

CHAPTER 7	Identifying Reaction Types	BLM 7.0.1
ASSESSMENT		

1. List the five reaction types.
2. An elemental metal reacts with an elemental gas to form a solid compound. What reaction type is being illustrated?
3. Two of the reaction types you listed in Question 1 have one element and one compound as reactants. Which reaction types are they?
4. Three of the reaction types have at least two products. Which types are they?
5. A liquid compound changes into an elemental solid and an elemental gas. What type of reaction is this? An example of a compound which does this is $\text{CCl}_4(\ell)$.
6. One reaction type has the same products most of the time. What reaction type is this? What are the products?
7. $\text{C} + \text{P} + \text{D} \rightarrow \text{CPD}$ illustrates a _____ reaction.
8. Use a similar format to illustrate the decomposition reaction.

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(continued)

9. Classify each of these reactions into one of the following reaction types: formation (F), single replacement (SR), decomposition (D), hydrocarbon burning (HB), double replacement (DR), or combustion (C).

- _____ (a) $\text{Ti(s)} + 2\text{Cl}_2\text{(g)} \rightarrow \text{TiCl}_4\text{(l)}$
- _____ (b) $\text{AuCl}_3\text{(aq)} + 3\text{Ag(s)} \rightarrow 3\text{AgCl(s)} + \text{Au(s)}$
- _____ (c) $\text{HCOOH(l)} \rightarrow \text{C(s)} + \text{H}_2\text{(g)} + \text{O}_2\text{(g)}$
- _____ (d) $8\text{Pb(s)} + \text{S}_8\text{(s)} + 16\text{O}_2\text{(g)} \rightarrow 8\text{PbSO}_4\text{(s)}$
- _____ (e) $\text{CH}_3\text{COOH(l)} + 2\text{O}_2\text{(g)} \rightarrow 2\text{CO}_2\text{(g)} + 2\text{H}_2\text{O(g)}$
- _____ (f) $\text{NaCl(aq)} + \text{AgNO}_3\text{(aq)} \rightarrow \text{AgCl(s)} + \text{NaNO}_3\text{(aq)}$
- _____ (g) $2\text{C(s)} + 4\text{H}_2\text{(g)} + \text{O}_2\text{(g)} \rightarrow 2\text{CH}_3\text{OH(l)}$
- _____ (h) $\text{C}_3\text{H}_8\text{(g)} + 5\text{O}_2\text{(g)} \rightarrow 3\text{CO}_2\text{(g)} + 4\text{H}_2\text{O(g)}$
- _____ (i) $\text{Br}_2\text{(l)} + 2\text{NaI(aq)} \rightarrow 2\text{NaBr(aq)} + \text{I}_2\text{(s)}$
- _____ (j) $2\text{Ca(s)} + 2\text{C(s)} + 3\text{O}_2\text{(g)} \rightarrow 2\text{CaCO}_3\text{(s)}$
- _____ (k) $8\text{H}_2\text{SO}_4\text{(l)} \rightarrow 8\text{H}_2\text{(g)} + \text{S}_8\text{(s)} + 16\text{O}_2\text{(g)}$
- _____ (l) $2\text{KI(aq)} + \text{Pb(NO}_3)_2\text{(aq)} \rightarrow \text{PbI}_2\text{(s)} + 2\text{KNO}_3\text{(aq)}$
- _____ (m) $\text{Sn(NO}_3)_2\text{(aq)} + \text{Cd(s)} \rightarrow \text{Sn(s)} + \text{Cd(NO}_3)_2\text{(aq)}$
- _____ (n) $2\text{C}_6\text{H}_6\text{(l)} + 15\text{O}_2\text{(g)} \rightarrow 12\text{CO}_2\text{(g)} + 6\text{H}_2\text{O(g)}$
- _____ (o) $2\text{Ag(s)} + \text{O}_2\text{(g)} + \text{H}_2\text{(g)} \rightarrow 2\text{AgOH(s)}$
- _____ (p) $2\text{HClO}_4\text{(l)} \rightarrow \text{H}_2\text{(g)} + \text{Cl}_2\text{(g)} + \text{O}_2\text{(g)}$
- _____ (q) $\text{H}_3\text{PO}_4\text{(aq)} + 3\text{NaOH(aq)} \rightarrow 3\text{HOH(l)} + \text{Na}_3\text{PO}_4\text{(aq)}$
- _____ (r) $\text{CrCl}_2\text{(aq)} + \text{Mg(s)} \rightarrow \text{MgCl}_2\text{(aq)} + \text{Cr(s)}$
- _____ (s) $\text{Ba(NO}_3)_2\text{(aq)} + 2\text{NaCl(aq)} \rightarrow \text{BaCl}_2\text{(s)} + 2\text{NaNO}_3\text{(aq)}$
- _____ (t) $2\text{C}_8\text{H}_{18}\text{(l)} + 25\text{O}_2\text{(g)} \rightarrow 16\text{CO}_2\text{(g)} + 18\text{H}_2\text{O(g)}$
- _____ (u) $\text{I}_2\text{(s)} + \text{Na}_2\text{Se(aq)} \rightarrow 2\text{NaI(aq)} + \text{Se(s)}$
- _____ (v) $8\text{Cu(s)} + \text{S}_8\text{(s)} + 12\text{O}_2\text{(g)} \rightarrow 8\text{CuSO}_3\text{(s)}$
- _____ (w) $2\text{Au(s)} + 3\text{Cl}_2\text{(g)} \rightarrow 2\text{AuCl}_3\text{(s)}$
- _____ (x) $8\text{CuSO}_4\text{(s)} \rightarrow 8\text{Cu(s)} + \text{S}_8\text{(s)} + 16\text{O}_2\text{(g)}$
- _____ (y) $2\text{C}_2\text{H}_2\text{(g)} + 5\text{O}_2\text{(g)} \rightarrow 4\text{CO}_2\text{(g)} + 2\text{H}_2\text{O(g)}$
- _____ (z) $\text{Hg(l)} + \text{O}_2\text{(g)} \rightarrow 2\text{HgO(s)}$