

CHAPTER 7

Accounting for Liabilities

LEARNING OBJECTIVES

After you have mastered the material in this chapter, you will be able to:

- 1 Show how notes payable and related interest expense affect financial statements.
- 2 Show how sales tax liabilities affect financial statements.
- 3 Define contingent liabilities and explain how they are reported in financial statements.
- 4 Explain how warranty obligations affect financial statements.
- 5 Show how installment notes affect financial statements.
- 6 Show how a line of credit affects financial statements.
- 7 Explain how to account for bonds issued at face value and their related interest costs.
- 8 Use the straight-line method to amortize bond discounts and premiums.
- 9 Distinguish between current and noncurrent assets and liabilities.
- 10 Prepare a classified balance sheet.
- 11 Use the effective interest rate method to amortize bond discounts and premiums. (Appendix)

CHAPTER OPENING

Chapter 2 discussed several types of liabilities with known amounts due, including accounts payable, salaries payable, and unearned revenue. This chapter introduces other liabilities with known amounts due: notes payable, sales taxes payable, lines of credit, and bond liabilities. We also discuss a contingent liability called warranties payable. We begin with a discussion of **current liabilities**, those that are payable within one year or the operating cycle, whichever is longer.

The Curious Accountant

For its 2008 fiscal year **Ford Motor Company** reported a net loss of \$14.7 billion. The previous year it had reported a loss of \$2.8 billion. The company had \$9.7 billion of interest expense in 2008 and \$10.9 billion in 2007.

With such huge losses on its income statement, do you think Ford was able to make the interest payments on its debt? If so, how? (Answer on page 249.)



ACCOUNTING FOR CURRENT LIABILITIES

Accounting for Notes Payable

LO 1

Show how notes payable and related interest expense affect financial statements.

Our discussion of promissory notes in Chapter 5 focused on the payee, the company with a note receivable on its books. In this chapter we focus on the maker of the note, the company with a note payable on its books. Because the maker of the note issues (gives) the note to the payee, the maker is sometimes called the **issuer**.

To illustrate, assume that on September 1, 2012, Herrera Supply Company (HSC) borrowed \$90,000 from the National Bank. As evidence of the debt, Herrera issued a **note payable** that had a one-year term and an annual interest rate of 9 percent.

Issuing the note is an asset source transaction. The asset account Cash increases and the liability account Notes Payable increases. The income statement is not affected. The statement of cash flows shows a \$90,000 cash inflow from financing activities. The effects on the financial statements are as follows.

Date	Assets	=	Liabilities			+	Stockholders' Equity		Rev.	-	Exp.	=	Net Inc.	Cash Flow	
	Cash	=	Notes Pay.	+	Int. Pay.	+	Com. Stk.	+	Ret. Earn.			=			
09/01/12	90,000	=	90,000	+	NA	+	NA	+	NA	NA	-	NA	=	NA	90,000 FA

On December 31, 2012, HSC would recognize four months (September 1 through December 31) of accrued interest expense. The accrued interest is \$2,700 [$\$90,000 \times 0.09 \times (4 \div 12)$]. Recognizing the accrued interest expense increases the liability account Interest Payable and decreases retained earnings. It is a claims exchange event. The income statement would report interest expense although HSC had not paid any cash for interest in 2012. The effects on the financial statements are as follows.

Date	Assets	=	Liabilities			+	Stockholders' Equity		Rev.	-	Exp.	=	Net Inc.	Cash Flow	
	Cash	=	Notes Pay.	+	Int. Pay.	+	Com. Stk.	+	Ret. Earn.			=			
12/31/12	NA	=	NA	+	2,700	+	NA	+	(2,700)	NA	-	2,700	=	(2,700)	NA

HSC would record three events on August 31, 2013 (the maturity date). The first event recognizes \$5,400 of interest expense that accrued in 2013 from January 1 through August 31 [$\$90,000 \times 0.09 \times (8 \div 12)$]. The effects on the financial statements are as follows.

Date	Assets	=	Liabilities			+	Stockholders' Equity		Rev.	-	Exp.	=	Net Inc.	Cash Flow	
	Cash	=	Notes Pay.	+	Int. Pay.	+	Com. Stk.	+	Ret. Earn.			=			
08/31/13	NA	=	NA	+	5,400	+	NA	+	(5,400)	NA	-	5,400	=	(5,400)	NA

The second event recognizes HSC's cash payment for interest on August 31, 2013. This event is an asset use transaction that reduces both the Cash and Interest Payable accounts for the total amount of interest due, \$8,100 [$\$90,000 \times 0.09 \times (12 \div 12)$]. The interest payment includes the four months' interest accrued in 2012 and the eight months accrued in 2013 ($\$2,700 + \$5,400 = \$8,100$). There is no effect on the income statement because HSC recognized the interest expense in two previous journal entries.

The statement of cash flows would report an \$8,100 cash outflow from operating activities. The effects on the financial statements follow.

Date	Assets = Liabilities + Stockholders' Equity						Rev. - Exp. = Net Inc.			Cash Flow	
	Cash	Notes Pay.	Int. Pay.	Com. Stk.	Ret. Earn.						
08/31/13	(8,100)	NA	(8,100)	NA	NA	NA	-	NA	=	NA	(8,100) OA

The third event on August 31, 2013, reflects repaying the principal. This event is an asset use transaction. The Cash account and the Notes Payable account each decrease by \$90,000. There is no effect on the income statement. The statement of cash flows would show a \$90,000 cash outflow from financing activities. Recall that paying interest is classified as an operating activity even though repaying the principal is a financing activity. The effects on the financial statements are as follows.

Date	Assets = Liabilities + Stockholders' Equity						Rev. - Exp. = Net Inc.			Cash Flow	
	Cash	Notes Pay.	Int. Pay.	Com. Stk.	Ret. Earn.						
08/31/13	(90,000)	(90,000)	NA	NA	NA	NA	-	NA	=	NA	(90,000) FA

CHECK YOURSELF 7.1

On October 1, 2012, Mellon Company issued an interest-bearing note payable to Better Banks Inc. The note had a \$24,000 principal amount, a four-month term, and an annual interest rate of 4 percent. Determine the amount of interest expense and the cash outflow from operating activities Mellon will report in its 2012 and 2013 financial statements.

Answer The computation of accrued interest expense is shown below. Unless otherwise specified, the interest rate is stated in annual terms even though the term of the note is only four months. Interest rates are commonly expressed as an annual percentage regardless of the term of the note. The *time outstanding* in the following formulas is therefore expressed as a fraction of a year. Mellon paid interest at an annual rate of 4 percent, but the note was outstanding for only 3/12 of a year in 2012 and 1/12 of a year in 2013.

2012

$$\text{Principal} \times \text{Annual interest rate} \times \text{Time outstanding} = \text{Interest expense}$$

$$\$24,000 \times 0.04 \times (3/12) = \$240$$

2013

$$\text{Principal} \times \text{Annual interest rate} \times \text{Time outstanding} = \text{Interest expense}$$

$$\$24,000 \times 0.04 \times (1/12) = \$80$$

Mellon will report a \$320 (\$240 + \$80) cash outflow from operating activities for interest in 2013.

Accounting for Sales Tax

Most states require retail companies to collect a sales tax on items sold to their customers. The retailer collects the tax from its customers and remits the tax to the state at regular intervals. The retailer has a current liability for the amount of sales tax collected but not yet paid to the state.

LO 2

Show how sales tax liabilities affect financial statements.

To illustrate, assume Herrera Supply Company (HSC) sells merchandise to a customer for \$2,000 cash plus tax in a state where the sales tax rate is 6 percent. The effects on the financial statements are shown below.¹

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Sales Tax Pay.	+	Com. Stk.	+	Ret. Earn.				
2,120	=	120	+	NA	+	2,000			2,000	2,120 OA

Remitting the tax (paying cash to the tax authority) is an asset use transaction. Both the Cash account and the Sales Tax Payable account decrease. The effects on the financial statements are as follows.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Sales Tax Pay.	+	Com. Stk.	+	Ret. Earn.				
(120)	=	(120)	+	NA	+	NA			NA	(120) OA

LO 3

Define contingent liabilities and explain how they are reported in financial statements.

Contingent Liabilities

A **contingent liability** is a potential obligation arising from a past event. The amount or existence of the obligation depends on some future event. A pending lawsuit, for example, is a contingent liability. Depending on the outcome, a defendant company could be required to pay a large monetary settlement or could be relieved of any obligation. Generally accepted accounting principles require that companies classify contingent liabilities into three different categories depending on the likelihood of their becoming actual liabilities. The categories and the accounting for each are described below.

1. If the likelihood of a future obligation arising is *probable* (likely) and its amount can be *reasonably estimated*, a liability is recognized in the financial statements. Contingent liabilities in this category include warranties, vacation pay, and sick leave.
2. If the likelihood of a future obligation arising is *reasonably possible* but not likely or if it is probable but *cannot be reasonably estimated*, no liability is reported on the balance sheet. The potential liability is, however, disclosed in the footnotes to the financial statements. Contingent liabilities in this category include legal challenges, environmental damages, and government investigations.
3. If the likelihood of a future obligation arising is *remote*, no liability need be recognized in the financial statements or disclosed in the footnotes to the statements.²

Determining whether a contingent liability is probable, reasonably possible, or remote requires professional judgment. Even seasoned accountants seek the advice of attorneys, engineers, insurance agents, and government regulators before classifying significant contingent liabilities. Professional judgment is also required to distinguish between contingent liabilities and **general uncertainties**. All businesses face uncertainties such as competition and damage from floods or storms. Such uncertainties are not contingent liabilities, however, because they do not arise from past events.

¹The entry to record cost of goods sold for this sale is intentionally omitted.
²Companies may, if desired, voluntarily disclose contingent liabilities classified as remote.

EXHIBIT 7.1

Reporting Contingent Liabilities

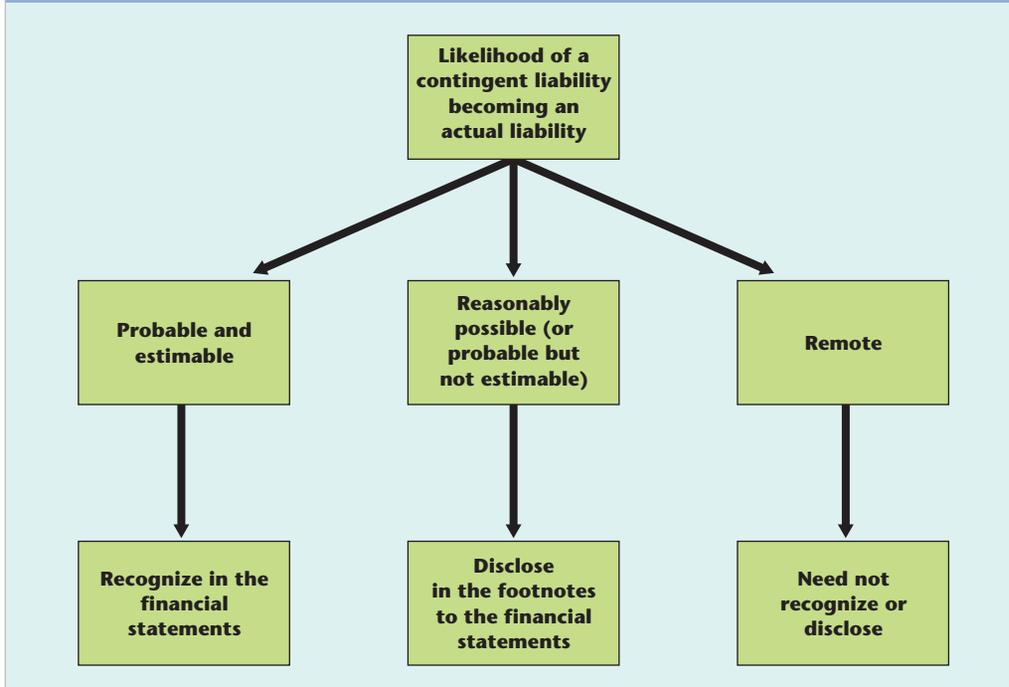


Exhibit 7.1 summarizes the three categories of contingent liabilities and the accounting for each category.

Warranty Obligations

To attract customers, many companies guarantee their products or services. Such guarantees are called **warranties**. Warranties take many forms. Usually, they extend for a specified period of time. Within this period, the seller promises to replace or repair defective products without charge. Although the amount and timing of warranty obligations are uncertain, warranties usually represent liabilities that must be reported in the financial statements.

To illustrate accounting for warranty obligations, assume Herrera Supply Company (HSC) had cash of \$2,000, inventory of \$6,000, common stock of \$5,000, and retained earnings of \$3,000 on January 1, 2012. The 2012 accounting period is affected by three accounting events: (1) sale of merchandise under warranty; (2) recognition of warranty obligations to customers who purchased the merchandise; and (3) settlement of a customer’s warranty claim.

LO 4

Explain how warranty obligations affect financial statements.

EVENT 1 Sale of Merchandise

HSC sold for \$7,000 cash merchandise that had cost \$4,000.

In the following statements model, revenue from the sale is referenced as 1a and the cost of the sale as 1b. The effects of the sales transaction on the financial statements are shown below.

Event No.	Assets			=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
	Cash	+	Inventory										
1a	7,000	+	NA	=	NA	+	7,000	7,000	-	NA	=	7,000	7,000 OA
1b	NA	+	(4,000)	=	NA	+	(4,000)	NA	-	4,000	=	(4,000)	NA

EVENT 2 Recognition of Warranty Expense

HSC guaranteed the merchandise sold in Event 1 to be free from defects for one year following the date of sale.

Although the exact amount of future warranty claims is unknown, HSC must inform financial statement users of the company’s obligation. HSC must estimate the amount of the warranty liability and report the estimate in the 2012 financial statements. Assume the warranty obligation is estimated to be \$100. Recognizing this obligation increases liabilities (warranties payable) and reduces stockholders’ equity (retained earnings). Recognizing the warranty expense reduces net income. The statement of cash flows is not affected when the obligation and the corresponding expense are recognized. The effects on the financial statements follow.

Event No.	Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
			Warr. Pay.		Ret. Earn.						
2	NA	=	100	+	(100)	NA	-	100	=	(100)	NA

EVENT 3 Settlement of Warranty Obligation

HSC paid \$40 cash to repair defective merchandise returned by a customer.

The cash payment for the repair is not an expense. Warranty expense was recognized in the period in which the sale was made. The payment reduces an asset (cash) and a liability (warranties payable). The income statement is not affected by the repairs payment. However, there is a \$40 cash outflow reported in the operating activities section of the statement of cash flows. The effects on the financial statements follow.

