Types of Reactions - Card Sort Activity
Instructions

Materials:
In your sleeves, you will find:

- 5 green colored **reaction types**: Single Replacement, Double Replacement, Decomposition, Synthesis, Combustion
- 5 green colored **reaction definitions**
- 15 **example chemical reactions** on salmon colored paper sheets.

Instructions:

- First, sort the reactions into 5 groups.
- Look for patterns (similarities) in the reactions to help you place them into their respective groups.
- Next, sort the definitions and reaction names into each group of reactions.
- Ultimately, you should have 5 sets that each include a reaction type, a definition, and three example reactions.

Combustion	Synthesis	Decomposition	Single Replacement	Double Replacement
A carbon compound is burned in oxygen to form carbon dioxide and water. **Carbon compound + O_2 → CO_2 + H_2O**	Reaction in which two or more chemical species combine to form a more complex product: **A + B → AB**	Reaction in which one reactant breaks down into two or more products. **AB → A + B**	Reaction in which one element replaces another in a compound. **A + BC → B + AC**	Reaction in which the positive and negative ions of two ionic compounds exchange places to form two new compounds. **AB + CD → AD + CB**

$CH_{4(g)} + 2O_{2(g)} \rightarrow CO_{2(g)} + 2H_2O_{(l)}$	$C_3H_{8(g)} + 5O_{2(g)} \rightarrow 3CO_{2(g)} + 4H_2O_{(l)}$	$2C_8H_{18(l)} + 25O_{2(g)} \rightarrow 16CO_{2(g)} + 18H_2O_{(l)}$
$2SO_{2(g)} + O_{2(g)} \rightarrow 2SO_{3(g)}$	$4Fe_{(s)} + 3O_{2(g)} \rightarrow 2Fe_2O_{3(s)}$	$N_{2(g)} + 3H_{2(g)} \rightarrow 2NH_{3(g)}$
$8Li_2S_{(s)} \rightarrow 16Li_{(s)} + S_{8(s)}$	$MgCO_{3(s)} \rightarrow MgO_{(s)} + CO_{2(g)}$	$2H_2O_{(l)} \rightarrow 2H_{2(g)} + O_{2(g)}$
$Cl_{2(g)} + 2NaBr_{(aq)} \rightarrow 2NaCl_{(aq)}) + Br_{2(l)}$	$ZnBr_{2(aq)} + F_{2(g)} \rightarrow ZnF_{2(aq)} + Br_{2(l)}$	$Mg(s) + CuSO_{4(aq)} \rightarrow MgSO_{4(aq)} + Cu_{(s)}$
$FeS(s) + 2HCl_{(aq)} \rightarrow H_2S_{(g)} + FeCl_{2(aq)}$	$AgNO_{3(aq)} + NaCl_{(aq)} \rightarrow AgCl_{(s)} + NaNO_{3(aq)}$	$FeBr_{3(aq)} + K_3PO_{4(aq)} \rightarrow FePO_{4(s)} + 3KBr_{(aq)}$

Student Name: _____ Period: _____

Types of Reactions Exit Ticket

Identify the type of chemical reaction for each of the following examples.

Word Bank: Single Replacement, Double Replacement, Synthesis, Decomposition, Combustion

$2C_4H_{10(g)} + 13O_{2(g)} \rightarrow 8CO_{2(g)} + 10H_2O$ _____

$Na_2CO_{3(aq)} + CaCl_{2(aq)} \rightarrow CaCO_{3(s)} + 2\ NaCl_{(aq)}$ _____

$MgO_{(s)} + H_2O_{(l)} \rightarrow Mg(OH)_{2(aq)}$ _____

$2Al_{(s)} + 6HCl_{(aq)} \rightarrow 2AlCl_{3(aq)} + 3H_{2(g)}$ _____

$2KClO_{3(s)} \rightarrow 2KCl_{(s)} + 3O_{2(g)}$ _____

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