a. Why do companies estimate warranty expense and record the expense before the repairs are actually made?

Exercise 9-8A *Current liabilities*

LO 9-1, 9-2, 9-4

The following transactions apply to Ozark Sales for 2016:

1. The business was started when the company received $50,000 from the issue of common stock.
2. Purchased equipment inventory of $380,000 on account.
3. Sold equipment for $510,000 cash (not including sales tax). Sales tax of 8 percent is collected when the merchandise is sold. The merchandise had a cost of $330,000.
4. Provided a six-month warranty on the equipment sold. Based on industry estimates, the warranty claims would amount to 2 percent of sales.
5. Paid the sales tax to the state agency on $400,000 of the sales.
6. On September 1, 2016, borrowed $50,000 from the local bank. The note had a 4 percent interest rate and matured on March 1, 2017.
7. Paid $6,200 for warranty repairs during the year.
8. Paid operating expenses of $78,000 for the year.
9. Paid $250,000 of accounts payable.
10. Recorded accrued interest on the note issued in transaction no. 6.

Required

a. Show the effect of these transactions on the financial statements using a horizontal statements model like the one shown here. Use + for increase, − 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

b. Prepare the journal entries for the above transactions and post them to the appropriate T-accounts.

c. Prepare the income statement, balance sheet, and statement of cash flows for 2016.

d. What is the total amount of current liabilities at December 31, 2016?

Exercise 9-9A *Calculating payroll*

LO 9-5

Zolnick Enterprises has two hourly employees, Kelly and Jon. Both employees earn overtime at the rate of 1½ times the hourly rate for hours worked in excess of 40 per week. Assume the Social Security tax rate is 6 percent on the first $110,000 of wages and the Medicare tax rate is 1.5 percent on all earnings. Federal income tax withheld for Kelly and Jon was $260 and $220, respectively, for the first week of January. The following information is for the first week in January 2016:

Employee	Hours Worked	Wage Rate per Hour
Kelly	54	$32
Jon	44	$26

Required

a. Calculate the gross pay for each employee for the week.
b. Calculate the net pay for each employee for the week.
c. Prepare the general journal entry to record payment of the wages.

LO 9-5

Exercise 9-10A *Calculating payroll*

Old Town Entertainment has two employees in 2016. Clay earns $3,600 per month and Philip, the manager, earns $10,800 per month. Neither is paid extra for working overtime. Assume the Social Security tax rate is 6 percent on the first $110,000 of earnings and the Medicare tax rate is 1.5 percent on all earnings. The federal income tax withholding is 15 percent of gross earnings for Clay and 20 percent for Philip. Both Clay and Philip have been employed all year.

Required

a. Calculate the net pay for both Clay and Philip for March.
b. Calculate the net pay for both Clay and Philip for December.
c. Is the net pay the same in March and December for both employees? Why or why not?
d. What amounts will Old Town report on the 2016 W-2s for each employee?

LO 9-5

Exercise 9-11A *Calculating employee and employer payroll taxes*

Sky Co. employed Tom Mills in 2016. Tom earned $5,100 per month and worked the entire year. Assume the Social Security tax rate is 6 percent for the first $110,000 of earnings and the Medicare tax rate is 1.5 percent. Tom's federal income tax withholding amount is $900 per month. Use 5.4 percent for the state unemployment tax rate and .06 percent for the federal unemployment tax rate on the first $7,000 of earnings per employee.

Required

a. Answer the following questions.
   (1) What is Tom's net pay per month?
   (2) What amount does Tom pay monthly in FICA payroll taxes?
   (3) What is the total payroll tax expense for Sky Co. for January 2016? February 2016? March 2016? December 2016?
b. Assume that instead of $5,100 per month Tom earned $9,600 per month. Answer the questions in Requirement *a*.

LO 9-5

Exercise 9-12A *Fringe benefits and payroll expense*

Silver Co. provides various fringe benefits for its two employees. It provides vacation and personal leave at the rate of one day for each month worked. Its employees earn a combined total of approximately $420 per day. In addition, Silver Co. pays $650 per month in medical insurance premiums for its employees. Silver also contributes $400 per month into a retirement plan for the employees. The federal unemployment tax rate is .06 percent and the state unemployment tax rate is 4.0 percent on the first $7,000 of earnings per employee.