Event No.	Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
	Cash	=	Warr. Pay.	+	Ret. Earn.						
3	(40)	=	(40)	+	NA	NA	-	NA	=	NA	(40) OA

Financial Statements

The financial statements for HSC’s 2012 accounting period are shown in Exhibit 7.2.

EXHIBIT 7.2

Financial Statements for 2012

Income Statement		Balance Sheet		Statement of Cash Flows	
Sales revenue	\$7,000	Assets		Operating Activities	
Cost of goods sold	(4,000)	Cash	\$ 8,960	Inflow from customers	\$7,000
Gross margin	3,000	Inventory	2,000	Outflow for warranty	(40)
Warranty expense	(100)	Total assets	\$10,960	Net inflow from operating activities	6,960
Net income	\$2,900	Liabilities		Investing Activities	0
		Warranties payable	\$ 60	Financing Activities	0
		Stockholders’ equity		Net change in cash	6,960
		Common stock	5,000	Plus: Beginning cash balance	2,000
		Retained earnings	5,900	Ending cash balance	\$8,960
		Total liab. and stockholders’ equity	\$10,960		

REALITY BYTES

Many of the items we purchase come with a manufacturer's warranty, but companies that sell electronics and electrical appliances often offer to sell you an extended warranty that provides protection after the manufacturer's warranty has expired. Why do they offer this option to customers, and how do these warranties differ from the standard manufacturers' warranties?

Companies such as **Best Buy** offer to sell customers extended warranties because they make a significant profit on them. If you buy an extended warranty from Best Buy, the retailer is not actually the one who is promising to repair your product; that will be done by a third party. Best Buy simply receives a commission for selling the warranty. In 2010 such commissions accounted for 2.0 percent of the company's total revenues, and since it had to incur very little expense to earn these revenues, they are mostly profit.

The typical manufacturer's warranty, as you have learned in this chapter, is an expense recognized at the time of the sale. However, companies that provide extended warranties must recognize the warranty revenue over the life of the warranty, not immediately upon sale. Remember, this is referring to the third-party warranty provider, not Best Buy. Since Best Buy is simply earning a commission from selling the warranty, it gets to recognize all of the revenue at the time of the sale.



CHECK YOURSELF 7.2

Flotation Systems, Inc. (FSI) began operations in 2012. Its sales were \$360,000 in 2012 and \$410,000 in 2013. FSI estimates the cost of its one-year product warranty will be 2 percent of sales. Actual cash payments for warranty claims amounted to \$5,400 during 2012 and \$8,500 during 2013. Determine the amount of warranty expense that FSI would report on its 2012 and 2013 year-end income statements. Also, determine the amount of warranties payable FSI would report on its 2012 and 2013 year-end balance sheet.

Answer FSI would report Warranty Expense on the December 31, 2012, income statement of \$7,200 ($\$360,000 \times .02$). Warranty Expense on the December 31, 2013, income statement is \$8,200 ($\$410,000 \times .02$).

FSI would report Warranties Payable on the December 31, 2012, balance sheet of \$1,800 ($\$7,200 - \$5,400$). Warranties Payable on the December 31, 2013, balance sheet is \$1,500 ($\$1,800 + \$8,200 - \$8,500$).

ACCOUNTING FOR LONG-TERM DEBT

Most businesses finance their investing activities with long-term debt. Recall that current liabilities mature within one year or a company's operating cycle, whichever is longer. Other liabilities are **long-term liabilities**. Long-term debt agreements vary with respect to requirements for paying interest charges and repaying principal (the amount borrowed). Interest payments may be due monthly, annually, at some other interval, or at the maturity date. Interest charges may be based on a **fixed interest rate** that remains constant during the term of the loan or may be based on a **variable interest rate** that fluctuates up or down during the loan period.

Principal repayment is generally required either in one lump sum at the maturity date or in installments that are spread over the life of the loan. For example, each monthly payment on your car loan probably includes both paying interest and repaying some of the principal. Repaying a portion of the principal with regular payments that also include interest is often called loan **amortization**.³ This section explains accounting for interest and principal with respect to the major forms of long-term debt financing.

Installment Notes Payable

LO 5

Show how installment notes affect financial statements.

Loans that require payments of principal and interest at regular intervals (amortizing loans) are typically represented by **installment notes**. The terms of installment notes usually range from two to five years. To illustrate accounting for installment notes, assume Blair Company was started on January 1, 2012, when it borrowed \$100,000 cash from the National Bank. In exchange for the money, Blair issued the bank a five-year installment note with a 9 percent fixed interest rate. The effects on the financial statements are as follows.

Date	Assets		=	Liab.		+	Equity		Rev.	-	Exp.	=	Net Inc.	Cash Flow	
	Cash		Note Pay.		Com. Stk.		Ret. Earn.								
2012 Jan. 1	100,000	=	100,000	+	NA	+	NA		NA	-	NA	=	NA	100,000	FA

The loan agreement required Blair to pay five equal installments of \$25,709⁴ on December 31 of each year from 2012 through 2016. Exhibit 7.3 shows the allocation of each payment between principal and interest. When Blair pays the final installment, both the principal and interest will be paid in full. The amounts shown in Exhibit 7.3 are computed as follows.

1. The Interest Expense (Column D) is computed by multiplying the Principal Balance on Jan. 1 (Column B) by the interest rate. For example, interest expense for 2012 is $\$100,000 \times .09 = \$9,000$; for 2013 it is $\$83,291 \times .09 = \$7,496$; and so on.

EXHIBIT 7.3

Accounting Period Column A	Principal Balance on Jan. 1 Column B	Cash Payment on Dec. 31 Column C	Interest Expense Column D	Principal Repayment Column E	Principal Balance on Dec. 31 Column F
2012	\$100,000	\$25,709	\$9,000	\$16,709	\$83,291
2013	83,291	25,709	7,496	18,213	65,078
2014	65,078	25,709	5,857	19,852	45,226
2015	45,226	25,709	4,070	21,639	23,587
2016	23,587	25,710*	2,123	23,587	0

*All computations are rounded to the nearest dollar. To fully liquidate the liability, the final payment is one dollar more than the others because of rounding differences.

³In Chapter 6 the term *amortization* described the expense recognized when the *cost of an intangible asset* is systematically allocated to expense over the useful life of the asset. This chapter shows that the term *amortization* refers more broadly to a variety of allocation processes. Here it means the systematic process of allocating the *principal repayment* over the life of a loan.

⁴The amount of the annual payment is determined using the present value concepts presented in a later chapter. Usually the lender (bank or other financial institution) calculates the amount of the payment for the customer. In this chapter we provide the amount of the annual payment.

Answers to The Curious Accountant

Ford Motor Company was able to make its interest payments in 2008 for two reasons. (1) Interest is paid with cash, not accrued earnings. Many of

the expenses on the company's income statement did not require the use of cash. The company's statement of cash flows shows that net cash flow from operating activities, *after making interest payments*, was a negative \$179 million in 2008, which is much smaller than the \$14.7 billion it reported as a net loss. Ford made up for the negative cash flow from operating activities by using some of the cash it had on hand at the beginning of 2008. (2) The net loss the company incurred was *after* interest expense had been deducted. The capacity of operations to support interest payments is measured by the amount of earnings before interest deductions. For example, look at the 2012 income statement for Blair Company in Exhibit 7.4. This statement shows only \$3,000 of net income, but \$12,000 of cash revenue was available for the payment of interest. Similarly, Ford's 2008 net loss is not an indication of the company's ability to pay interest in the short run. Fortunately, in 2009 Ford had positive net income of \$2.7 billion and positive cash flows from operating activities of \$16.0 billion.

- The Principal Repayment (Column E) is computed by subtracting the Interest Expense (Column D) from the Cash Payment on Dec. 31 (Column C). For example, the Principal Repayment for 2012 is $\$25,709 - \$9,000 = \$16,709$; for 2013 it is $\$25,709 - \$7,496 = \$18,213$; and so on.
- The Principal Balance on Dec. 31 (Column F) is computed by subtracting the Principal Repayment (Column E) from the Principal Balance on Jan. 1 (Column B). For example, the Principal Balance on Dec. 31 for 2012 is $\$100,000 - \$16,709 = \$83,291$; on December 31, 2013, the principal balance is $\$83,291 - \$18,213 = \$65,078$; and so on. The Principal Balance on Dec. 31 (ending balance) for 2012 (\$83,291) is also the Principal Balance on Jan. 1 (beginning balance) for 2013; the principal balance on December 31, 2013, is the principal balance on January 1, 2014; and so on.

Although the amounts for interest expense and principal repayment differ each year, the effects of the annual payment on the financial statements are the same. On the balance sheet, assets (cash) decrease by the total amount of the payment; liabilities (note payable) decrease by the amount of the principal repayment; and stockholders' equity (retained earnings) decreases by the amount of interest expense. Net income decreases from recognizing interest expense. On the statement of cash flows, the portion of the cash payment applied to interest is reported in the operating activities section and the portion applied to principal is reported in the financing activities section. The effects on the financial statements are as follows.

Date	Assets	=	Liab.	+	Equity		Rev.	-	Exp.	=	Net Inc.	Cash Flow	
	Cash	=	Note Pay.	+	Com. Stk.	+ Ret. Earn.							
2012 Dec. 31	(25,709)	=	(16,709)	+	NA	+ (9,000)	NA	-	9,000	=	(9,000)	(9,000)	OA
												(16,709)	FA

EXHIBIT 7.4					
BLAIR COMPANY					
Financial Statements					
	2012	2013	2014	2015	2016
Income Statements					
Rent revenue	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
Interest expense	<u>(9,000)</u>	<u>(7,496)</u>	<u>(5,857)</u>	<u>(4,070)</u>	<u>(2,123)</u>
Net income	<u>\$ 3,000</u>	<u>\$ 4,504</u>	<u>\$ 6,143</u>	<u>\$ 7,930</u>	<u>\$ 9,877</u>
Balance Sheets					
Assets					
Cash	<u>\$86,291</u>	<u>\$72,582</u>	<u>\$58,873</u>	<u>\$45,164</u>	<u>\$31,454</u>
Liabilities					
Note payable	\$83,291	\$65,078	\$45,226	\$23,587	\$ 0
Stockholders' equity					
Retained earnings	<u>3,000</u>	<u>7,504</u>	<u>13,647</u>	<u>21,577</u>	<u>31,454</u>
Total liabilities and stk. equity	<u>\$86,291</u>	<u>\$72,582</u>	<u>\$58,873</u>	<u>\$45,164</u>	<u>\$31,454</u>
Statements of Cash Flows					
Operating Activities					
Inflow from customers	\$ 12,000	\$12,000	\$12,000	\$12,000	\$12,000
Outflow for interest	(9,000)	(7,496)	(5,857)	(4,070)	(2,123)
Investing Activities					
	0	0	0	0	0
Financing Activities					
Inflow from note issue	100,000	0	0	0	0
Outflow to repay note	<u>(16,709)</u>	<u>(18,213)</u>	<u>(19,852)</u>	<u>(21,639)</u>	<u>(23,587)</u>
Net change in cash	86,291	(13,709)	(13,709)	(13,709)	(13,710)
Plus: Beginning cash balance	<u>0</u>	<u>86,291</u>	<u>72,582</u>	<u>58,873</u>	<u>45,164</u>
Ending cash balance	<u>\$ 86,291</u>	<u>\$72,582</u>	<u>\$58,873</u>	<u>\$45,164</u>	<u>\$31,454</u>

Exhibit 7.4 displays income statements, balance sheets, and statements of cash flows for Blair Company for the accounting periods 2012 through 2016. The illustration assumes that Blair earned \$12,000 of rent revenue each year. Because some of the principal

 **CHECK YOURSELF 7.3**

On January 1, 2011, Krueger Company issued a \$50,000 installment note to State Bank. The note had a 10-year term and an 8 percent interest rate. Krueger agreed to repay the principal and interest in 10 annual payments of \$7,451.47 at the end of each year. Determine the amount of principal and interest Krueger paid during the first and second year that the note was outstanding.

Answer

Accounting Period	Principal Balance January 1 A	Cash Payment December 31 B	Applied to Interest C = A × 0.08	Applied to Principal B – C
2011	\$50,000.00	\$7,451.47	\$4,000.00	\$3,451.47
2012	46,548.53	7,451.47	3,723.88	3,727.59

is repaid each year, the note payable amount reported on the balance sheet and the amount of the interest expense on the income statement both decline each year.

Line of Credit

A **line of credit** enables a company to borrow or repay funds as needed. For example, a business may borrow \$50,000 one month and make a partial repayment of \$10,000 the next month. Credit agreements usually specify a limit on the amount that can be borrowed. Exhibit 7.5 shows that credit agreements are widely used.

Interest rates on lines of credit normally vary with fluctuations in some designated interest rate benchmark such as the rate paid on U.S. Treasury bills. For example, a company may pay 4 percent interest one month and 4.5 percent the next month, even if the principal balance remains constant.

Lines of credit typically have one-year terms. Although they are classified on the balance sheet as short-term liabilities, lines of credit are frequently extended indefinitely by simply renewing the credit agreement.

To illustrate accounting for a line of credit, assume Lagoon Company owns a wholesale jet-ski distributorship. In the spring, Lagoon borrows money using a line of credit to finance building up its inventory. Lagoon repays the loan over the summer months using cash generated from jet-ski sales. Borrowing or repaying events occur on the first of the month. Interest payments occur at the end of each month. Exhibit 7.6 presents all 2013 line of credit events.

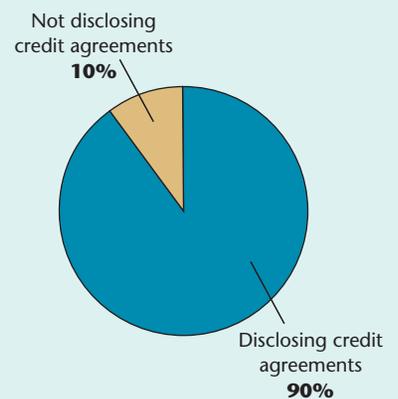
Each borrowing event (March 1, April 1, and May 1) is an asset source transaction. Both cash and the line of credit liability increase. Each repayment (June 1, July 1, and August 1) is an asset use transaction. Both cash and the line of credit liability decrease. Each month's interest expense recognition and payment is an asset use transaction. Assets (cash) and stockholders' equity (retained earnings) decrease, as does net income. The effects of the events on the financial statements are shown in Exhibit 7.7.

LO 6

Show how a line of credit affects financial statements.

EXHIBIT 7.5

Percentage of U.S. Companies Disclosing Credit Agreements



Data source: AICPA, *Accounting Trends and Techniques*, 2006.

