

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.

_____ Δ	(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. 4SO_2

_____ b. 8O_2

_____ c. $3\text{Al}_2(\text{SO}_4)_3$

_____ d. HNO_3 6HNO_3

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

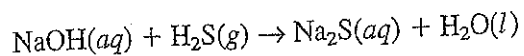
5. One way to test the salinity of a water supply is to add a few drops of silver nitrate of known concentration to the water. As the solutions of sodium chloride and silver nitrate mix, a precipitate of silver chloride forms, leaving sodium nitrate in solution. Translate these sentences into a balanced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

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

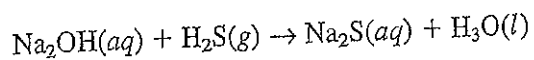
SECTION 8-1 continued

b. Translate the chemical equation in part a into a sentence.

7. The poisonous gas hydrogen sulfide can be neutralized with a base such as NaOH. The unbalanced equation for this reaction follows:



A student who was asked to balance this equation wrote the following:

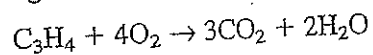


Is this equation balanced? Is it correct? Explain why or why not, and supply the correct balanced equation if necessary.

PROBLEM Write the answer on the line to the left. Show all your work in the space provided.

8. Recall that coefficients in a balanced equation give relative amounts of moles as well as numbers of molecules.

_____ a. Calculate the amount of CO_2 in moles that forms if 10 mol of C_3H_4 react according to the following balanced equation:



_____ b. Calculate the amount of O_2 in moles that is consumed.