Required

a. Prepare the monthly journal entry for the accrued fringe benefits.

Exercise 9-13A *Con*

The following transacti

1. Received $50,000 ca
2. Purchased inventory
3. Sold inventory for $
   5 percent on the inv
4. Borrowed $50,000 fr
   rate and a one-year
5. Paid the accounts p
6. Paid the sales tax d
   after the end of the
7. Salaries for the year
   tax rate is 6 percent
   was $5,300.
8. Paid $5,800 for warr
9. Paid $36,000 of othe
10. Paid a dividend of $

Adjustments:

11. The products sold i
    would be 3 percent o
12. Record the accrued i
13. Record the accrued
    paid for the year and
    rate is .06 percent an
    earnings per employe

Required

a. Record the above tra
b. Post the transactions
c. Prepare an income s
   and statement of cas

Exercise 9-14A *Prep*

Required

Use the following informa

h method of financ-
lebt or equity, is gen-
more advantageous
a tax standpoint?

ompany has a tax
of 30 percent and
est expense was
00, what is the after-
ost of the debt?
h type of financing,
or equity, increases
sk factor of a busi-
Why?
information does the
interest earned ratio
de?

McGraw-Hill's

owing $150,000. City
ptions: (1) to issue a
(2) to issue a note to
d on the unpaid prin-

Dan Dayle started a business by issuing an $80,000 face value note to First State Bank on January 1, 2016. The note had an 8 percent annual rate of interest and a five-year term. Payments of $20,037 are to be made each December 31 for five years.

Required

a. What portion of the December 31, 2016, payment is applied to
   (1) Interest expense?
   (2) Principal?
b. What is the principal balance on January 1, 2017?
c. What portion of the December 31, 2017, payment is applied to
   (1) Interest expense?
   (2) Principal?

Exercise 10-4A *Financial statement effects of an installment note* LO 10-1

A partial amortization schedule for a 10-year note payable issued on January 1, 2016, is shown below:

Accounting Period	Principal Balance January 1	Cash Payment	Applied to Interest	Applied to Principal
2016	$200,000	$27,174	$12,000	$15,174
2017	184,826	27,174	11,090	16,084
2018	168,742	27,174	10,125	17,049

Required

a. Using a financial statements model like the one shown here, record the appropriate amounts for the following two events:
   (1) January 1, 2016, issue of the note payable.
   (2) December 31, 2016, payment on the note payable.

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

b. If the company earned $62,000 cash revenue and paid $45,000 in cash expenses in addition to the interest in 2016, what is the amount of each of the following?
   (1) Net income for 2016.
   (2) Cash flow from operating activities for 2016.
   (3) Cash flow from financing activities for 2016.
c. What is the amount of interest expense on this loan for 2019?

Exercise 10-5A *Journal entries for a line of credit* LO 10-2

Singer Company has a line of credit with United Bank. Singer can borrow up to $400,000 at any time over the course of the 2016 calendar year. The following table shows the prime rate expressed as an annual percentage along with the amounts borrowed and repaid during the first three months of 2016. Singer 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, Singer pays 6.5 percent (4.5 percent + 2 percent) annual interest on $140,000 for the month of February.

Month	Amount Borrowed or (Repaid)	Prime Rate for the Month
January	$80,000	4.0%
February	60,000	4.5
March	(20,000)	4.0

Required

Provide all journal entries pertaining to Singer's line of credit for the first three months of 2016.

LO 10-3

Exercise 10-6A *Two accounting cycles for bonds issued at face value*

Doyle Company issued $500,000 of 10-year, 7 percent bonds on January 1, 2016. The bonds were issued at face value. Interest is payable in cash on December 31 of each year. Doyle immediately invested the proceeds from the bond issue in land. The land was leased for an annual $125,000 of cash revenue, which was collected on December 31 of each year, beginning December 31, 2016.

Required

a. Prepare the journal entries for these events, and post them to T-accounts for 2016 and 2017.

b. Prepare the income statement, balance sheet, and statement of cash flows for 2016 and 2017.