EXHIBIT 7.6

Summary of 2013 Line of Credit Events

Date	Amount Borrowed (Repaid)	Loan Balance at End of Month	Effective Interest Rate per Month (%)	Interest Expense (rounded to nearest \$1)
Mar. 1	\$20,000	\$ 20,000	0.09 ÷ 12	\$150
Apr. 1	30,000	50,000	0.09 ÷ 12	375
May 1	50,000	100,000	0.105 ÷ 12	875
June 1	(10,000)	90,000	0.10 ÷ 12	750
July 1	(40,000)	50,000	0.09 ÷ 12	375
Aug. 1	(50,000)	0	0.09 ÷ 12	0

Bond Liabilities

Many companies borrow money directly from the public by selling **bond certificates**, otherwise called *issuing* bonds. Bond certificates describe a company's obligation to pay interest and to repay the principal. The seller, or **issuer**, of a bond is the borrower; the buyer of a bond, or **bondholder**, is the lender.

From the issuer's point of view, a bond represents an obligation to pay a sum of money to the bondholder on the bond's maturity date. The amount due at maturity is

LO 7

Explain how to account for bonds issued at face value and their related interest costs.

EXHIBIT 7.7

Date	Assets	=	Liabilities	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Mar. 1	20,000	=	20,000	+	NA	NA	-	NA	=	NA	20,000 FA
31	(150)	=	NA	+	(150)	NA	-	150	=	(150)	(150) OA
Apr. 1	30,000	=	30,000	+	NA	NA	-	NA	=	NA	30,000 FA
30	(375)	=	NA	+	(375)	NA	-	375	=	(375)	(375) OA
May 1	50,000	=	50,000	+	NA	NA	-	NA	=	NA	50,000 FA
31	(875)	=	NA	+	(875)	NA	-	875	=	(875)	(875) OA
June 1	(10,000)	=	(10,000)	+	NA	NA	-	NA	=	NA	(10,000) FA
30	(750)	=	NA	+	(750)	NA	-	750	=	(750)	(750) OA
July 1	(40,000)	=	(40,000)	+	NA	NA	-	NA	=	NA	(40,000) FA
31	(375)	=	NA	+	(375)	NA	-	375	=	(375)	(375) OA
Aug. 1	(50,000)	=	(50,000)	+	NA	NA	-	NA	=	NA	(50,000) FA
31	NA	=	NA	+	NA	NA	-	NA	=	NA	NA

the **face value** of the bond. Most bonds also require the issuer to make cash interest payments based on a **stated interest rate** at regular intervals over the life of the bond. Exhibit 7.8 shows a typical bond certificate.

EXHIBIT 7.8



Advantages of Issuing Bonds

Bond financing offers companies the following advantages.

1. Bonds usually have longer terms than notes issued to banks. While typical bank loan terms range from 2 to 5 years, bonds normally have 20-year terms to maturity. Longer terms to maturity allow companies to implement long-term strategic plans without having to worry about frequent refinancing arrangements.
2. Bond interest rates may be lower than bank interest rates. Banks earn profits by borrowing money from the public (depositors) at low interest rates, then loaning that money to companies at higher rates. By issuing bonds directly to the public, companies can pay lower interest costs by eliminating the middle man (banks).

Bonds Issued at Face Value

Assume Marsha Mason needs cash in order to seize a business opportunity. Mason knows of a company seeking a plot of land on which to store its inventory of crushed stone. Mason also knows of a suitable tract of land she could purchase for \$100,000. The company has agreed to lease the land it needs from Mason for \$12,000 per year. Mason lacks the funds to buy the land.

Some of Mason’s friends recently complained about the low interest rates banks were paying on certificates of deposit. Mason suggested that her friends invest in bonds instead of CDs. She offered to sell them bonds with a 9 percent stated interest rate. The terms specified in the bond agreement Mason drafted included making interest payments in cash on December 31 of each year, a five-year term to maturity, and pledging

the land as collateral for the bonds.⁵ Her friends were favorably impressed, and Mason issued the bonds to them in exchange for cash on January 1, 2012.

Mason used the bond proceeds to purchase the land and immediately contracted to lease it for five years. On December 31, 2016, the maturity date of the bonds, Mason sold the land for its \$100,000 book value and used the proceeds from the sale to repay the bond liability.

Mason's business venture involved six distinct accounting events.

1. Received \$100,000 cash from issuing five-year bonds at face value.
2. Invested proceeds from the bond issue to purchase land for \$100,000 cash.
3. Earned \$12,000 cash revenue annually from leasing the land.
4. Paid \$9,000 annual interest on December 31 of each year.
5. Sold the land for \$100,000 cash.
6. Repaid the bond principal to bondholders.

Effect of Events on Financial Statements

EVENT 1 Issue Bonds for Cash

Issuing bonds is an asset source transaction.

Assets (cash) and liabilities (bonds payable) increase. Net income is not affected. The \$100,000 cash inflow is reported in the financing activities section of the statement of cash flows. These effects are shown here.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Bonds Pay.								
100,000	=	100,000	+	NA	NA	-	NA	=	NA	100,000 FA

EVENT 2 Investment in Land

Paying \$100,000 cash to purchase land is an asset exchange transaction.

The asset cash decreases and the asset land increases. The income statement is not affected. The cash outflow is reported in the investing activities section of the statement of cash flows. These effects are illustrated below.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	+	Land								
(100,000)	+	100,000	=	NA	+	NA	=	NA		(100,000) IA

EVENT 3 Revenue Recognition

Recognizing \$12,000 cash revenue from renting the property is an asset source transaction.

This event is repeated each year from 2012 through 2016. The event increases assets and stockholders' equity. Recognizing revenue increases net income. The cash inflow is reported in the operating activities section of the statement of cash flows. These effects follow.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=		+	Ret. Earn.						
12,000	=	NA	+	12,000	12,000	-	NA	=	12,000	12,000 OA

⁵In practice, bonds are usually issued for much larger sums of money, often hundreds of millions of dollars. Also, terms to maturity are normally long, with 20 years being common. Using such large amounts for such long terms is unnecessarily cumbersome for instructional purposes. The effects of bond issues can be illustrated efficiently by using smaller amounts of debt with shorter maturities, as assumed in the case of Marsha Mason.

EVENT 4 Expense Recognition

Mason's \$9,000 ($\$100,000 \times 0.09$) cash payment represents interest expense.

This event is also repeated each year from 2012 through 2016. The interest payment is an asset use transaction. Cash and stockholders' equity (retained earnings) decrease. The expense recognition decreases net income. The cash outflow is reported in the operating activities section of the statement of cash flows. These effects follow.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=			Ret. Earn.						
(9,000)	=	NA	+	(9,000)	NA	-	9,000	=	(9,000)	(9,000) OA

EVENT 5 Sale of Investment in Land

Selling the land for cash equal to its \$100,000 book value is an asset exchange transaction.

Cash increases and land decreases. Because there was no gain or loss on the sale, the income statement is not affected. The cash inflow is reported in the investing activities section of the statement of cash flows. These effects follow.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash + Land										
100,000 + (100,000)	=	NA	+	NA	NA	-	NA	=	NA	100,000 IA

EVENT 6 Payoff of Bond Liability

Repaying the face value of the bond liability is an asset use transaction.

Cash and bonds payable decrease. The income statement is not affected. The cash outflow is reported in the financing activities section of the statement of cash flows.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Bonds Pay.								
(100,000)	=	(100,000)	+	NA	NA	-	NA	=	NA	(100,000) FA

Financial Statements

Exhibit 7.9 displays Mason Company's financial statements. For simplicity, the income statement does not distinguish between operating and nonoperating items. Rent revenue and interest expense are constant across all accounting periods, so Mason recognizes \$3,000 of net income in each accounting period. On the balance sheet, cash increases by \$3,000 each year because cash revenue exceeds cash paid for interest. Land remains constant each year at its \$100,000 historical cost until it is sold in 2016. Similarly, the bonds payable liability is reported at \$100,000 from the date the bonds were issued in 2012 until they are paid off on December 31, 2016.

Compare Blair Company's income statements in Exhibit 7.4 with Mason Company's income statements in Exhibit 7.9. Both Blair and Mason borrowed \$100,000 cash at a 9 percent stated interest rate for five-year terms. Blair, however, repaid its liability

EXHIBIT 7.9**Mason Company Financial Statements****Bonds Issued at Face Value**

	2012	2013	2014	2015	2016
Income Statements					
Rent revenue	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000
Interest expense	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)
Net income	<u>\$ 3,000</u>				
Balance Sheets					
Assets					
Cash	\$ 3,000	\$ 6,000	\$ 9,000	\$ 12,000	\$ 15,000
Land	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>0</u>
Total assets	<u>\$103,000</u>	<u>\$106,000</u>	<u>\$109,000</u>	<u>\$112,000</u>	<u>\$ 15,000</u>
Liabilities					
Bonds payable	\$100,000	\$100,000	\$100,000	\$100,000	\$ 0
Stockholders' equity					
Retained earnings	<u>3,000</u>	<u>6,000</u>	<u>9,000</u>	<u>12,000</u>	<u>15,000</u>
Total liabilities and stockholders' equity	<u>\$103,000</u>	<u>\$106,000</u>	<u>\$109,000</u>	<u>\$112,000</u>	<u>\$ 15,000</u>
Statements of Cash Flows					
Operating Activities					
Inflow from customers	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000
Outflow for interest	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)
Investing Activities					
Outflow to purchase land	(100,000)				
Inflow from sale of land					100,000
Financing Activities					
Inflow from bond issue	100,000				
Outflow to repay bond liab.					(100,000)
Net change in cash	<u>3,000</u>	<u>3,000</u>	<u>3,000</u>	<u>3,000</u>	<u>3,000</u>
Plus: Beginning cash balance	<u>0</u>	<u>3,000</u>	<u>6,000</u>	<u>9,000</u>	<u>12,000</u>
Ending cash balance	<u>\$ 3,000</u>	<u>\$ 6,000</u>	<u>\$ 9,000</u>	<u>\$ 12,000</u>	<u>\$ 15,000</u>

under the terms of an installment note while Mason did not repay any principal until the end of the five-year bond term. Because Blair repaid part of the principal balance on the installment loan each year, Blair's interest expense declined each year. The interest expense on Mason's bond liability, however, remained constant because the full principal amount was outstanding for the entire five-year bond term.

Effect of Semiannual Interest Payments

The previous examples assumed that interest payments were made annually. In practice, most bond agreements call for interest to be paid semiannually, which means that interest is paid in cash twice each year. If Marsha Mason's bond certificate had stipulated semiannual interest payments, her company would have paid \$4,500 ($\$100,000 \times 0.09 = \$9,000 \div 2 = \$4,500$) cash to bondholders for interest on June 30 and December 31 of each year.

AMORTIZATION USING THE STRAIGHT-LINE METHOD

LO 8

Use the straight-line method to amortize bond discounts and premiums.

Bonds Issued at a Discount

Return to the Mason Company illustration with one change. Assume Mason's bond certificates have a 9 percent stated rate of interest printed on them. Suppose Mason's friends find they can buy bonds from another entrepreneur willing to pay a higher rate of interest. They explain to Mason that business decisions cannot be made on the basis of friendship. Mason provides a counteroffer. There is no time to change the bond certificates, so Mason offers to accept \$95,000 for the bonds today and still repay the full face value of \$100,000 at the maturity date. The \$5,000 difference is called a **bond discount**. Mason's friends agree to buy the bonds for \$95,000.

Effective Interest Rate

The bond discount increases the interest Mason must pay. First, Mason must still make the annual cash payments described in the bond agreement. In other words, Mason must pay cash of \$9,000 ($.09 \times \$100,000$) annually even though she actually borrowed only \$95,000. Second, Mason will have to pay back \$5,000 more than she received ($\$100,000 - \$95,000$). The extra \$5,000 (bond discount) is additional interest. Although the \$5,000 of additional interest is not paid until maturity, when spread over the life of the bond, it amounts to \$1,000 of additional interest expense per year.

The actual rate of interest that Mason must pay is called the **effective interest rate**. A rough estimate of the effective interest rate for the discounted Mason bonds is 10.5 percent [$(\$9,000 \text{ annual stated interest} + \$1,000 \text{ annual amortization of the discount}) \div \$95,000 \text{ amount borrowed}$]. Selling the bonds at a \$5,000 discount permits Mason to raise the 9 percent stated rate of interest to an effective rate of roughly 10.5 percent. Deeper discounts would raise the effective rate even higher. More shallow discounts would reduce the effective rate of interest. Mason can set the effective rate of interest to any level desired by adjusting the amount of the discount.

Bond Prices

It is common business practice to use discounts to raise the effective rate of interest above the stated rate. Bonds frequently sell for less than face value. Bond prices are normally expressed *as a percentage of the face value*. For example, Mason's discounted bonds sold for 95, meaning the bonds sold at 95 percent of face value ($\$100,000 \times .95 = \$95,000$). Amounts of less than 1 percentage point are usually expressed as a fraction. Therefore, a bond priced at $98 \frac{3}{4}$ sells for 98.75 percent of face value.

Financial Statement Effects

To illustrate accounting for bonds issued at a discount, return to the Mason Company example using the assumption the bonds are issued for 95 instead of face value. We examine the same six events using this revised assumption. This revision changes some amounts reported on the financial statements. For example, Event 1 in year 2012 reflects receiving only \$95,000 cash from the bond issue. Because Mason had only \$95,000 available to invest in land, the illustration assumes that Mason acquired a less desirable piece of property which generated only \$11,400 of rent revenue per year.

EVENT 1 Bonds with a face value of \$100,000 are issued at 95.

Because Mason must pay the face value at maturity, the \$100,000 face value of the bonds is recorded in the Bonds Payable account. The \$5,000 discount is recorded in a separate contra liability account called **Discount on Bonds Payable**. As shown below, the

contra account is subtracted from the face value to determine the **carrying value** (book value) of the bond liability on January 1, 2012.

Bonds payable	\$100,000
Less: Discount on bonds payable	<u>(5,000)</u>
Carrying value	<u>\$ 95,000</u>

The bond issue is an asset source transaction. Both assets and total liabilities increase by \$95,000. Net income is not affected. The cash inflow is reported in the financing activities section of the statement of cash flows. The effects on the financial statements are shown here.

Assets	=	Liabilities	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Carrying Value of Bond Liability	+	Equity						
95,000	=	95,000	+	NA	NA	-	NA	=	NA	95,000 FA

EVENT 2 Paid \$95,000 cash to purchase land.

The asset cash decreases and the asset land increases. The income statement is not affected. The cash outflow is reported in the investing activities section of the statement of cash flows. The effects on the financial statements are shown here.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	+	Land								
(95,000)	+	95,000	=	NA	+	NA			NA	(95,000) IA

EVENT 3 Recognized \$11,400 cash revenue from renting the land.

