

Name: ANSWERS

Date: _____

SCH4C1 Chemical Reactions Review

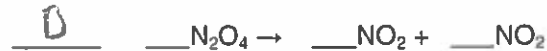
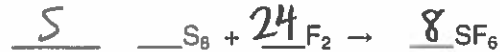
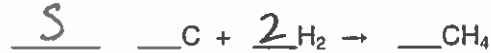
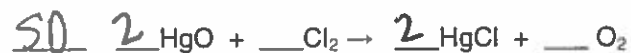
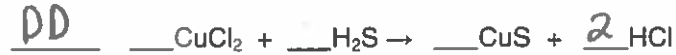
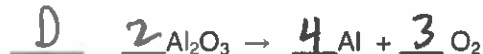
Using your notes complete the Summary chart below:

Type of Reaction	Definition in words	General Equation
Synthesis	2 reactants forming 1 product	$\underset{\text{red}}{A} + \underset{\text{blue}}{B} \rightarrow \underset{\text{red blue}}{AB}$
Decomposition	1 reactant breaking into 2 or more products	$\underset{\text{red blue}}{AB} \rightarrow \underset{\text{red}}{A} + \underset{\text{blue}}{B}$
Single Displacement	An element displaces another element in a compound to make an element and a compound	$\underset{\text{red blue}}{AB} + \underset{\text{green}}{C} \rightarrow \underset{\text{green blue}}{CB} + \underset{\text{red}}{A}$
Double Displacement	2 compounds react to make 2 compounds	$\underset{\text{red blue}}{AB} + \underset{\text{green yellow}}{CD} \rightarrow \underset{\text{red yellow}}{AD} + \underset{\text{green blue}}{CB}$

Colours: A = Red, B = Blue, C = Green, D = Yellow

1. Use coloured pencils to circle the common atoms or compounds in each equation to help you determine the **type or reaction** it illustrates. Use the code below to classify each reaction.

S = Synthesis D = Decomposition SD = Single Displacement DD = Double Displacement



2. Balance the above equations

SCH 4C1 More Practice with Balancing and Types of Reactions

Beneath the word equation write the **balanced chemical equation** and identify the **type of reaction**.

Chemical Reaction	Type of Reaction
<p>1) Sodium and water produce sodium hydroxide and hydrogen gas</p> <p>Balanced Chem Equation:</p> $2\text{Na}_{(s)} + 2\text{H}_2\text{O}_{(l)} \rightarrow 2\text{NaOH}_{(aq)} + \text{H}_{2(g)}$	SD
<p>2) Calcium carbonate breaks down forming calcium oxide and carbon dioxide</p> <p>Balanced Chem Equation:</p> $\text{CaCO}_{3(s)} \rightarrow \text{CaO}_{(s)} + \text{CO}_{2(g)}$	D
<p>3) Potassium sulfate and barium nitrate produces barium sulfate and potassium nitrate</p> <p>Balanced Chem Equation:</p> $\text{K}_2\text{SO}_{4(aq)} + \text{Ba}(\text{NO}_3)_{2(aq)} \rightarrow \text{BaSO}_{4(s)} + 2\text{KNO}_{3(aq)}$	DD
<p>4) Iron and oxygen gas produce iron (III) oxide</p> <p>Balanced Chem Equation:</p> $4\text{Fe}_{(s)} + 3\text{O}_{2(g)} \rightarrow 2\text{Fe}_2\text{O}_{3(s)}$	S
<p>5) Magnesium hydroxide and hydrogen iodide produced water and magnesium iodide</p> <p>Balanced Chem Equation:</p> $\text{Mg}(\text{OH})_{2(aq)} + 2\text{HI}_{(g)} \rightarrow 2\text{H}_2\text{O}_{(l)} + \text{MgI}_{2(aq)}$	DD
<p>6) Chlorine gas and water produce hydrogen chloride and oxygen gas</p> <p>Balanced Chemical Equation:</p> $2\text{Cl}_{2(g)} + 2\text{H}_2\text{O}_{(l)} \rightarrow 4\text{HCl}_{(g)} + \text{O}_{2(g)}$	SD
<p>7) Silver nitrate and calcium chloride combine to produce silver chloride and calcium nitrate</p> <p>Balanced Chem Equation:</p> $2\text{AgNO}_{3(aq)} + \text{CaCl}_{2(aq)} \rightarrow 2\text{AgCl}_{(s)} + \text{Ca}(\text{NO}_3)_{2(aq)}$	DD