**Notes – Chemical Reactions #1**

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| What is a Chemical Reaction?  Why do chemical reactions occur?  What is the evidence for a chemical reaction?  What is a chemical equation?  What are coefficients?  Subscripts  vs.  Coefficents | The chemical change that occurs when one or more substances are converted into new substances with different physical and chemical properties.  Example: An iron (Fe) nail reacts with oxygen (O2) and a red solid forms on its surface known as rust (Fe2O3)  Atoms gain, lose or share electrons to be like noble gases. When they do that they are reacting with other atoms and that causes a chemical reaction.  The formation of a new substance with chemical and physical properties that are different from those of the starting substances.  What you might see:  Production of Changes in  \*Precipitate (solid from 2 liquids) \*Temperature  \*Gas (look for bubbles) \*Color  \*Odor  The recipe of the chemical reaction showing the reactants and products.  Reactants on the left Products on the Right  4 Fe+ 3O2 2Fe2O3  The whole number before the formulas in a chemical reaction showing the quantity of the reactants and products.  O2 = O-O the oxygens are covalently bonded together  3O2 = O2 + O2 + O2 the 3 in front of O2 means there are 3O2    How many total oxygen atoms?  3O2 = O-O + O-O + O-O = 6 O (6 oxygen atoms)    Mass cannot be created or destroyed in a chemical reaction. Coefficients are used to adjust the amounts of reactants and products so the total number of atoms of each element are equal on each side of the equation. |
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