This event is repeated each year from 2012 through 2016. The event is an asset source transaction that increases assets and stockholders' equity. Recognizing revenue increases net income. The cash inflow is reported in the operating activities section of the statement of cash flows. The effects on the financial statements are shown here.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=		+	Ret. Earn.						
11,400	=	NA	+	11,400	11,400	-	NA	=	11,400	11,400 OA

EVENT 4 Recognized interest expense. The interest cost of borrowing has two components: the \$9,000 paid in cash each year and the \$5,000 discount paid at maturity.

Using **straight-line amortization**, the amount of the discount recognized as expense in each accounting period is \$1,000 (\$5,000 discount ÷ 5 years). Mason will therefore recognize \$10,000 of interest expense each year (\$9,000 at the stated interest rate plus

\$1,000 amortization of the bond discount). On the balance sheet, the asset cash decreases by \$9,000, the carrying value of the bond liability increases by \$1,000 (through a decrease in the bond discount), and retained earnings (interest expense) decreases by \$10,000. The effects on the financial statements are shown here.

Assets	=	Liabilities	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Carrying Value of Bond Liability	+	Ret. Earn.						
(9,000)	=	1,000	+	(10,000)	NA	-	10,000	=	(10,000)	(9,000) OA

EVENT 5 Sold the land for cash equal to its \$95,000 book value.

Cash increases and land decreases. Because there was no gain or loss on the sale, the income statement is not affected. The cash inflow is reported in the investing activities section of the statement of cash flows. The effects on the financial statements are shown here.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	+	Land								
95,000	+	(95,000)	=	NA	+	NA			NA	95,000 IA

EVENT 6 Paid the bond liability.

Cash and bonds payable decrease. The income statement is not affected. For reporting purposes, the cash outflow is separated into two parts on the statement of cash flows: \$95,000 of the cash outflow is reported in the financing activities section because it represents repaying the principal amount borrowed; the remaining \$5,000 cash outflow is reported in the operating activities section because it represents the interest arising from issuing the bonds at a discount. In practice, the amount of the discount is frequently immaterial and is combined in the financing activities section with the principal repayment. The effects on the financial statements are shown here.

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Bonds Pay.								
(100,000)	=	(100,000)	+	NA	NA	-	NA	=	NA	(95,000) FA (5,000) OA

Financial Statements

Exhibit 7.10 displays Mason Company’s financial statements assuming the bonds were issued at a discount. Contrast the net income reported in Exhibit 7.10 (bonds issued at a discount) with the net income reported in Exhibit 7.9 (bonds sold at face value). Two factors cause the net income in Exhibit 7.10 to be lower. First, because the bonds were sold at a discount, Mason Company had less money to spend on its land investment. It bought less desirable land which generated less revenue. Second, the effective interest rate was higher than the stated rate, resulting in higher interest expense. Lower revenues coupled with higher expenses result in less profitability.

On the balance sheet, the carrying value of the bond liability increases each year until the maturity date, December 31, 2016, when it is equal to the \$100,000 face value of the bonds (the amount Mason is obligated to pay). Because Mason did not pay any

EXHIBIT 7.10

Mason Company Financial Statements					
Bonds Issued at a Discount					
	2012	2013	2014	2015	2016
Income Statements					
Rent revenue	\$ 11,400	\$ 11,400	\$ 11,400	\$ 11,400	\$ 11,400
Interest expense	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)
Net income	<u>\$ 1,400</u>	<u>\$ 1,400</u>	<u>\$ 1,400</u>	<u>\$ 1,400</u>	<u>\$ 1,400</u>
Balance Sheets					
Assets					
Cash	\$ 2,400	\$ 4,800	\$ 7,200	\$ 9,600	\$ 7,000
Land	95,000	95,000	95,000	95,000	0
Total assets	<u>\$ 97,400</u>	<u>\$ 99,800</u>	<u>\$102,200</u>	<u>\$104,600</u>	<u>\$ 7,000</u>
Liabilities					
Bonds payable	\$100,000	\$100,000	\$100,000	\$100,000	\$ 0
Discount on bonds payable	(4,000)	(3,000)	(2,000)	(1,000)	0
Carrying value of bond liab.	96,000	97,000	98,000	99,000	0
Stockholders' equity					
Retained earnings	1,400	2,800	4,200	5,600	7,000
Total liabilities and stockholders' equity	<u>\$ 97,400</u>	<u>\$ 99,800</u>	<u>\$102,200</u>	<u>\$104,600</u>	<u>\$ 7,000</u>
Statements of Cash Flows					
Operating Activities					
Inflow from customers	\$ 11,400	\$ 11,400	\$ 11,400	\$ 11,400	\$ 11,400
Outflow for interest	(9,000)	(9,000)	(9,000)	(9,000)	(14,000)
Investing Activities					
Outflow to purchase land	(95,000)				
Inflow from sale of land					95,000
Financing Activities					
Inflow from bond issue	95,000				
Outflow to repay bond liab.					(95,000)
Net change in cash	2,400	2,400	2,400	2,400	(2,600)
Plus: Beginning cash balance	0	2,400	4,800	7,200	9,600
Ending cash balance	<u>\$ 2,400</u>	<u>\$ 4,800</u>	<u>\$ 7,200</u>	<u>\$ 9,600</u>	<u>\$ 7,000</u>

dividends, the retained earnings of \$7,000 on December 31, 2016, is equal to the total amount of net income reported over the five-year period ($\$1,400 \times 5$). All earnings were retained in the business.

Several factors account for the differences between net income and cash flow. First, although \$10,000 of interest expense is reported on each income statement, only \$9,000 of cash was paid for interest each year until 2016, when \$14,000 was paid for interest (\$9,000 based on the stated rate + \$5,000 for discount). The \$1,000 difference between interest expense and cash paid for interest in 2012, 2013, 2014, and 2015 results from amortizing the bond discount. The cash outflow for the interest related to the discount is included in the \$100,000 payment made at maturity on December 31, 2016. Even though \$14,000 of cash is paid for interest in 2016, only \$10,000 is recognized as interest expense on the income statement that year. Although the total increase in cash over the five-year life of the business (\$7,000) is equal to the total net income reported for the same period, there are significant timing differences between when the interest expense is recognized and when the cash outflows occur to pay for it.

 **CHECK YOURSELF 7.4**

On January 1, 2012, Moffett Company issued bonds with a \$600,000 face value at 98. The bonds had a 9 percent annual interest rate and a 10-year term. Interest is payable in cash on December 31 of each year. What amount of interest expense will Moffett report on the 2014 income statement? What carrying value for bonds payable will Moffett report on the December 31, 2014, balance sheet?

Answer The bonds were issued at a \$12,000 ($\$600,000 \times 0.02$) discount. The discount will be amortized over the 10-year life at the rate of \$1,200 ($\$12,000 \div 10$ years) per year. The amount of interest expense for 2014 is \$55,200 ($\$600,000 \times .09 = \$54,000$ annual cash interest + \$1,200 discount amortization).

The carrying value of the bond liability is equal to the face value less the unamortized discount. By the end of 2014, \$3,600 of the discount will have been amortized ($\$1,200 \times 3$ years = \$3,600). The unamortized discount as of December 31, 2014, will be \$8,400 ($\$12,000 - \$3,600$). The carrying value of the bond liability as of December 31, 2014, will be \$591,600 ($\$600,000 - \$8,400$).

Bonds Issued at a Premium

When bonds are sold for more than their face value, the difference between the amount received and the face value is called a **bond premium**. Bond premiums reduce the effective interest rate. For example, assume Mason Company issued its 9 percent bonds at 105, receiving \$105,000 cash on the issue date. The company is still only required to repay the \$100,000 face value of the bonds at the maturity date. The \$5,000 difference between the amount received and the amount repaid at maturity reduces the total amount of interest expense. The premium is recorded in a separate liability account called **Premium on Bonds Payable**. This account is reported on the balance sheet as an addition to Bonds Payable, increasing the carrying value of the bond liability. On the issue date, the bond liability would be reported on the balance sheet as follows:

Bonds payable	\$100,000
Plus: Premium on bonds payable	<u>5,000</u>
Carrying value	<u>\$105,000</u>

The entire \$105,000 cash inflow is reported in the financing activities section of the statement of cash flows even though the \$5,000 premium is conceptually an operating activities cash flow because it pertains to interest. In practice, premiums are usually so small they are immaterial and the entire cash inflow is normally classified as a financing activity. The effects on the financial statements are shown here.

Date	Assets	=	Liabilities	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
	Cash	=	Carrying Value of Bond Liability								
Jan. 1	105,000	=	105,000	+	NA	NA	-	NA	=	NA	105,000 FA
Dec. 31	(9,000)		(1,000)		(8,000)			8,000		(8,000)	9,000 OA

The Market Rate of Interest

When a bond is issued, the effective interest rate is determined by current market conditions. Market conditions are influenced by many factors such as the state of the economy, government policy, and the law of supply and demand. These conditions are collectively reflected in the **market interest rate**. The *effective rate of interest* investors are willing to accept for a particular bond equals the *market rate of interest* for other investments with

similar levels of risk at the time the bond is issued. When the market rate of interest is higher than the stated rate of interest, bonds will sell at a discount so as to increase the effective rate of interest to the market rate. When the market rate is lower than the stated rate, bonds will sell at a premium so as to reduce the effective rate to the market rate.

SECURITY FOR LOAN AGREEMENTS

In general, large loans with long terms to maturity pose more risk to lenders (creditors) than small loans with short terms. To reduce the risk that they won't get paid, lenders frequently require borrowers (debtors) to pledge designated assets as **collateral** for loans. For example, when a bank makes a car loan, it usually retains legal title to the car until the loan is fully repaid. If the borrower fails to make the monthly payments, the bank repossesses the car, sells it to someone else, and uses the proceeds to pay the original owner's debt. Similarly, assets like accounts receivable, inventory, equipment, buildings, and land may be pledged as collateral for business loans.

In addition to requiring collateral, creditors often obtain additional protection by including **restrictive covenants** in loan agreements. Such covenants may restrict additional borrowing, limit dividend payments, or restrict salary increases. If the loan restrictions are violated, the borrower is in default and the loan balance is due immediately.

Finally, creditors often ask key personnel to provide copies of their personal tax returns and financial statements. The financial condition of key executives is important because they may be asked to pledge personal property as collateral for business loans, particularly for small businesses.

CURRENT VERSUS NONCURRENT

Because meeting obligations on time is critical to business survival, financial analysts and creditors are interested in whether companies will have enough money available to pay bills when they are due. Most businesses provide information about their bill-paying ability by classifying their assets and liabilities according to liquidity. The more quickly an asset is converted to cash or consumed, the more *liquid* it is. Assets are usually divided into two major classifications: *current* and *noncurrent*. Current items are also referred to as *short term* and noncurrent items as *long term*.

A **current (short-term) asset** is expected to be converted to cash or consumed within one year or an operating cycle, whichever is longer. An **operating cycle** is defined as the average time it takes a business to convert cash to inventory, inventory to accounts receivable, and accounts receivable back to cash. For most businesses, the operating cycle is less than one year. As a result, the one-year rule normally prevails with respect to classifying assets as current. The current assets section of a balance sheet typically includes the following items.

Current Assets
Cash
Marketable securities
Accounts receivable
Short-term notes receivable
Interest receivable
Inventory
Supplies
Prepaid items

Given the definition of current assets, it seems reasonable to assume that **current (short-term) liabilities** would be those due within one year or an operating cycle, whichever is longer. This assumption is usually correct. However, an exception is made for long-term renewable debt. For example, consider a liability that was issued with a 20-year term to maturity. After 19 years, the liability becomes due within one year and is, therefore, a

LO 9

Distinguish between current and noncurrent assets and liabilities.

current liability. Even so, the liability will be classified as long term if the company plans to issue new long-term debt and to use the proceeds from that debt to repay the maturing liability. This situation is described as *refinancing short-term debt on a long-term basis*. In general, if a business does not plan to use any of its current assets to repay a debt, that debt is listed as long term even if it is due within one year. The current liabilities section of a balance sheet typically includes the following items.

LO 10

Prepare a classified balance sheet.

- Current Liabilities
 - Accounts payable
 - Short-term notes payable
 - Wages payable
 - Taxes payable
 - Interest payable

Balance sheets that distinguish between current and noncurrent items are called **classified balance sheets**. To enhance the usefulness of accounting information, most real-world balance sheets are classified. Exhibit 7.11 displays an example of a classified balance sheet.

EXHIBIT 7.11			
LIMBAUGH COMPANY			
Classified Balance Sheet			
As of December 31, 2012			
Assets			
Current Assets			
Cash		\$ 20,000	
Accounts receivable		35,000	
Inventory		230,000	
Prepaid rent		<u>3,600</u>	
Total current assets			\$288,600
Property, Plant, and Equipment			
Office equipment	\$ 80,000		
Less: Accumulated depreciation	<u>(25,000)</u>	55,000	
Building	340,000		
Less: Accumulated depreciation	<u>(40,000)</u>	300,000	
Land		<u>120,000</u>	
Total property, plant, and equipment			<u>475,000</u>
Total assets			<u>\$763,600</u>
Liabilities and Stockholders' Equity			
Current Liabilities			
Accounts payable		\$ 32,000	
Notes payable		120,000	
Salaries payable		32,000	
Unearned revenue		<u>9,800</u>	
Total current liabilities			\$193,800
Long-Term Liabilities			
Note payable			<u>100,000</u>
Total liabilities			293,800
Stockholders' Equity			
Common stock		200,000	
Retained earnings		<u>269,800</u>	<u>469,800</u>
Total liabilities and stockholders' equity			<u>\$763,600</u>

FOCUS ON INTERNATIONAL ISSUES

WHY ARE THESE BALANCE SHEETS BACKWARD?

As discussed in earlier chapters, most industrialized countries require companies to use international financial accounting standards (IFRS), which are similar to the GAAP used in the United States. The globalization of accounting standards should, therefore, make it easier to read a company's annual report regardless of its country or origin. However, there are still language differences between companies; German companies prepare their financial reports using IFRS, but in German, while the UK companies use English.

Suppose language is not an issue. For example companies in the United States, England, and even India, prepare their annual reports in English. Thus, one would expect to find few differences between financial reports prepared by companies in these countries. However, if a person who learned accounting in the United States looks at the balance sheet of a U.K. company he or she might think the statement is a bit "backwards," and if he or she reviews the balance sheet of an Indian company they may find it to be upside down.

Like U.S. companies, U.K. companies report assets at the top, or left, of the balance sheet, and liabilities and stockholders' equity on the bottom or right. However, unlike the United States, U.K. companies typically show long-term assets before current assets. Even more different are balance sheets of Indian companies, which begin with stockholders' equity and then liabilities at the top or left, and then show assets on the bottom or right. Like the U.K. statements, those in India show long-term assets before current assets. Realize that most of the accounting rules established by IFRS or U.S. GAAP deal with measurement issues. Assets can be measured using the same rules, but be disclosed in different manners. IFRS require companies to classify assets and liabilities as current versus noncurrent, but the order in which these categories are listed on the balance sheet is not specified.

