Chemical Reactions

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Guided Practice

Directions: Classify the following *unbalanced* reactions as one of the five main types of chemical reactions.

1. 1 $Zn(s)$ + 2 $HCl(aq)$ → 1 $ZnCl_2(aq)$ + 1 $H_2(g)$

   single replacement

2. 1 $C_3H_8(g)$ + 5 $O_2(g)$ → 3 $CO_2(g)$ + 4 $H_2O(g)$

   combustion

3. 2 $KClO_3(s)$ → 2 $KCl(s)$ + 3 $O_2(g)$

   decomposition

4. 1 $BaCl_2(aq)$ + 2 $KIO_3(aq)$ → 1 $Ba(IO_3)_2(s)$ + 2 $KCl(aq)$

   double replacement (precipitation)

5. 4 $C(s)$ + 6 $H_2(g)$ + 1 $O_2(g)$ → 2 $C_2H_6O(s)$

   synthesis

Independent Practice

Directions: Classify the following *unbalanced* reactions as one of the five main types of chemical reactions.

1. 1 $Ca(s)$ + 2 $H_2O(l)$ → 1 $Ca(OH)_2(aq)$ + 1 $H_2(g)$

   single replacement

2. 3 $Fe(s)$ + 4 $H_2O(g)$ → 1 $Fe_3O_4(s)$ + 4 $H_2(g)$

   single replacement

3. 4 $Fe(s)$ + 3 $O_2(g)$ → 2 $Fe_2O_3(s)$

   synthesis

4. 2 $LiI(aq)$ + 1 $Pb(NO_3)_2(aq)$ → 2 $LiNO_3(aq)$ + 1 $PbI_2(s)$

   double replacement (precipitation)

5. 2 $C_6H_{14}(g)$ + 19 $O_2(g)$ → 14 $H_2O(g)$ + 12 $CO_2(g)$

   combustion