LO 10-3

Exercise 10-7A *Two accounting cycles for bonds issued at face value*

On January 1, 2016, Bell Corp. issued $180,000 of 10-year, 6 percent bonds at their face amount. Interest is payable on December 31 of each year with the first payment due December 31, 2016.

Required

Prepare all the general journal entries related to these bonds for 2016 and 2017.

LO 10-3

Exercise 10-8A *Journal entries for callable bonds*

Nivan Co. issued $500,000 of 5 percent, 10-year, callable bonds on January 1, 2016, at their face value. The call premium was 3 percent (bonds are callable at 103). Interest was payable annually on December 31. The bonds were called on December 31, 2020.

Required

January	$80,000	4.0%
February	60,000	4.5
March	(20,000)	4.0

Required

Provide all journal entries pertaining to Singer's line of credit for the first three months of 2016.

LO 10-3

Exercise 10-6A *Two accounting cycles for bonds issued at face value*

Doyle Company issued $500,000 of 10-year, 7 percent bonds on January 1, 2016. The bonds were issued at face value. Interest is payable in cash on December 31 of each year. Doyle immediately invested the proceeds from the bond issue in land. The land was leased for an annual $125,000 of cash revenue, which was collected on December 31 of each year, beginning December 31, 2016.

Required

a. Prepare the journal entries for these events, and post them to T-accounts for 2016 and 2017.

b. Prepare the income statement, balance sheet, and statement of cash flows for 2016 and 2017.

LO 10-3

Exercise 10-7A *Two accounting cycles for bonds issued at face value*

On January 1, 2016, Bell Corp. issued $180,000 of 10-year, 6 percent bonds at their face amount. Interest is payable on December 31 of each year with the first payment due December 31, 2016.

Required

Prepare all the general journal entries related to these bonds for 2016 and 2017.

LO 10-3

Exercise 10-8A *Journal entries for callable bonds*

Nivan Co. issued $500,000 of 5 percent, 10-year, callable bonds on January 1, 2016, at their face value. The call premium was 3 percent (bonds are callable at 103). Interest was payable annually on December 31. The bonds were called on December 31, 2020.

Required

Prepare the journal entries to record the bond issue on January 1, 2016, and the bond redemption on December 31, 2020. Entries for accrual and payment of interest are not required.

LO 10-3

Exercise 10-9A *Annual versus semiannual interest for bonds issued at face value*

Milan Company issued bonds with a face value of $200,000 on January 1, 2016. The bonds had a 7 percent stated rate of interest and a six-year term. The bonds were issued at face value. Interest is payable on an annual basis.

Required

Write a memo explaining whether the total cash outflow for interest would be more, less, or the same if the bonds pay semiannual versus annual interest.

Exercise 10-11A *Stated rate of interest versus*

Required

Indicate whether a bond will sell at a premium (P), di
following conditions:

a. ____ The stated rate of interest is higher than the
b. ____ The market rate of interest is equal to the st
c. ____ The market rate of interest is less than the s
d. ____ The stated rate of interest is less than the m
e. ____ The market rate of interest is higher than th

Exercise 10-12A *Identifying bond premiums a*

Required

In each of the following situations, state whether the

a. Valley issued $300,000 of bonds with a stated int
the market rate of interest for similar investment

b. Spring issued $220,000 of bonds with a stated in
the market rate of interest for similar investment

c. River Inc. issued $150,000 of callable bonds w
bonds were callable at 102. At the date of issue,
similar investments.

Exercise 10-13A *Determining the amount of*

Required

For each of the following situations, calculate the an

a. Gray Co. issued $80,000 of 6 percent bonds at 1
b. Bush, Inc., issued $200,000 of 10-year, 6 percent
c. Oak, Inc., issued $100,000 of 20-year, 6 percent
d. Willow Co. issued $180,000 of 15-year, 7 percen

Exercise 10-14A *Straight-line amortization o*

Diaz Company issued $180,000 face value of bonds c
stated rate of interest and a five-year term. Int
December 31, 2016. The bonds were issued at 98. The

Required

a. Use a financial statements model like the one sh
ary 1, 2016, bond issue and (2) the December
cluding the amortization of the discount an
financial statements. Use + for increase, − for

Event No.	Assets	=	Liab.	+	Equity	Rev.
1						

December 31, 2020	?	?	?	?
Totals	60,000	53,850	6,150	

b. What item(s) in the table would appear on the 2019 balance sheet?
c. What item(s) in the table would appear on the 2019 income statement?
d. What item(s) in the table would appear on the 2019 statement of cash flows?

