

Cartoon Chemistry and Reaction Types

Directions:

- Create an **illustration/cartoon example** for **each** of the 4 main types of reactions.
 - The examples should **NOT** be real chemical reactions. They need to represent the major characteristics of the types of reactions.
 - The examples do not need to relate to each other
 - Label – reactants, products
- Provide an **actual chemical example** (other than ones provided in the lesson video) for each type of reaction.
- Provide an illustrated example for both **complete & incomplete combustion**.

- 1) **Synthesis reaction** is a chemical change in which two or more substance react for form a SINGLE NEW SUBSTANCE.
 - Synthesis reactions can be recognized because they have two reactants and one product.
- 2) **Decomposition reaction** is a chemical change in which ONE SUBSTANCE reacts to form TWO or more new substance.
 - Decomposition reactions can be recognized because they have one reactant and two or more products.
- 3) **Single replacement reaction** is a chemical change in which ONE ELEMENT replaces another element in a COMPOUND.
 - Single replacement reactions can be recognized because both the reactant and the product have an element and a compound
- 4) **Double-replacement reaction** is a chemical change involving an exchange of positive ions between two compounds.
 - They generally take place in aqueous solutions, and often produce a precipitate, a gas, or a molecular compound such as water.

Combustion reaction is a chemical change in which an element or a compound reacts with oxygen producing energy, usually in the form of heat and light.

- Often the other reactant is a hydrocarbon and the products are carbon dioxide and water. Carbon monoxide and carbon soot are produced during incomplete combustion

EXAMPLES:

Synthesis Reaction



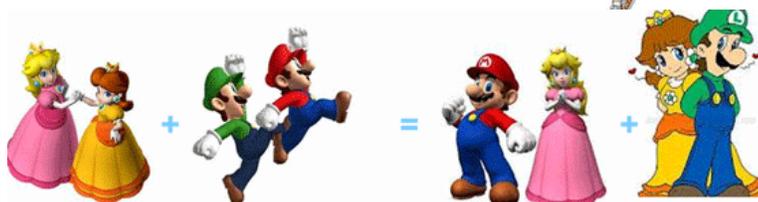
Decomposition Reaction



Single Displacement Reaction



Double Displacement Reaction



Marking Rubric

Type of Reaction	Accuracy		Labels	Example	
Synthesis	1	2	1	1	
Decomposition	1	2	1	1	
Single Displacement	1	2	1	1	
Double Displacement	1	2	1	1	
Combustion	1	2	1	1	
- complete	1	2	1	1	
- incomplete	1	2	1	1	
Overall Creativity of Analogies			1	2	3
				Total	/27

Accuracy

- 1- The illustrations/analogy **does not accurately** depict the type of reaction represented.
- 2- The illustration/analogy **accurately** depicts of the type of reaction represented
- ie. correct reactants, products & process

Creativity

- 1- Analogy demonstrates **repetition of examples** provided
- 2- Analogy demonstrates **straightforward** understanding of what occurs in the reaction represented
- 3- Analogy demonstrates **complex & unique** understanding of what occurs in the reaction represented

Labels

- 1- **All** reactants and products are labelled clearly & correctly