Diackline Master 9.5-1	
Name:	Date:
Types of Chemical Re	eactions
Describe what takes place in	each reaction below. Give as much detail as you can.
1. In a synthesis reaction ,	two elements combine to form a new compound. 2 Na + F ₂ → 2 NaF
2. In a decomposition rea	action, one compound breaks apart into two or more parts. $Ca(OH)_2 \rightarrow CaO + H_2O$
3. In a single replacement elements is replaced.	reaction, an element reacts with a compound and one of the $3 \text{ Fe} + 4 \text{ H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4 \text{ H}_2$
4. In a double replacemen replace each other.	t reaction, two compounds react and two of the elements
	$FeS + 2 HCl \rightarrow H_2S + FeCl_2$
and water. (Write a descr also as a double replacem	ization reaction, an acid reacts with a base to produce a salt ription for this reaction as an acid–base neutralization and nent reaction.) 2 HBr + Ba(OH) ₂ \rightarrow BaBr ₂ + 2 H ₂ O
6. In a combustion reactio and forming carbon diox	n, an organic substance reacts with oxygen, releasing energy ide and water.
	$C_3H_8 + 5 O_2 \rightarrow 3 CO_2 + 4 H_2O$

CLASSIFYING CHEMICAL REACTIONS Name ___

Classify the following reactions as synthesis, decomposition, single replacement or double replacement.

1.
$$2KCIO_3 \rightarrow 2KCI + 3O_2$$

3. Mg + 2HCl
$$\rightarrow$$
 MgCl₂ + H₂

4.
$$2H_2 + O_2 \rightarrow 2H_2O$$

5.
$$2AI + 3NiBr_2 \rightarrow 2AIBr_3 + 3Ni$$

6.
$$4AI + 3O_2 \rightarrow 2AI_2O_3$$

7.
$$2NaCl \rightarrow 2Na + Cl_2$$

8.
$$CaCl_2 + F_2 \rightarrow CaF_2 + Cl_2$$

$$10. N_2 + 3H_2 \rightarrow 2NH_3$$

11.
$$2H_2O_2 \rightarrow 2H_2O + O_2$$

12.
$$(NH_4)_2SO_4 + Ba(NO_3)_2 \rightarrow BaSO_4 + 2NH_4NO_3$$

13.
$$Mgl_2 + Br_2 \rightarrow MgBr_2 + l_2$$

14.
$$SO_3 + H_2O \rightarrow H_2SO_4$$

15.
$$6KCI + Zn_3(PO_4)_2 \rightarrow 3ZnCI_2 + 2K_3PO_4$$