LO 10-5, 10-7

Exercise 10-23A *Effective interest versus straight-line amortization*

On January 1, 2016, the Christie Companies issued bonds with a face value of $500,000, a stated rate of interest of 10 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 8 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 2016 income statement.

LO 10-8

Exercise 10-24A *Determining the after-tax cost of debt*

The following 2016 information is available for three companies:

	Crow Co.	Robin Co.	Sparrow Co.
Face value of bonds payable	$300,000	$600,000	$500,000
Interest rate	8%	7%	6%
Income tax rate	35%	20%	25%

Required

a. Determine the annual before-tax interest cost for each company *in dollars.*
b. Determine the annual after-tax interest cost for each company *in dollars.*
c. Determine the annual after-tax interest cost for each company as *a percentage* of the face value of the bonds.

LO 10-8

Exercise 10-25A *Determining the effects of financing alternatives on ratios*

Composite Solutions Company (CSC) has the following account balances:

Current assets	$150,000	Current liabilities	$100,000
Noncurrent assets	350,000	Noncurrent liabilities	250,000
		Stockholders' equity	150,000

The company wishes to raise $80,000 in cash and is considering two financing options: CSC can sell $80,000 of bonds payable, or it can issue additional common stock for $80,000. To help in the decision process, CSC's management wants to determine the effects of each alternative on its current ratio and debt to assets ratio.

company pays $6,000 in dividends or $6,
financing is used. Based on a 40 percent ta
retained earnings that would result under ea

PROBLEMS—SERIES A

connect plus+ ACCOUNTING *All applicable Problems i*
Connect Plus Accounting

Problem 10-26A *Effect of an installment*

On January 1, 2016, Brown Co. borrowed cash f
four-year term note that had an 8 percent annua
annual cash payments of $30,192 that include bo
year. Brown used the proceeds from the loan to
$52,000 cash per year.

Required

a. Prepare an amortization schedule for the fo
b. Prepare an income statement, balance sheet,
years. (*Hint:* Record the transactions for eac
cial statements.)
c. Given that revenue is the same for each peri

Problem 10-27A *Effect of a line of credit*

Boyd Company has a line of credit with State B
over the course of the 2016 calendar year. The f
an annual percentage along with the amounts b
pay interest at an annual rate equal to 2 percent
or repaid on the first day of each month. Intere
The interest rate is applied to the outstanding
cent (5 percent + 2 percent) annual interest on

Month	Amou o
January	$
February	
March	
April through October	
November	
December	

Boyd earned $45,000 of cash revenue durin

Required

a. Prepare an income statement, balance sh
Round computations to the nearest dollar.

elow:

Interest Expense	Premium Amortization	Carrying Value
		156,150
10,931	1,069	155,081
?	?	?
?	?	?
?	?	?
?	?	?
53,850	6,150	

the 2019 balance sheet?
the 2019 income statement?
the 2019 statement of cash flows?

s straight-line amortization

es issued bonds with a face value of $500,000, a
-year term to maturity. Interest is payable in cash
ate of interest was 8 percent at the time the bonds

effective interest rate method or the straight-line
interest expense recognized on the 2016 income

tax cost of debt

r three companies:

ow Co.	Robin Co.	Sparrow Co.
00,000	$600,000	$500,000
8%	7%	6%
35%	20%	25%

ost for each company *in dollars*.
t for each company *in dollars*.
st for each company as *a percentage* of the face

of financing alternatives on ratios

Required

a. Help CSC's management by completing the following chart:

Ratio	Currently	If Bonds Are Issued	If Stock Is Issued
Current ratio			
Debt to asset ratio			

b. Assume that after the funds are invested, EBIT amounts to $60,000. Also assume the company pays $6,000 in dividends or $6,000 in interest depending on which source of financing is used. Based on a 40 percent tax rate, determine the amount of the increase in retained earnings that would result under each financing option.