For an example of financial statement for a U.K. company, go to www.itvplc.com. Click on "Investors" and then "Reports and accounts." For an example of an Indian company's annual report, go to www.tatamotors.com. Click on "Investors Centre," then "Reports & Filings," and then "Annual Reports."



A Look Back



Chapter 7 discussed accounting for current liabilities and long-term debt. Current liabilities are obligations due within one year or the company's operating cycle, whichever is longer. The chapter expanded the discussion of promissory notes begun in Chapter 5. Chapter 5 introduced accounting for the note payee, the lender; Chapter 7 discussed accounting for the note maker (issuer), the borrower. Notes payable and related interest payable are reported as liabilities on the balance sheet. Chapter 7 also discussed accounting for the contingent liability and warranty obligations.

Long-term notes payable mature in two to five years and usually require payments that include a return of principal plus interest. *Lines of credit* enable companies to borrow limited amounts on an as-needed basis. Although lines of credit normally have one-year terms, companies frequently renew them, extending the effective maturity date to the intermediate range of five or more years. Interest on a line of credit is normally paid monthly. Long-term debt financing for more than 10 years usually requires issuing *bonds*.

>> A Look Forward

A company seeking long-term financing might choose to use debt, such as the types of bonds or term loans that were discussed in this chapter. Owners' equity is another source of long-term financing. Several equity alternatives are available, depending on the type of business organization the owners choose to establish. For example, a company could be organized as a sole proprietorship, partnership, or corporation. Chapter 8 presents accounting issues related to equity transactions for each of these types of business structures.

APPENDIX

Amortization Using the Effective Interest Rate Method

LO 11

Use the effective interest rate method to amortize bond discounts and premiums.

To this point we have demonstrated the straight-line method for amortizing bond discounts and premiums. While this method is easy to understand, it is inaccurate because it does not show the correct amount of interest expense incurred during each accounting period. To illustrate, return to the case of Mason Company demonstrated in Exhibit 7.10 (page 259). Recall that the exhibit shows the effects of accounting for a \$100,000 face value bond with a 9 percent stated rate of interest that was issued at a price of 95. The carrying value of the bond liability on the January 1, 2012, issue date was \$95,000. The bond discount was amortized using the straight-line method.

Recall that the straight-line method amortizes the discount equally over the life of the bond. Specifically, there is a \$5,000 discount which is amortized over a 5-year life resulting in a \$1,000 amortization per year. As the discount is amortized the bond liability (carrying value of the bond) increases. Specifically, the carrying value of the bond liability shown in Exhibit 7.10 increases as follows:

Accounting Period	2012	2013	2014	2015
Carrying value as of December 31	\$96,000	\$97,000	\$98,000	\$99,000

While the carrying value of the bond liability increases steadily, the straight-line method recognizes the same amount of interest expense (\$9,000 stated rate of interest + \$1,000 discount amortization = \$10,000 interest expense) per year. This straight-line recognition pattern is irrational because the amount of interest expense recognized should increase as the carrying value of the bond liability increases. A more accurate recognition pattern can be accomplished by using an approach called the **effective interest rate method**.

Amortizing Bond Discounts

The effective interest rate is determined by the price that the buyer of a bond is willing to pay on the issue date. In the case of Mason Company the issue price of \$95,000 for bonds with a \$100,000 face value, a 9 percent stated rate of interest, and a 5-year term produces an effective interest rate of approximately 10.33 percent.⁶ Since the effective interest rate is based on the market price of the bonds on the day of issue, it is sometimes called *the market rate of interest*.

Interest recognition under the effective interest method is accomplished as follows:

1. Determine the cash payment for interest by multiplying the stated rate of interest times the face value of the bonds.

⁶In practice the effective rate of interest is calculated using software programs, interest formulas, or interest tables.

EXHIBIT 7.12**Amortization Schedule for Bond Discount**

	(A) Cash Payment	(B) Interest Expense	(C) Discount Amortization	(D) Carrying Value
January 1, 2012				\$ 95,000
December 31, 2012	\$ 9,000	\$ 9,814	\$ 814	95,814
December 31, 2013	9,000	9,898	898	96,712
December 31, 2014	9,000	9,990	990	97,702
December 31, 2015	9,000	10,093	1,093	98,795
December 31, 2016	<u>9,000</u>	<u>10,205</u>	<u>1,205</u>	100,000
Totals	<u>\$45,000</u>	<u>\$50,000</u>	<u>\$5,000</u>	

(A) Stated rate of interest times the face value of the bonds ($\$100,000 \times .09$).

(B) Effective interest rate times the carrying value at the beginning of the period. For the 2012 accounting period the amount is \$9,814 ($\$95,000 \times .1033$).

(C) Interest Expense – Cash Payment. For 2012 the discount amortization is \$814 ($\$9,814 - \$9,000 = \814).

(D) Carrying value at beginning of period plus portion of discount amortized. For the accounting period ending December 31, 2012, the amount is \$95,814 ($\$95,000 + \814).

- Determine the amount of interest expense by multiplying the effective rate of interest times the carrying value of the bond liability.
- Determine the amount of the amortization of the bond discount by subtracting the cash payment from the interest expense.
- Update the carrying value of the liability by adding the amount of the discount amortization to the amount of the carrying value at the beginning of the accounting period.

Applying these procedures to the Mason Company illustration produces the amortization schedule shown in Exhibit 7.12.

The recognition of interest expense at the end of each accounting period has the following effects on the financial statements. On the balance sheet, assets decrease, liabilities increase, and retained earnings decrease. On the income statement, expenses increase and net income decreases. There is a cash outflow in the operating activities of the statement of cash flows. The effects on the financial statements are shown here.

Assets	=	Liabilities	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Carrying Value of Bond Liab.	+	Ret. Earn.						
(9,000)	=	814	+	(9,814)	NA	-	9,814	=	(9,814)	(9,000) OA

Exhibit 7.13 shows the financial statements for Mason Company for 2012 through 2016. The statements assume the same events as described as those used to construct Exhibit 7.10 (page 259). These events are summarized below:

- Mason issues a \$100,000 face value bond with a 9 percent stated rate of interest. The bond has a 5-year term and is issued at a price of 95. Annual interest is paid with cash on December 31 of each year.
- Mason uses the proceeds from the bond issue to purchase land.
- Leasing the land produces rent revenue of \$11,400 cash per year.
- On the maturity date of the bond, the land is sold and the proceeds from the sale are used to repay the bond liability.

EXHIBIT 7.13

Financial Statements					
Under the Assumption that Bonds Are Issued at a Discount					
	2012	2013	2014	2015	2016
Income Statements					
Rent revenue	\$ 11,400	\$ 11,400	\$ 11,400	\$ 11,400	\$ 11,400
Interest expense	(9,814)	(9,898)	(9,990)	(10,093)	(10,205)
Net income	<u>\$ 1,586</u>	<u>\$ 1,502</u>	<u>\$ 1,410</u>	<u>\$ 1,307</u>	<u>\$ 1,195</u>
Balance Sheets					
Assets:					
Cash	\$ 2,400	\$ 4,800	\$ 7,200	\$ 9,600	\$ 7,000
Land	95,000	95,000	95,000	95,000	0
Total assets	<u>\$ 97,400</u>	<u>\$ 99,800</u>	<u>\$102,200</u>	<u>\$104,600</u>	<u>\$ 7,000</u>
Liabilities					
Bond payable	\$100,000	\$100,000	\$100,000	\$100,000	\$ 0
Discount on bonds payable	(4,186)	(3,288)	(2,298)	(1,205)	0
Carrying value of bond liab.	<u>95,814</u>	<u>96,712</u>	<u>97,702</u>	<u>98,795</u>	<u>0</u>
Equity					
Retained earnings	1,586	3,088	4,498	5,805	7,000
Total liabilities and equity	<u>\$ 97,400</u>	<u>\$ 99,800</u>	<u>\$102,200</u>	<u>\$104,600</u>	<u>\$ 7,000</u>
Statements of Cash Flows					
Operating Activities					
Inflow from customers	\$ 11,400	\$ 11,400	\$ 11,400	\$ 11,400	\$ 11,400
Outflow for interest	(9,000)	(9,000)	(9,000)	(9,000)	(14,000)
Investing Activities					
Outflow to purchase land	(95,000)				
Inflow from sale of land					95,000
Financing Activities					
Inflow from bond issue	95,000				
Outflow to repay bond liab.					(95,000)
Net change in cash	2,400	2,400	4,800	7,200	(2,600)
Beginning cash balance	0	2,400	2,400	2,400	9,600
Ending cash balance	<u>\$ 2,400</u>	<u>\$ 4,800</u>	<u>\$ 7,200</u>	<u>\$ 9,600</u>	<u>\$ 7,000</u>

The only difference between the two exhibits is that Exhibit 7.10 was constructed assuming that the bond discount was amortized using the straight-line method while Exhibit 7.13 assumes that the discount was amortized using the effective interest rate method.

Notice that interest expense under the effective interest rate method (Exhibit 7.13) increases each year while interest expense under the straight-line method (Exhibit 7.10, page 259) remains constant for all years. This result occurs because the effective interest rate method amortizes increasingly larger amounts of the discount (see Column C of Exhibit 7.12) as the carrying value of the bond liability increases. In contrast, the straight-line method amortized the bond discount at a constant rate of \$1,000 per year over the life of the bond. Even so, total amount of interest expense recognized over the life of the bond is the same (\$50,000) under both methods. Since the effective interest rate method matches the interest expense with the carrying value of the bond liability,

EXHIBIT 7.14**Amortization Schedule for Bond Premium**

	(A) Cash Payment	(B) Interest Expense	(C) Premium Amortization	(D) Carrying Value
January 1, 2012				\$107,985
December 31, 2012	\$10,000	\$ 8,639	\$1,361	106,624
December 31, 2013	10,000	8,530	1,470	105,154
December 31, 2014	10,000	8,413	1,587	103,567
December 31, 2015	10,000	8,285	1,715	101,852
December 31, 2016	10,000	8,148	1,852	100,000
Totals	<u>\$50,000</u>	<u>\$42,015</u>	<u>\$7,985</u>	

(A) Stated rate of interest times the face value of the bonds ($\$100,000 \times .10$).

(B) Effective interest times the carrying value at the beginning of the period. For the 2012 accounting period the amount is \$8,639 ($\$107,985 \times .08$).

(C) Cash Payment – Interest Expense. For 2012 the premium amortization is \$1,361 ($\$10,000 - \$8,639 = \$1,361$).

(D) Carrying value at beginning of period minus the portion of premium amortized. For the accounting period ending December 31, 2012, the amount is \$106,624 ($\$107,985 - 1,361$).

it is the theoretically preferred approach. Indeed, accounting standards require the use of the effective interest rate method when the differences between it and the straight-line method are material.

The amortization of the discount affects the carrying value of the bond as well as the amount of interest expense. Under the effective interest method the rate of growth of the carrying value of the bond increases as the maturity date approaches. In contrast, under the straight-line method the rate of growth of the carrying value of the bond remains constant at \$1,000 per year throughout the life of the bond.

Finally, notice that cash flow is not affected by the method of amortization. The exact same cash flow consequences occur under both the straight-line (Exhibit 7.10) and the effective interest rate method (Exhibit 7.13).

Amortizing Bond Premiums

Bond premiums can also be amortized using the effective interest rate method. To illustrate, assume United Company issued a \$100,000 face value bond with a 10 percent stated rate of interest. The bond had a 5-year term. The bond was issued at a price of \$107,985. The effective rate of interest is 8 percent. United's accountant prepared the amortization schedule shown in Exhibit 7.14.

The recognition of interest expense at the end of each accounting period has the following effects on the financial statements. On the balance sheet assets decrease, liabilities decrease, and retained earnings decrease. On the income statement expenses increase and net income decreases. There is a cash outflow in the operating activities of the statement of cash flows. The effects on the financial statements are shown here.

Assets	=	Liabilities	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
Cash	=	Carrying Value of Bond Liab.	+	Ret. Earn.						
(10,000)	=	(1,361)	+	(8,639)	NA	-	8,639	=	(8,639)	(8,639) OA (1,361) FA



A step-by-step audio-narrated series of slides is provided on the text website at www.mhhe.com/edmondssurvey3e.



SELF-STUDY REVIEW PROBLEM

Perfect Picture Inc. (PPI) experienced the following transactions during 2012. The transactions are summarized (transaction data pertain to the full year) and limited to those that affect the company’s current liabilities.

1. PPI had cash sales of \$820,000. The state requires that PPI charge customers an 8 percent sales tax (ignore cost of goods sold).
2. PPI paid the state sales tax authority \$63,000.
3. On March 1, PPI issued a note payable to the County Bank. PPI received \$50,000 cash (principal balance). The note had a one-year term and a 6 percent annual interest rate.
4. On December 31, PPI recognized accrued interest on the note issued in Event 3.
5. On December 31, PPI recognized warranty expense at the rate of 3 percent of sales.
6. PPI paid \$22,000 cash to settle warranty claims.
7. On January 1, 2011, PPI issued a \$100,000 installment note. The note had a 10-year term and an 8 percent interest rate. PPI agreed to repay the principal and interest in 10 annual interest payments of \$14,902.94 at the end of each year.

Required

Prepare the liabilities section of the December 31, 2012, balance sheet.

Solution

PERFECT PICTURE INC. Partial Balance Sheet December 31, 2012	
Current Liabilities	
Sales tax payable	\$ 2,600
Notes payable	50,000
Interest payable	2,500
Warranties payable	2,600
Installment note payable	<u>85,642</u>
Total liabilities	<u>\$143,342</u>

Explanations for amounts shown in the balance sheet:

1. Sales Tax Payable: $\$820,000 \times 0.08 = \$65,600$ Amount Due – $\$63,000$ Amount Paid = $\$2,600$ Liability as of December 31, 2012.
2. Note Payable: $\$50,000$ Borrowed with no repayment.
3. Interest Payable: $\$50,000 \times 0.06 \times 10/12 = \$2,500$.
4. Warranty Payable: $\$820,000 \times 0.03 = \$24,600$ Estimated Warranty Liability – $\$22,000$ Cash Paid to Settle Warranty Claims = $\$2,600$ Remaining Liability.
5. Installment Note Payable:

Accounting Period	Principal Bal. January 1 A	Cash Payment December 31 B	Applied to Interest C = A × 0.08	Applied to Principal B – C
2011	\$100,000.00	\$14,902.94	\$8,000.00	\$6,902.94
2012	93,097.06	14,902.94	7,447.76	7,455.18
2013*	85,641.88			

*The amount due on December 31, 2012, is the same as the amount due on January 1, 2013. The amount shown on the balance sheet has been rounded to the nearest dollar.

