

**CHAPTER 8 REVIEW**  
*Chemical Equations and Reactions*

**SECTION 8-1****SHORT ANSWER** Answer the following questions in the space provided.

1. Match the symbol on the left with its appropriate description on the right.

_____ $\Delta$	(a) A precipitate forms.
_____ $\downarrow$	(b) A gas forms.
_____ $\uparrow$	(c) A reversible reaction occurs.
_____ $(l)$	(d) Heat is applied to the reactants.
_____ $(aq)$	(e) A chemical is dissolved in water.
_____ $\rightleftharpoons$	(f) A chemical is in the liquid state.

2. Finish balancing the following equation:



3. In each of the following formulas with coefficients, write the total number of atoms present.

_____	a. $4\text{SO}_2$
_____	b. $8\text{O}_2$
_____	c. $3\text{Al}_2(\text{SO}_4)_3$
_____	d. $6 \times 10^{23} \text{HNO}_3$

4. Convert the following word equation into a balanced chemical equation:  
aluminum metal + copper(II) fluoride  $\rightarrow$  aluminum fluoride + copper metal

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5. One way to test the salinity of a water supply is to add a few drops of silver nitrate of known concentration to the water. As the solutions of sodium chloride and silver nitrate mix, a precipitate of silver chloride forms, leaving sodium nitrate in solution. Translate these sentences into a balanced chemical equation.

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6. a. Balance the following equation:  $\text{NaHCO}_3(s) \xrightarrow{\Delta} \text{Na}_2\text{CO}_3(s) + \text{H}_2\text{O}(g) + \text{CO}_2(g)$

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