____ : Short, simple way to describe a chemical reaction using symbols and formulas instead of words.



_____ Identifies the elements that make up the compound.

_____ Number of atoms of that element in one molecule.

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_____ Number of each molecule in a reaction.

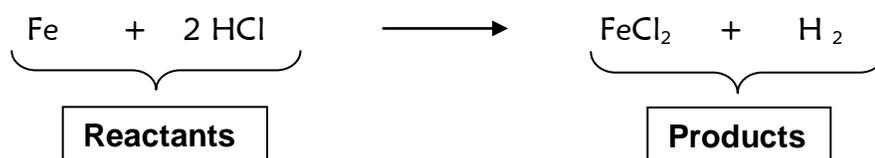
_____ Shows the direction of the reaction.

Counting Atoms:

Compound	# of atoms	# of elements & their names	# of molecules
H ₂ O			
4H ₃ PO ₄			
Al ₂ O ₃			
3Na ₂ SO ₃			

_____ : The substances you begin with in a chemical reaction. (left side of the yield sign)

_____ : The substances you end with in a chemical reaction. (right of the yield sign)



Basic Rules for Balanced Equations

Every chemical compound has a formula that _____ be altered! _____ change a formula when balancing equations!!!

_____ : During a chemical reaction atoms cannot be created or destroyed.... SO the number of _____ at the beginning of a reaction **MUST** match the number at the end of the reaction!

Coefficients can be added _____ an element or molecule.

Subscripts are always found _____ an element or molecule and _____ be changed without changing the substance!

How can you tell that the following equation is not balanced?



For fun... let's see if you can balance it! (HINT: remember that you must have the same number of each atom on both sides!)



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