KEY TERMS

Amortization 248	Discount on Bonds	Long-term liabilities 247
Bond certificates 251	Payable 256	Market Interest rate 260
Bond discount 256	Effective interest rate 256	Note payable 242
Bond premium 260	Effective interest rate	Operating cycle 261
Bondholder 251	method 264	Premium on Bonds
Carrying value 257	Face value 252	Payable 260
Classified balance sheets 262	Fixed interest rate 247	Restrictive covenants 261
Collateral 261	General uncertainties 244	Stated interest rate 252
Contingent liability 244	Going concern assumption 240	Straight-line
Current (short-term) asset 261	Installment notes 248	amortization 257
Current (short-term)	Issuer 242, 251	Variable interest rate 247
liabilities 261	Line of credit 251	Warranties 245

QUESTIONS

1. What type of transaction is a cash payment to creditors? How does this type of transaction affect the accounting equation?
2. What is a current liability? Distinguish between a current liability and a long-term debt.
3. How does recording accrued interest affect the accounting equation?
4. Who is the maker of a note payable?
5. What is the going concern assumption? Does it affect the way liabilities are reported in the financial statements?
6. Why is it necessary to make an adjustment at the end of the accounting period for unpaid interest on a note payable?
7. Assume that on October 1, 2012, Big Company borrowed \$10,000 from the local bank at 6 percent interest. The note is due on October 1, 2013. How much interest does Big pay in 2012? How much interest does Big pay in 2013? What amount of cash does Big pay back in 2013?
8. When a business collects sales tax from customers, is it revenue? Why or why not?
9. What is a contingent liability?
10. List the three categories of contingent liabilities.
11. Are contingent liabilities recorded on a company's books? Explain.
12. What is the difference in accounting procedures for a liability that is probable and estimable and one that is reasonably possible but not estimable?
13. What type of liabilities are not recorded on a company's books?
14. What does the term *warranty* mean?
15. What effect does recognizing future warranty obligations have on the balance sheet? On the income statement?
16. When is warranty cost reported on the statement of cash flows?
17. What is the difference between classification of a note as short term or long term?
18. At the beginning of year 1, B Co. has a note payable of \$72,000 that calls for an annual payment of \$16,246, which includes both principal and interest. If the interest rate is 8 percent, what is the amount of interest expense in year 1 and in year 2? What is the balance of the note at the end of year 2?
19. What is the purpose of a line of credit for a business? Why would a company choose to obtain a line of credit instead of issuing bonds?
20. What are the primary sources of debt financing for most large companies?
21. What are some advantages of issuing bonds versus borrowing from a bank?
22. What are some disadvantages of issuing bonds?
23. Why can a company usually issue bonds at a lower interest rate than the company would pay if the funds were borrowed from a bank?
24. If Roc Co. issued \$100,000 of 5 percent, 10-year bonds at the face amount, what is the effect of the issuance of the bonds on the financial statements? What amount of interest expense will Roc Co. recognize each year?
25. What mechanism is used to adjust the stated interest rate to the market rate of interest?
26. When the effective interest rate is higher than the stated interest rate on a bond issue, will the bond sell at a discount or premium? Why?
27. What type of transaction is the issuance of bonds by a company?

- 28. What factors may cause the effective interest rate and the stated interest rate to be different?
- 29. If a bond is selling at 97 ½, how much cash will the company receive from the sale of a \$1,000 bond?
- 30. How is the carrying value of a bond computed?
- 31. Gay Co. has a balance in the Bonds Payable account of \$25,000 and a balance in the Discount on Bonds Payable account of \$5,200. What is the carrying value of the bonds? What is the total amount of the liability?
- 32. When the effective interest rate is higher than the stated interest rate, will interest expense be higher or lower than the amount of interest paid?
- 33. What is a classified balance sheet?



MULTIPLE-CHOICE QUESTIONS

Multiple-choice questions are provided on the text website at www.mhhe.com/edmondssurvey3e



EXERCISES



All applicable Exercises are available with McGraw-Hill's *Connect Accounting*.

LO 1

Exercise 7-1 *Recognizing accrued interest expense*

Classic Corporation borrowed \$90,000 from the bank on November 1, 2012. The note had an 8 percent annual rate of interest and matured on April 30, 2013. Interest and principal were paid in cash on the maturity date.

Required

- a. What amount of interest expense was paid in cash in 2012?
- b. What amount of interest expense was reported on the 2012 income statement?
- c. What amount of total liabilities was reported on the December 31, 2012, balance sheet?
- d. What total amount of cash was paid to the bank on April 30, 2013, for principal and interest?
- e. What amount of interest expense was reported on the 2013 income statement?

LO 1

Exercise 7-2 *Effects of recognizing accrued interest on financial statements*

Scott Perkins started Perkins Company on January 1, 2012. The company experienced the following events during its first year of operation.

- 1. Earned \$1,500 of cash revenue for performing services.
- 2. Borrowed \$2,400 cash from the bank.
- 3. Adjusted the accounting records to recognize accrued interest expense on the bank note. The note, issued on August 1, 2012, had a one-year term and a 7 percent annual interest rate.

Required

- a. What is the amount of interest expense in 2012?
- b. What amount of cash was paid for interest in 2012?
- c. Use a horizontal statements model to show how each event affects the balance sheet, income statement, and statement of cash flows. Indicate whether the event increases (I), decreases (D), or does not affect (NA) each element of the financial statements. In the Cash Flows column, designate the cash flows as operating activities (OA), investing activities (IA), or financing activities (FA). The first transaction has been recorded as an example.

Event No.	Balance Sheet						Income Statement			Statement of Cash Flows						
	Cash	=	Notes Pay.	+	Int. Pay.	+	Com. Stk.	+	Ret. Earn.		Rev.	-	Exp.	=	Net Inc.	
1	I	=	NA	+	NA	+	NA	+	I	I	-	NA	=	I	I	OA

Exercise 7-3 *Recording sales tax expense***LO 2**

The University Book Store sells books and other supplies to students in a state where the sales tax rate is 7 percent. The University Book Store engaged in the following transactions for 2012. Sales tax of 7 percent is collected on all sales.

1. Book sales, not including sales tax, for 2012 amounted to \$275,000 cash.
2. Cash sales of miscellaneous items in 2012 were \$150,000, not including tax.
3. Cost of goods sold amounted to \$210,000 for the year.
4. Paid \$130,000 in operating expenses for the year.
5. Paid the sales tax collected to the state agency.

Required

- a. What is the total amount of sales tax the University Book Store collected and paid for the year?
- b. What is the University Book Store's net income for the year?

Exercise 7-4 *Recognizing sales tax payable***LO 2**

The following selected transactions apply to Big Stop for November and December 2012. November was the first month of operations. Sales tax is collected at the time of sale but is not paid to the state sales tax agency until the following month.

1. Cash sales for November 2012 were \$65,000 plus sales tax of 8 percent.
2. Big Stop paid the November sales tax to the state agency on December 10, 2012.
3. Cash sales for December 2012 were \$80,000 plus sales tax of 8 percent.

Required

- a. Show the effect of the above transactions on a statements model like the one shown below.

Assets	=	Liabilities	+	Equity		Income Statement		
Cash	=	Sales Tax Pay.	+	Com. Stk.	+	Ret. Earn.	Rev. - Exp. = Net Inc.	Cash Flow

- b. What was the total amount of sales tax paid in 2012?
- c. What was the total amount of sales tax collected in 2012?
- d. What is the amount of the sales tax liability as of December 31, 2012?
- e. On which financial statement will the sales tax liability appear?

Exercise 7-5 *Contingent liabilities***LO 3**

The following legal situations apply to Stringer Corp. for 2012:

1. A customer slipped and fell on a slick floor while shopping in the retail store. The customer has filed a \$5 million lawsuit against the company. Stringer's attorney knows that the company will have to pay some damages but is reasonably certain that the suit can be settled for \$500,000.
2. The EPA has assessed a fine against Stringer of \$250,000 for hazardous emissions from one of its manufacturing plants. The EPA had previously issued a warning to Stringer and required Stringer to make repairs within six months. Stringer began to make the repairs, but was not able to complete them within the six-month period. Because Stringer has started the repairs, Stringer's attorney thinks the fine will be reduced to \$100,000. He is approximately 80 percent certain that he can negotiate the fine reduction because of the repair work that has been completed.
3. One of Stringer's largest manufacturing facilities is located in "tornado alley." Property is routinely damaged by storms. Stringer estimates it may have property damage of as much as \$300,000 this coming year.

Required

- a. Discuss the various categories of contingent liabilities.
- b. For each item above determine the correct accounting treatment.

LO 4

Exercise 7-6 *Effect of warranties on income and cash flow*

To support herself while attending school, Ellen Abba sold stereo systems to other students. During the first year of operation, she sold systems that had cost her \$120,000 cash for \$226,000 cash. She provided her customers with a one-year warranty against defects in parts. Based on industry standards, she estimated that warranty claims would amount to 5 percent of sales. During the year she paid \$920 cash to replace a defective tuner.

Required

- a. Prepare an income statement and a statement of cash flows for Abba's first year of operation.
- b. Explain the difference between net income and the amount of cash flow from operating activities.

LO 4

Exercise 7-7 *Effect of warranty obligations and payments on financial statements*

The Ja-San Company provides a 120-day parts-and-labor warranty on all merchandise it sells. Ja-San estimates the warranty expense for the current period to be \$1,250. During the period a customer returned a product that cost \$920 to repair.

Required

- a. Show the effects of these transactions on the financial statements using a horizontal statements model like the example shown here. Use a + to indicate increase, a - for decrease, and NA for not affected. In the Cash Flow column, indicate whether the item is an operating activity (OA), investing activity (IA), or financing activity (FA).

Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
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- b. Discuss the advantage of estimating the amount of warranty expense.

LO 2, 4, 9

Exercise 7-8 *Current liabilities*

The following transactions apply to Mabry Equipment Sales Corp. for 2012:

1. The business was started when Mabry Corp. received \$50,000 from the issue of common stock.
2. Purchased \$175,000 of merchandise on account.
3. Sold merchandise for \$200,000 cash (not including sales tax). Sales tax of 8 percent is collected when the merchandise is sold. The merchandise had a cost of \$125,000.
4. Provided a six-month warranty on the merchandise sold. Based on industry estimates, the warranty claims would amount to 4 percent of merchandise sales.
5. Paid the sales tax to the state agency on \$150,000 of the sales.
6. On September 1, 2012, borrowed \$20,000 from the local bank. The note had a 6 percent interest rate and matures on March 1, 2013.
7. Paid \$5,600 for warranty repairs during the year.
8. Paid operating expenses of \$54,000 for the year.
9. Paid \$125,000 of accounts payable.
10. Recorded accrued interest at the end of the year.

Required

- a. Record the above transactions in a horizontal statements model like the following one.

Event	Balance Sheet									Income Statement			Statem. of Cash Flows				
	Assets			=	Liabilities			+	Equity			Rev.		-	Exp.	=	Net Inc.
	Cash	+ Mdse. Inv.	Acct. Pay.	+	Sales Tax Pay.	+ War. Pay.	Int. Pay.	+ Notes Pay.	+ Com. Stock	+ Ret. Earn.							

- b. Prepare the income statement, balance sheet, and statement of cash flows for 2012.
- c. What is the total amount of current liabilities at December 31, 2012?

Exercise 7-9 *How credit terms affect financial statements*

LO 5



Miller Co. is planning to finance an expansion of its operations by borrowing \$200,000. State Bank has agreed to loan Miller the funds. Miller has two repayment options: (1) to issue a note with the principal due in 10 years and with interest payable annually or (2) to issue a note to repay \$20,000 of the principal each year along with the annual interest based on the unpaid principal balance. Assume the interest rate is 6 percent for each option.

Required

- a. What amount of interest will Miller pay in year 1
 - (1) Under option 1?
 - (2) Under option 2?
- b. What amount of interest will Miller pay in year 2
 - (1) Under option 1?
 - (2) Under option 2?
- c. Explain the advantage of each option.

Exercise 7-10 *Amortization schedule for an installment note*

LO 5

On January 1, 2012, Rupp Co. borrowed \$150,000 cash from Central Bank by issuing a five-year, 8 percent note. The principal and interest are to be paid by making annual payments in the amount of \$37,568. Payments are to be made December 31 of each year, beginning December 31, 2012.

Required

Prepare an amortization schedule for the interest and principal payments for the five-year period.

Exercise 7-11 *Financial statement effects of an installment note*

LO 5

Fred Blan started a business by issuing a \$70,000 face value note to First State Bank on January 1, 2012. The note had a 7 percent annual rate of interest and a five-year term. Payments of \$17,072 are to be made each December 31 for five years.

Required

- a. What portion of the December 31, 2012, payment is applied to
 - (1) Interest expense?
 - (2) Principal?
- b. What is the principal balance on January 1, 2013?
- c. What portion of the December 31, 2013, payment is applied to
 - (1) Interest expense?
 - (2) Principal?

Exercise 7-12 *Amortization of a long-term loan*

LO 5

A partial amortization schedule for a ten-year note payable that Muro Co. issued on January 1, 2012, is shown here:

Accounting Period	Principal Balance January 1	Cash Payment	Applied to Interest	Applied to Principal
2012	\$200,000	\$32,549	\$20,000	\$12,549
2013	187,451	32,549	18,745	13,804

Required

- a. What rate of interest is Muro Co. paying on the note?
- b. Using a financial statements model like the one shown below, record the appropriate amounts for the following two events.
 - (1) January 1, 2012, issue of the note payable.
 - (2) December 31, 2012, payment on the note payable.

Event No.	Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
1											

- c. If the company earned \$75,000 cash revenue and paid \$35,000 in cash expenses in addition to the interest in 2012, what is the amount of each of the following?
 - (1) Net income for 2012.
 - (2) Cash flow from operating activities for 2012.
 - (3) Cash flow from financing activities for 2012.
- d. What is the amount of interest expense on this loan for 2014?

LO 6

Exercise 7-13 *Effect of a line of credit on financial statements*

Song Company has a line of credit with State Bank. Song can borrow up to \$200,000 at any time over the course of the 2012 calendar year. The following table shows the prime rate expressed as an annual percentage along with the amounts borrowed and repaid during 2012. Song agreed to pay interest at an annual rate equal to 2 percent above the bank’s prime rate. Funds are borrowed or repaid on the first day of each month. Interest is payable in cash on the last day of the month. The interest rate is applied to the outstanding monthly balance. For example, Song pays 7 percent (5 percent + 2 percent) annual interest on \$100,000 for the month of January.

