

Chapter 2

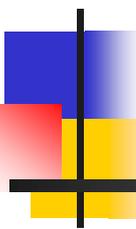
Chemical Reactions



Vocabulary

1. Activation Energy
 - the minimum amount of energy needed to start a reaction
2. Catalyst
 - substance that speeds up a chemical reaction but is not used up itself
3. Chemical Equation
 - shorthand form of writing what reactants are used and what products are formed in a chemical reaction; sometimes shows whether energy is produced or absorbed
4. Chemical Reaction
 - process that produces chemical change, resulting in new substances that have properties different than the original substances
5. Concentration
 - describes how much solute is present in a solution compared to the amount of solvent
6. Endothermic Reaction
 - chemical reaction in which chemical energy is absorbed
7. Enzyme
 - catalysts that are large protein molecules which speed up reactions needed for your cells to work properly
8. Exothermic Reaction
 - chemical reaction in which heat energy is released
9. Inhibitor
 - substance that slows down a chemical reaction, making the formation of a certain amount of product take longer
10. Product
 - substance that forms as a result of a chemical reaction
11. Rate of Reaction
 - measure of how fast a chemical reaction occurs
12. Reactant
 - substance that exists before a chemical reaction begins

2 – 1 Chemical Formulas and Equations





Physical or Chemical Change

- Physical Change – change in which the form or appearance of matter changes, but not its composition.
- Chemical Change – change in which the composition of a substance changes.
 - Change in color (leaves, toast) , energy (hot,cold,light), odor (spoiled food) , formation of a gas (bubbling) , formation of a solid (precipitate)

- Chemical changes produce new substances that have properties different from those of the original substance

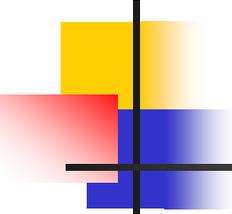


- Chemical Reaction – the process that creates a chemical change.



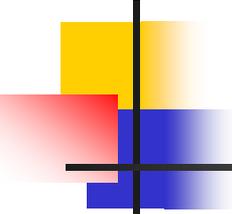
Chemical Reactions

- Reactants – the substances that exist before the reaction.
- Products – the substances that form as a result of the reaction.

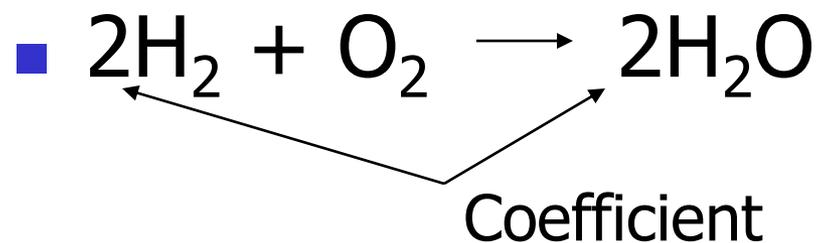


Reactions Around the Home

Reactants		Products
Baking soda + Vinegar	→	Gas + White solid
Charcoal + Oxygen	→	Ash + Gas + Heat
Iron + Oxygen + Water	→	Rust
Silver + Hydrogen sulfide	→	Black tarnish + Gas
Gas (kitchen range) + Oxygen	→	Gas + Heat
Sliced apple + Oxygen	→	Apple turns brown



Chemical Equations





Balancing Equations







Energy in Chemical Reactions

- Exothermic Reaction - chemical reaction in which heat energy is released.



- Endothermic Reaction - chemical reaction in which chemical energy is absorbed.

