

Unit 7 - Chemical Reactions Notes


- The process by which one or more substances changes to produce one or more different substances is called a _____.
- Evidence for Chemical Reactions includes:
 - ★ Absorption or release of _____ or _____
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 - ★ Formation of a _____ or a _____
 - ★ Change in _____ or _____
- To prove a chemical reaction took place one must use _____ to investigate if the new substance has a different density, melting/boiling point, and chemical composition among other things.
- All chemical reactions involve a change in energy. If the energy is _____ it is considered a part of the _____; however, if it is _____ it is considered part of the _____.
- Mass is neither _____ nor _____ in a chemical reaction. Atoms are just _____ to form new bonds.
- Atoms must collide with _____ at the _____ in order to break and form new bonds.
- A _____ uses chemical formulas and symbols to represent the reaction between the reactants and products.
 - Chemists use symbols to show a substance's _____ and what _____ are required for the reaction to occur.
- Examples of common symbols:

Solids _____**Liquids** _____**Gases** _____**Aqueous** _____

- _____ are set by the laws of nomenclature. Ionic compounds follow the rules for ionic nomenclature, and covalent molecules follow the rules for covalent nomenclature.

Examples: Calcium Phosphate

Carbon Dioxide

-  _____ change _____ to _____ chemical equations!!!!
- A _____ is a small whole number that appears as a factor in front of a formula in a chemical reaction; because the chemical formulas cannot change, one must add coefficients in order to balance chemical equations; these coefficients represent the number of molecules or compounds required to complete the reaction.

Example: _____ H_2 (g) + _____ O_2 (g) \rightarrow _____ H_2O (l)

- **Types of Chemical Reactions:**

★ _____ is a reaction in which two or more substances combine to form one new compound.

Example:

★ _____ is a reaction in which a single compound breaks down to form two or more simpler substances.

Example:

★ _____ is a reaction in which an element replaces one of the ions in an ionic compound.

➤ A _____ replaces a _____.

Example:

➤ A _____ replaces an _____.

Example:

★ _____ is a reaction in which two ionic compounds exchange anions. If one of the products forms a solid, it's called a _____.

Example #1:

Example #2:

Note: A _____ is an insoluble ionic compound that forms as the result of a double replacement reaction. All precipitates will be followed by the _____ symbol to show they are insoluble solids.

★ A _____ is a special kind of double replacement reaction in which an acid reacts with a base to form an ionic salt and water.

Example:

★ _____ is an oxidation reaction of an organic compound that releases heat. It occurs when a _____ burns in the presence of oxygen to form carbon dioxide and water.

Example:

★ _____ occurs when there is limited _____, and the reaction produces carbon monoxide or carbon instead of carbon dioxide.

Chemical Reactions Concept Map