Month	Amount Borrowed or (Repaid)	Prime Rate for the Month, %
January	\$100,000	5
February	50,000	6
March	(40,000)	7
April through October	No change	No change
November	(80,000)	6
December	(20,000)	5

Required

Show the effects of these transactions on the financial statements using a horizontal statements model like the one shown here. Use a + to indicate increase, a – for decrease, and NA for not affected. In the Cash Flow column, indicate whether the item is an operating activity (OA), investing activity (IA), or financing activity (FA).

Assets	=	Liabilities	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
--------	---	-------------	---	--------	------	---	------	---	----------	-----------

What is the total amount of interest expense paid for 2012?

LO 7

Exercise 7-14 *Two complete accounting cycles: bonds issued at face value with annual interest*

Polledo Company issued \$350,000 of 20-year, 6 percent bonds on January 1, 2012. The bonds were issued at face value. Interest is payable in cash on December 31 of each year. Polledo immediately invested the proceeds from the bond issue in land. The land was leased for an annual \$56,000 of cash revenue, which was collected on December 31 of each year, beginning December 31, 2012.

Required

- Organize the transaction data in accounts under the accounting equation.
- Prepare the income statement, balance sheet, and statement of cash flows for 2012 and 2013.

Exercise 7-15 *Annual versus semiannual interest for bonds issued at face value***LO 7**

Nash Co. issued bonds with a face value of \$120,000 on January 1, 2012. The bonds had a 6 percent stated rate of interest and a five-year term. The bonds were issued at face value.

Required

- What total amount of interest will Nash pay in 2012 if bond interest is paid annually each December 31?
- What total amount of interest will Nash pay in 2012 if bond interest is paid semiannually each June 30 and December 31?
- Write a memo explaining which option Nash would prefer.

Exercise 7-16 *Determining cash receipts from bond issues***LO 8****Required**

Compute the cash proceeds from bond issues under the following terms. For each case, indicate whether the bonds sold at a premium or discount.

- Pro, Inc., issued \$300,000 of 8-year, 7 percent bonds at 101.
- Sim Co. issued \$150,000 of 4-year, 6 percent bonds at 98.
- Chu Co. issued \$200,000 of 10-year, 7 percent bonds at 102 $\frac{1}{4}$.
- Sing, Inc., issued \$100,000 of 5-year, 6 percent bonds at 97 $\frac{1}{2}$.

Exercise 7-17 *Stated rate of interest versus the market rate of interest***LO 8****Required**

Indicate whether a bond will sell at a premium (P), discount (D), or face value (F) for each of the following conditions:

- ___ The market rate of interest is equal to the stated rate.
- ___ The market rate of interest is less than the stated rate.
- ___ The market rate of interest is higher than the stated rate.
- ___ The stated rate of interest is higher than the market rate.
- ___ The stated rate of interest is less than the market rate.

Exercise 7-18 *Identifying bond premiums and discounts***LO 8****Required**

In each of the following situations, state whether the bonds will sell at a premium or discount.

- Stokes issued \$200,000 of bonds with a stated interest rate of 8 percent. At the time of issue, the market rate of interest for similar investments was 7 percent.
- Shaw issued \$100,000 of bonds with a stated interest rate of 8 percent. At the time of issue, the market rate of interest for similar investments was 9 percent.
- Link, Inc., issued callable bonds with a stated interest rate of 8 percent. The bonds were callable at 101. At the date of issue, the market rate of interest was 9 percent for similar investments.

Exercise 7-19 *Determining the amount of bond premiums and discounts***LO 8****Required**

For each of the following situations, calculate the amount of bond discount or premium, if any.

- Best Co. issued \$110,000 of 6 percent bonds at 102.
- Morris, Inc., issued \$60,000 of 10-year, 8 percent bonds at 98.
- Yang, Inc., issued \$100,000 of 15-year, 9 percent bonds at 102 $\frac{1}{4}$.
- Jones Co. issued \$500,000 of 20-year, 8 percent bonds at 98 $\frac{3}{4}$.

LO 8**Exercise 7-20** *Straight-line amortization of a bond discount*

Sanders Company issued \$200,000 face value of bonds on January 1, 2012. The bonds had a 6 percent stated rate of interest and a 10-year term. Interest is paid in cash annually, beginning December 31, 2012. The bonds were issued at 98.

Required

- a. Use a financial statements model like the one shown below to demonstrate how (1) the January 1, 2012, bond issue and (2) the December 31, 2012, recognition of interest expense, including the amortization of the discount and the cash payment, affects the company's financial statements. Use + for increase, – for decrease, and NA for not affected.

Event No.	Assets	=	Liab.	+	Equity	Rev.	–	Exp.	=	Net Inc.	Cash Flow
1											

- b. Determine the amount of interest expense reported on the 2012 income statement.
 c. Determine the carrying value (face value less discount or plus premium) of the bond liability as of December 31, 2012.
 d. Determine the amount of interest expense reported on the 2013 income statement.
 e. Determine the carrying value (face value less discount or plus premium) of the bond liability as of December 31, 2013.

LO 8**Exercise 7-21** *Straight-line amortization of a bond premium*

High Company issued \$100,000 face value of bonds on January 1, 2012. The bonds had a 5 percent stated rate of interest and a 10-year term. Interest is paid in cash annually, beginning December 31, 2012. The bonds were issued at 102.

Required

- a. Use a financial statements model like the one shown below to demonstrate how (1) the January 1, 2012 bond issue and (2) the December 31, 2012 recognition of interest expense, including the amortization of the premium and the cash payment, affects the company's financial statements. Use + for increase, – for decrease, and NA for not affected.

Event No.	Assets	=	Liab.	+	Equity	Rev.	–	Exp.	=	Net Inc.	Cash Flow
1											

- b. Determine the carrying value (face value less discount or plus premium) of the bond liability as of December 31, 2012.
 c. Determine the amount of interest expense reported on the 2012 income statement.
 d. Determine the carrying value of the bond liability as of December 31, 2013.
 e. Determine the amount of interest expense reported on the 2013 income statement.

LO 10**Exercise 7-22** *Preparing a classified balance sheet***Required**

Use the following information to prepare a classified balance sheet for Steller Co. at the end of 2012.

Accounts receivable	\$42,500
Accounts payable	8,000
Cash	15,260
Common stock	42,000
Long-term notes payable	23,000
Merchandise inventory	29,000
Office equipment	28,500
Retained earnings	45,460
Prepaid insurance	3,200

Exercise 7-23 *Effective interest amortization of a bond discount***LO 11**

On January 1, 2012, Sea View Condo Association issued bonds with a face value of \$200,000, a stated rate of interest of 8 percent, and a 10-year term to maturity. Interest is payable in cash on December 31 of each year. The effective rate of interest was 10 percent at the time the bonds were issued. The bonds sold for \$175,442. Sea View used the effective interest rate method to amortize bond discount.

Required

- Determine the amount of the discount on the day of issue.
- Determine the amount of interest expense recognized on December 31, 2012.
- Determine the carrying value of the bond liability on December 31, 2012.

Exercise 7-24 *Effective interest amortization of a bond discount***LO 11**

On January 1, 2012, Woodland Enterprises issued bonds with a face value of \$50,000, a stated rate of interest of 8 percent, and a five-year term to maturity. Interest is payable in cash on December 31 of each year. The effective rate of interest was 10 percent at the time the bonds were issued. The bonds sold for \$46,209. Woodland used the effective interest rate method to amortize bond discount.

Required

- Prepare an amortization table as shown below:

	Cash Payment	Interest Expense	Discount Amortization	Carrying Value
January 1, 2012				46,209
December 31, 2012	4,000	4,621	621	46,830
December 31, 2013	?	?	?	?
December 31, 2014	?	?	?	?
December 31, 2015	?	?	?	?
December 31, 2016	?	?	?	?
Totals	<u>20,000</u>	<u>23,791</u>	<u>3,791</u>	

- What item(s) in the table would appear on the 2013 balance sheet?
- What item(s) in the table would appear on the 2013 income statement?
- What item(s) in the table would appear on the 2013 statement of cash flows?

Exercise 7-25 *Effective interest versus straight-line amortization***LO 11**

On January 1, 2012, Smith and Associates issued bonds with a face value of \$1,000,000, a stated rate of interest of 9 percent, and a 20-year term to maturity. Interest is payable in cash on December 31 of each year. The effective rate of interest was 11 percent at the time the bonds were issued.

Required

Write a brief memo explaining whether the effective interest rate method or the straight-line method will produce the highest amount of interest expense recognized on the 2012 income statement.

PROBLEMS

All applicable Problems are available with McGraw-Hill's *Connect Accounting*.

**Problem 7-26** *Accounting for short-term debt and sales tax—two accounting cycles***LO 1, 2, 3, 4**

The following transactions apply to Artesia Co. for 2012, its first year of operations.

- Received \$40,000 cash from the issue of a short-term note with a 5 percent interest rate and a one-year maturity. The note was issued on April 1, 2012.

CHECK FIGURE

Net Income 2012: \$46,500

2. Received \$120,000 cash plus applicable sales tax from performing services. The services are subject to a sales tax rate of 6 percent.
3. Paid \$72,000 cash for other operating expenses during the year.
4. Paid the sales tax due on \$100,000 of the service revenue for the year. Sales tax on the balance of the revenue is not due until 2013.
5. Recognized the accrued interest at December 31, 2012.

The following transactions apply to Artesia Co. for 2013.

1. Paid the balance of the sales tax due for 2012.
2. Received \$145,000 cash plus applicable sales tax from performing services. The services are subject to a sales tax rate of 6 percent.
3. Repaid the principal of the note and applicable interest on April 1, 2013.
4. Paid \$85,000 of other operating expenses during the year.
5. Paid the sales tax due on \$120,000 of the service revenue. The sales tax on the balance of the revenue is not due until 2014.

Required

- a. Organize the transaction data in accounts under an accounting equation.
- b. Prepare an income statement, a statement of changes in stockholders' equity, a balance sheet, and a statement of cash flow for 2012 and 2013.

LO 1

CHECK FIGURES

- b. \$12,000
- i. \$38,800

Problem 7-27 *Effect of accrued interest on financial statements*

Norman Co. borrowed \$15,000 from the local bank on April 1, 2012, when the company was started. The note had an 8 percent annual interest rate and a one-year term to maturity. Norman Co. recognized \$42,000 of revenue on account in 2012 and \$56,000 of revenue on account in 2013. Cash collections from accounts receivable were \$38,000 in 2012 and \$58,000 in 2013. Norman Co. paid \$26,000 of salaries expense in 2012 and \$32,000 of salaries expense in 2013. Norman Co. paid the loan and interest at the maturity date.

Required

- a. Organize the information in accounts under an accounting equation.
- b. What amount of net cash flow from operating activities would be reported on the 2012 cash flow statement?
- c. What amount of interest expense would be reported on the 2012 income statement?
- d. What amount of total liabilities would be reported on the December 31, 2012, balance sheet?
- e. What amount of retained earnings would be reported on the December 31, 2012, balance sheet?
- f. What amount of cash flow from financing activities would be reported on the 2012 statement of cash flows?
- g. What amount of interest expense would be reported on the 2013 income statement?
- h. What amount of cash flows from operating activities would be reported on the 2013 cash flow statement?
- i. What amount of assets would be reported on the December 31, 2013, balance sheet?

LO 1, 2, 4

CHECK FIGURE

Total Current Liabilities: \$44,050

Problem 7-28 *Current liabilities*

The following selected transactions were taken from the books of Caledonia Company for 2012.

1. On March 1, 2012, borrowed \$50,000 cash from the local bank. The note had a 6 percent interest rate and was due on September 1, 2012.
2. Cash sales for the year amounted to \$225,000 plus sales tax at the rate of 7 percent.
3. Caledonia provides a 90-day warranty on the merchandise sold. The warranty expense is estimated to be 2 percent of sales.
4. Paid the sales tax to the state sales tax agency on \$190,000 of the sales.
5. Paid the note due on September 1 and the related interest.

6. On October 1, 2012, borrowed \$40,000 cash from the local bank. The note had a 7 percent interest rate and a one-year term to maturity.
7. Paid \$3,600 in warranty repairs.
8. A customer has filed a lawsuit against Caledonia for \$100,000 for breach of contract. The company attorney does not believe the suit has merit.

Required

- a. Answer the following questions:
 - (1) What amount of cash did Caledonia pay for interest during the year?
 - (2) What amount of interest expense is reported on Caledonia's income statement for the year?
 - (3) What is the amount of warranty expense for the year?
- b. Prepare the current liabilities section of the balance sheet at December 31, 2012.
- c. Show the effect of these transactions on the financial statements using a horizontal statements model like the one shown here. Use a + to indicate increase, a – for decrease, and NA for not affected. In the Cash Flow column, indicate whether the item is an operating activity (OA), investing activity (IA), or financing activity (FA). The first transaction is recorded as an example.

Assets	=	Liabilities	+	Equity	Rev.	–	Exp.	=	Net Inc.	Cash Flow
+		+		NA	NA		NA		NA	+ FA

Problem 7-29 *Contingent liabilities***LO 3****Required**

- a. Give an example of a contingent liability that is probable and reasonably estimable. How would this type of liability be shown in the accounting records?
- b. Give an example of a contingent liability that is reasonably possible or probable but not reasonably estimable. How would this type of liability be shown in the accounting records?
- c. Give an example of a contingent liability that is remote. How is this type of liability shown in the accounting records?

Problem 7-30 *Multistep income statement and classified balance sheet***LO 10****Required**

Use the following information to prepare a multistep income statement and a classified balance sheet for Douglas Company for 2012. (*Hint:* Some of the items will *not* appear on either statement, and ending retained earnings must be calculated.)

excel

Other operating expenses	\$ 90,000	Cash	\$ 23,000
Land	50,000	Interest receivable (short term)	800
Accumulated depreciation	38,000	Cash flow from investing activities	102,000
Accounts payable	60,000	Allowance for doubtful accounts	7,000
Unearned revenue	58,000	Interest payable (short term)	3,000
Warranties payable (short term)	2,000	Sales revenue	500,000
Equipment	77,000	Uncollectible accounts expense	14,000
Notes payable (long term)	129,000	Interest expense	32,000
Salvage value of equipment	7,000	Accounts receivable	113,000
Dividends	12,000	Salaries payable	12,000
Warranty expense	5,000	Supplies	3,000
Beginning retained earnings	28,800	Prepaid rent	14,000
Interest revenue	6,000	Common stock	52,000
Gain on sale of equipment	10,000	Cost of goods sold	179,000
Inventory	154,000	Salaries expense	122,000
Notes receivable (short term)	17,000		

CHECK FIGURES

Total Current Assets: \$317,800
 Total Current Liabilities: \$135,000

LO 5



CHECK FIGURES

- a. 2012 Ending Principal Balance: \$78,453
- c. 2014 Net Income: \$34,525

Problem 7-31 *Effect of an installment note on financial statements*

On January 1, 2012, Sneed Co. borrowed cash from Best Bank by issuing a \$100,000 face value, four-year term note that had a 10 percent annual interest rate. The note is to be repaid by making annual cash payments of \$31,547 that include both interest and principal on December 31 of each year. Sneed used the proceeds from the loan to purchase land that generated rental revenues of \$40,000 cash per year.

