

# ANSWERS

**Five Reaction Types**  
Checklist: ...  
Don't be late every day at lunch and Tues & Thurs after school!



Name \_\_\_\_\_  
Period \_\_\_\_\_

To be completed with the help of the blue Addison - Wesley textbook *Chemistry*, by Wilbraham, et al

1a. There are three reactions on page 212. copy the first one into the box below

(It's the one with potassium in it...)

[Empty box for copying the first reaction from page 212]

1b.

What does the book call this type of reaction?

- single replacement reaction
- double replacement reaction
- combination reaction
- decomposition reaction

2a. From p. 214, copy the last reaction on the entire page into the box below

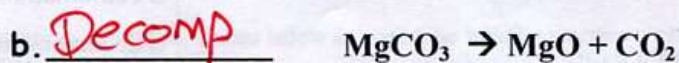
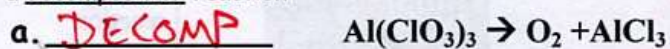
(It's the only one with carbonate anion in it...)

[Empty box for copying the last reaction from page 214]

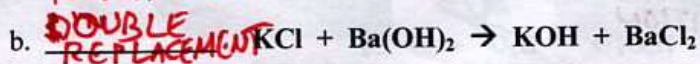
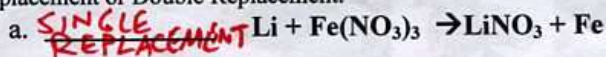
2b. What does the book call this type of reaction?

- single replacement reaction
- double replacement reaction
- combination reaction
- decomposition reaction

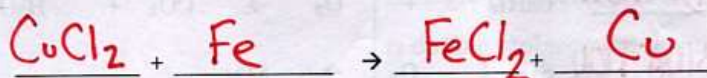
3. Based on what you wrote in 1 and 2 above, classify each of these as either a combination or a decomposition reaction



6. Based on the patterns you saw in #4 and #5, decide whether each of the following is Single Replacement or Double Replacement.



7. Look carefully at the first picture in Figure 8.9 on page 217. Based on our recent lectures and especially the lab (you may need to look at your notes or your lab report), write a reaction for what is occurring



8. According to pp. 222-223, which type of reaction always has two reactants and one product?

- single replacement reaction
- double replacement reaction
- combination reaction
- decomposition reaction

9. According to pp. 222-223, which type of reaction always has one reactant and two products?

- single replacement reaction
- double replacement reaction
- combination reaction
- decomposition reaction

Get a classwork stamp (3 pts) for copying into your notebook, just your answers

10. Get a classwork stamp (3 pts) for copying into your notebook JUST THE ANSWERS to 1a, 1b, 2a, 2b, 4a, 4b, 5a, 5b.

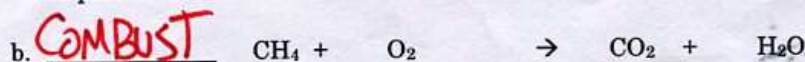
Get a stamp  
here

11. classify each of the reactions below as one of the following reaction types

COMBUSTION,  
DECOMPOSITION,  
COMBINATION,

SINGLE REPLACEMENT,  
DOUBLE REPLACEMENT

a. COMBUST any reaction that has oxygen as a reactant and water and carbon dioxide as products





- c. SINGLE REPLACEMENT  $\text{Zn} + \text{Pb}(\text{NO}_3)_2 \rightarrow \text{Zn}(\text{NO}_3)_2 + \text{Pb}$
- d. COMBINATION  $\text{Mg} + \text{N}_2 \rightarrow \text{Mg}_3\text{N}_2$
- e. DECOMPOSITION  $\text{H}_2\text{O}_2 \rightarrow \text{H}_2\text{O} + \text{O}_2$
- f. SINGLE REPLACEMENT  $\text{Cd} + \text{HCl} \rightarrow \text{CdCl}_2 + \text{H}_2$
- g. DOUBLE REPLACEMENT  $\text{NiSO}_4 + \text{Li}_3\text{PO}_4 \rightarrow \text{Ni}_3(\text{PO}_4)_2 + \text{Li}_2\text{SO}_4$
- h. COMBUSTION  $\text{C}_8\text{H}_{18} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
- i. COMBINATION  $\text{SO}_2 + \text{O}_2 \rightarrow \text{SO}_3$
- j. COMBINATION  $\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$
- k. SINGLE REPLACEMENT  $\text{Fe} + \text{CuSO}_4 \rightarrow \text{Fe}_2(\text{SO}_4)_3 + \text{Cu}$
- l. COMBINATION  $\text{Li} + \text{N}_2 \rightarrow \text{Li}_3\text{N}$
- m. COMBINATION  $\text{Al} + \text{O}_2 \rightarrow \text{Al}_2\text{O}_3$
- n. SINGLE REPLACEMENT The reaction we did in lab last week with the nail (see your notes)
- o. DECOMPOSITION  $\text{Na}_2\text{CO}_3 \rightarrow \text{Na}_2\text{O} + \text{CO}_2$
- p. SINGLE REPLACEMENT  $\text{Zn} + \text{H}_3\text{PO}_4 \rightarrow \text{Zn}_3(\text{PO}_4)_2 + \text{H}_2$
- q. SINGLE REPLACEMENT  $\text{Cl}_2 + \text{LiI} \rightarrow \text{LiCl} + \text{I}_2$
- r. DECOMPOSITION  $\text{NaOH} \rightarrow \text{Na}_2\text{O} + \text{H}_2\text{O}$
- s. SINGLE REPLACEMENT  $\text{Mg} + 2 \text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2$
- t. DOUBLE REPLACEMENT  $\text{FeCl}_3 + \text{NaOH} \rightarrow \text{Fe}(\text{OH})_3 + \text{NaCl}$
- u. SINGLE REPLACEMENT  $\text{Na} + \text{H}_2\text{O} \rightarrow \text{NaOH} + \text{H}_2$