

Physical Science 10
Exam Review: Chemical Reactions

2. a) iron (II) oxide → iron + oxygen



Reaction Type = Decomposition

b) zinc + sodium sulphide → sodium + zinc sulfide



Reaction Type = Single Replacement

c) calcium chloride + lithium nitrate → calcium nitrate + lithium chloride



Reaction Type = Double Replacement

d) magnesium + oxygen → magnesium oxide



Reaction Type = Synthesis

e) chlorine + silver bromide → bromine + silver chloride



Reaction type = Single Replacement

f) copper + barium sulphate → barium + copper (I) sulphate



Reaction Type: Single Replacement

g) sodium hydroxide + calcium carbonate → sodium carbonate + calcium hydroxide



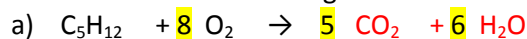
Reaction type = Double Replacement

h) potassium chloride → potassium + chlorine



Reaction Type = Decomposition

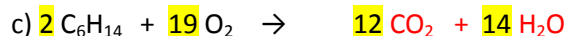
3. For each of the following combustion reactions, complete the balance chemical reaction



complete combustion



incomplete combustion



complete combustion

4. Solution A has a mass of 103g. Solution B has a mass of 55g. When they are mixed, a chemical reaction occurs in which a gas is produced. If the mass of the final mixture is 155g, what mass of gas was produced? Define the law of conservation of mass using this example.

A = 103g

B = 55g

$$\begin{aligned} \text{A} + \text{B} &\rightarrow \text{product} + \text{gas} \\ 103\text{g} + 55\text{g} &\rightarrow 155\text{g} + \text{gas} \\ 158\text{g} &\rightarrow 155\text{g} + ? \\ 158\text{g} - 155\text{g} &= ? \\ 3\text{g} &= \text{gas} \end{aligned}$$

the law of conservation of mass states that the mass of the reactants must equal the mass of the products. The mass that is missing is of the gas that has evaporated during the reaction.