Required

- a. Prepare an amortization schedule for the four-year period.
- b. Organize the information in accounts under an accounting equation.
- c. Prepare an income statement, a balance sheet, and a statement of cash flows for each of the four years.
- d. Does cash outflow from operating activities remain constant or change each year? Explain.

LO 5

Problem 7-32 *Accounting for an installment note payable*

The following transactions apply to Whitter Co. for 2012, its first year of operations.

- 1. Received \$100,000 cash in exchange for issuance of common stock.
- 2. Secured a \$200,000, 10-year installment loan from First Bank. The interest rate was 6 percent and annual payments are \$27,174.
- 3. Purchased land for \$60,000.
- 4. Provided services for \$120,000 cash.
- 5. Paid other operating expenses of \$85,000.
- 6. Paid the annual payment on the loan.

Required

- a. Organize the transaction data in accounts under an accounting equation.
- b. Prepare an income statement and balance sheet for 2012.
- c. What is the interest expense for 2013? 2014?

LO 6

Problem 7-33 *Accounting for a line of credit*

Acqua Marine Co. uses a line of credit to help finance its inventory purchases. Acqua Marine sells boats and equipment and uses the line of credit to build inventory for its peak sales months, which tend to be clustered in the summer months. Account balances at the beginning of 2012 were as follows.

Cash	\$100,000
Inventory	125,000
Common stock	150,000
Retained earnings	75,000

CHECK FIGURE

- a. Interest Expense for January: \$800

Acqua Marine experienced the following transactions for April, May, and June, 2012.

- 1. April 1, 2012, obtained approval for a line of credit of up to \$500,000. Funds are to be obtained or repaid on the first day of each month. The interest rate is the bank prime rate plus 1 percent.
- 2. April 1, 2012, borrowed \$160,000 on the line of credit. The bank's prime interest rate is 5 percent for January.
- 3. April 15, purchased inventory on account, \$130,000.
- 4. April 31, paid other operating expenses of \$46,000.
- 5. In April, sold inventory for \$275,000 on account. The inventory had cost \$150,000.
- 6. April 30, paid the interest due on the line of credit.
- 7. May 1, borrowed \$120,000 on the line of credit. The bank's prime rate is 6 percent for May.
- 8. May 1, paid the accounts payable from transaction 3.

9. May 10, collected \$262,000 of the sales on account.
10. May 20, purchased inventory on account, \$215,000.
11. May sales on account were \$375,000. The inventory had cost \$180,000.
12. May 31, paid the interest due on the line of credit.
13. June 1, repaid \$80,000 on the line of credit. The bank's prime rate is 6 percent for June.
14. June 5, paid \$200,000 of the accounts payable.
15. June 10, collected \$380,000 from accounts receivable.
16. June 20, purchased inventory on account, \$195,000.
17. June sales on account were \$415,000. The inventory had cost \$170,000.
18. June 31, paid the interest due on the line of credit.

Required

- a. What is the amount of interest expense for April? May? June?
- b. What amount of cash was paid for interest in April? May? June?

Problem 7-34 *Effect of a line of credit on financial statements*

Inman Company has a line of credit with Bay Bank. Inman can borrow up to \$300,000 at any time over the course of the 2012 calendar year. The following table shows the prime rate expressed as an annual percentage along with the amounts borrowed and repaid during 2012. Inman agreed to pay interest at an annual rate equal to 1 percent above the bank's prime rate. Funds are borrowed or repaid on the first day of each month. Interest is payable in cash on the last day of the month. The interest rate is applied to the outstanding monthly balance. For example, Inman pays 6 percent (5 percent + 1 percent) annual interest on \$90,000 for the month of January.

LO 6**CHECK FIGURES**

- b. Interest Expense: \$7,111
- Total Assets: \$98,889

Month	Amount Borrowed or (Repaid)	Prime Rate for the Month, %
January	\$90,000	5
February	50,000	5
March	(30,000)	6
April through October	No change	No change
November	(20,000)	6
December	(30,000)	5

Inman earned \$46,000 of cash revenue during 2012.

Required

- a. Organize the information in accounts under an accounting equation.
- b. Prepare an income statement, balance sheet, and statement of cash flows for 2012.
- c. Write a memo discussing the advantages to a business of arranging a line of credit.

Problem 7-35 *Effect of debt transactions on financial statements***LO 1, 6, 7****Required**

Show the effect of each of the following independent accounting events on the financial statements using a horizontal statements model like the following one. Use + for increase, - for decrease, and NA for not affected. The first event is recorded as an example.

Event No.	Assets	=	Liab.	+	Equity	Rev.	-	Exp.	=	Net Inc.	Cash Flow
a	+		+		NA	NA		NA		NA	+ FA

- a. Borrowed funds using a line of credit.
- b. Made an interest payment for funds that had been borrowed against a line of credit.
- c. Issued a bond at face value.

- d. Made an interest payment on a bond that had been issued at face value.
- e. Made a cash payment on a note payable for both interest and principal.

LO 8

Problem 7-36 *Straight-line amortization of a bond discount*

Hale Co. was formed when it acquired cash from the issue of common stock. The company then issued bonds at a discount on January 1, 2012. Interest is payable on December 31 with the first payment made December 31, 2012. On January 2, 2012, Hale Co. purchased a piece of land that produced rent revenue annually. The rent is collected on December 31 of each year, beginning December 31, 2012. At the end of the six-year period (January 1, 2018), the land was sold at a gain, and the bonds were paid off at face value. A summary of the transactions for each year follows:

2012

1. Acquired cash from the issue of common stock.
2. Issued six-year bonds.
3. Purchased land.
4. Received land rental income.
5. Recognized interest expense, including the amortization of the discount, and made the cash payment for interest on December 31.

2013–2017

6. Received land rental income.
7. Recognized interest expense, including the amortization of the discount, and made the cash payment for interest December 31.

2018

8. Sold the land at a gain.
9. Retired the bonds at face value.

Required

Identify each of these 9 transactions as asset source (AS), asset use (AU), asset exchange (AE), or claims exchange (CE). Explain how each event affects assets, liabilities, equity, net income, and cash flow by placing a + for increase, – for decrease, or NA for not affected under each of the categories. In the Cash Flow column, indicate whether the item is an operating activity (OA), investing activity (IA), or financing activity (FA). The first event is recorded as an example.

Event No.	Type of Event	Assets	=	Liabilities	+	Common Stock	+	Retained Earnings	Net Income	Cash Flow
1	AS	+		NA		+		NA	NA	+ FA

LO 8

CHECK FIGURES

- c. 2012 Interest Expense: \$6,250
- d. 2012 Interest Paid: \$3,500

Problem 7-37 *Straight-line amortization of a bond discount*

During 2012 and 2013, Gupta Co. completed the following transactions relating to its bond issue. The company’s fiscal year ends on December 31.

2012

- Mar. 1 Issued \$100,000 of eight-year, 7 percent bonds for \$96,000. The semiannual cash payment for interest is due on March 1 and September 1, beginning September 2012.
- Sept. 1 Recognized interest expense including the amortization of the discount and made the semiannual cash payment for interest.
- Dec. 31 Recognized accrued interest expense including the amortization of the discount.

2013

- Mar. 1 Recognized interest expense including the amortization of the discount and made the semiannual cash payment for interest.

- Sept. 1 Recognized interest expense including the amortization of the discount and made the semiannual cash payment for interest.
- Dec. 31 Recognized accrued interest expense including the amortization of the discount.

Required

- When the bonds were issued, was the market rate of interest more or less than the stated rate of interest? If the bonds had sold at face value, what amount of cash would Gupta Co. have received?
- Prepare the liabilities section of the balance sheet at December 31, 2012 and 2013.
- Determine the amount of interest expense Gupta would report on the income statements for 2012 and 2013.
- Determine the amount of interest Gupta would pay to the bondholders in 2012 and 2013.

Exercise 7-38 *Effective interest amortization for a bond premium***LO 11**

On January 1, 2012, Crume Incorporated issued bonds with a face value of \$100,000, a stated rate of interest of 9 percent, and a five-year term to maturity. Interest is payable in cash on December 31 of each year. The effective rate of interest was 8 percent at the time the bonds were issued. The bonds sold for \$103,993. Crume used the effective interest rate method to amortize bond discount.

Required

- Prepare an amortization table as shown below:

	Cash Payment	Interest Expense	Premium Amortization	Carrying Value
January 1, 2012				103,993
December 31, 2012	9,000	8,319	681	103,312
December 31, 2013	?	?	?	?
December 31, 2014	?	?	?	?
December 31, 2015	?	?	?	?
December 31, 2016	?	?	?	?
Totals	<u>45,000</u>	<u>41,007</u>	<u>3,993</u>	

- What item(s) in the table would appear on the 2014 balance sheet?
- What item(s) in the table would appear on the 2014 income statement?
- What item(s) in the table would appear on the 2014 statement of cash flows?

ANALYZE, THINK, COMMUNICATE**ATC 7-1** *Business Application Case* *Understanding real-world annual reports*

Use the **Target Corporation's** annual report in Appendix B to answer the following questions related to Target's 2009 fiscal year. You will need to read carefully the company's Consolidated Statements of Financial Position (balance sheets) as well as footnotes 16 through 19.

Target Corporation

Required

- What percentage of Target's assets was being financed with liabilities (versus shareholders' equity)?
- How does Target account for bank overdrafts, and how much overdrafts did it have as of January 30, 2010?
- What was the average interest rate that Target paid on its borrowings?
- Target reported Accrued and Other Liabilities of \$3,120 as of January 30, 2010. What was the largest subcategory of liabilities included in this account?



ATC 7-2 Group Assignment *Missing information*

The following three companies issued the following bonds:

1. Lot, Inc., issued \$100,000 of 8 percent, five-year bonds at 102 $\frac{1}{4}$ on January 1, 2012. Interest is payable annually on December 31.
2. Max, Inc., issued \$100,000 of 8 percent, five-year bonds at 98 on January 1, 2012. Interest is payable annually on December 31.
3. Par, Inc., issued \$100,000 of 8 percent, five-year bonds at 104 on January 1, 2012. Interest is payable annually on December 31.

Required

- a. Organize the class into three sections and divide each section into groups of three to five students. Assign each of the sections one of the companies.

Group Tasks

- (1) Compute the following amounts for your company (use straight-line amortization):
 - (a) Cash proceeds from the bond issue.
 - (b) Interest paid in 2012.
 - (c) Interest expense for 2012.
- (2) Prepare the liabilities section of the balance sheet as of December 31, 2012.

Class Discussion

- b. Have a representative of each section put the liabilities section for its company on the board.
- c. Is the amount of interest expense different for the three companies? Why or why not?
- d. Is the amount of interest paid different for each of the companies? Why or why not?
- e. Is the amount of total liabilities different for each of the companies? Why or why not?

ATC 7-3 Research Assignment *Analyzing two real-world companies' use of liabilities*



Complete the requirements below using the most current annual reports or the Forms 10-K for **Lowe's**, a company that sells home-building supplies, and **Dominion Resources**, one of the nation's leading generators of energy. To obtain the Forms 10-K, use either the EDGAR system following the instructions in Appendix A or the companies' websites. The annual reports can be found on the companies' websites.

Required

- a. Which of these two companies is using debt to finance its assets the most? Show your computations.
- b. Provide a logical explanation as to why one of these companies uses more debt to finance its assets than the other.
- c. Lowe's has some lines of credit type arrangements? How much money is available to Lowe's under these credit arrangements?

ATC 7-4 Writing Assignment *Definition of elements of financial statements*



Putting "yum" on people's faces around the world is the mission of **YUM Brands, Inc.** Yum was spun off from **PepsiCo** in 1997. A spin-off occurs when a company separates its operations into two or more distinct companies. The company was originally composed of **KFC**, **Pizza Hut**, and **Taco Bell** and was operated as a part of PepsiCo prior to the spin-off. In 2002 YUM acquired **A & W All American Foods** and **Long John Silver's** units. YUM's long-term debt in 2007 was \$2.9 billion. YUM's net income before interest and taxes in 2007 was \$1.36 million.

Required

- a. If YUM's debt remains constant at \$2.9 billion for 2008, how much interest will YUM incur in 2008, assuming the average interest rate is 6 percent?
- b. Does the debt seem excessive compared with the amount of 2007 net income before interest and taxes? Explain.

- c. Assuming YUM pays tax at the rate of 25 percent, what amount of tax will YUM pay in 2007?
- d. Assume you are the president of the company. Write a memo to the shareholders explaining how YUM is able to meet its obligations and increase stockholders' equity.

ATC 7-5 Ethical Dilemma *Sometimes debt is not debt*



David Sheridan was a well-respected CPA in his mid-fifties. After spending 10 years at a national accounting firm, he was hired by Global, Inc., a multinational corporation headquartered in the United States. He patiently worked his way up to the top of Global's accounting department and in the early 1990s, took over as chief financial officer for the company. As the Internet began to explode, management at Global, Inc., decided to radically change the nature of its business to one of e-commerce. Two years after the transition, Internet commerce began to slow down, and Global was in dire need of cash in order to continue operations. Management turned to the accounting department.

Global, Inc., needed to borrow a substantial amount of money but couldn't afford to increase the amount of liabilities on the balance sheet for fear of the stock price dropping and banks becoming nervous and demanding repayment of existing loans. David discovered a way that would allow the company to raise the needed cash to continue operations without having to report the long-term notes payable on the balance sheet. Under an obscure rule, companies can set up separate legal organizations that do not have to be reported on the parent company's financial statements, if a third party contributes just 3 percent of the start-up capital. David called a friend, Brian Johnson, and asked him to participate in a business venture with Global. Brian agreed, and created a special purpose entity with Global named BrianCo. For his participation, Brian was awarded a substantial amount of valuable Global stock. Brian then went to a bank and used the stock as collateral to borrow a large sum of money for BrianCo. Then, Global sold some of its poor or underperforming assets to BrianCo for the cash that Brian borrowed. In the end, Global got rid of bad assets, received the proceeds of the long-term note payable, and did not have to show the liability on the balance sheet. Only the top executives and the accountants that worked closely with David knew of the scheme, and they planned to use this method only until the e-commerce portion of Global became profitable again.

Required

- a. How did David's scheme affect the overall appearance of Global's financial statements? Why was this important to investors and creditors?
- b. Review the AICPA's Articles of Professional Conduct (see Chapter 4) and comment on any of the standards that have been violated.
- c. Name the features of the fraud triangle and explain how they materialize in this case.