PROBLEMS—SERIES A

connect plus+ ACCOUNTING *All applicable Problems in Series A are available with McGraw-Hill's Connect Plus Accounting.*

Problem 10-26A *Effect of an installment note on financial statements*

LO 10-1

On January 1, 2016, Brown Co. borrowed cash from First Bank by issuing a $100,000 face value, four-year term note that had an 8 percent annual interest rate. The note is to be repaid by making annual cash payments of $30,192 that include both interest and principal on December 31 of each year. Brown used the proceeds from the loan to purchase land that generated rental revenues of $52,000 cash per year.

CHECK FIGURES
a. 2016 Ending Principal Balance: $77,808
b. 2016 Net Income: $44,000

Required

a. Prepare an amortization schedule for the four-year period.
b. Prepare an income statement, balance sheet, and statement of cash flows for each of the four years. (*Hint:* Record the transactions for each year in T-accounts before preparing the financial statements.)
c. Given that revenue is the same for each period, explain why net income increases each year.

Problem 10-27A *Effect of a line of credit on financial statements*

LO 10-2

Boyd Company has a line of credit with State Bank. Boyd can borrow up to $400,000 at any time over the course of the 2016 calendar year. The following table shows the prime rate expressed as an annual percentage along with the amounts borrowed and repaid during 2016. Boyd 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, Boyd pays 7 percent (5 percent + 2 percent) annual interest on $100,000 for the month of January.

CHECK FIGURES
a. Interest Expense: $11,088
Total Assets: $83,912

Month	Amount Borrowed or (Repaid)	Prime Rate for the Month
January	$100,000	5%

value less discount or plus premium) of the bond liability

xpense reported on the 2016 income statement.
value less discount or plus premium) of the bond liability

xpense reported on the 2017 income statement.

ortization of a bond premium

0,000 of 10-year, 6 percent bonds on July 1, 2016, at 102.
on June 30 and December 31. The straight-line method

d issuing the bonds and any necessary journal entries for
ries to T-accounts. Prepare any necessary closing entries

balance sheet at the end of 2016 and 2017.
will Square Foot report on the financial statements for

oot pay for interest in 2016 and 2017?

ortization for bonds issued at a discount

190,000 of five-year, 6 percent bonds at 96 ½. Interest is
discount is amortized using the straight-line method.

e bond transactions for 2016 and 2017.

ortization of a bond premium

value of bonds on January 1, 2016. The bonds had a
ve-year term. Interest is paid in cash annually, beginning
issued at 103. The straight-line method is used for

e the one shown below to demonstrate how (1) the Janu-
December 31, 2016, recognition of interest expense, in-
remium and the cash payment, affect the company's
ease, − for decrease, and NA for not affected.

ity	Rev.	−	Exp.	=	Net Inc.	Cash Flow

alue less discount or plus premium) of the bond liability

Exercise 10-19A *Effective interest amortization of a bond discount* **LO 10-6**

On January 1, 2016, the Diamond Association issued bonds with a face value of $300,000, a stated rate of interest of 6 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 7 percent at the time the bonds were issued. The bonds sold for $278,932. Diamond used the effective interest rate method to amortize the bond discount.

Required

a. Determine the amount of the discount on the day of issue.
b. Determine the amount of interest expense recognized on December 31, 2016.
c. Determine the carrying value of the bond liability on December 31, 2016.
d. Provide the general journal entry necessary to record the December 31, 2016, interest expense.

Exercise 10-20A *Effective interest amortization of a bond discount* **LO 10-6**

On January 1, 2016, Parker Company issued bonds with a face value of $80,000, 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 9 percent at the time the bonds were issued. The bonds sold for $76,888. Parker used the effective interest rate method to amortize the bond discount.

Required

a. Prepare an amortization table as shown below:

	Cash Payment	Interest Expense	Discount Amortization	Carrying Value
January 1, 2016				76,888
December 31, 2016	6,400	6,920	520	77,408
December 31, 2017	?	?	?	?
December 31, 2018	?	?	?	?
December 31, 2019	?	?	?	?
December 31, 2020	?	?	?	?
Totals	32,000	35,112	3,112	

b. What item(s) in the table would appear on the 2019 balance sheet?
c. What item(s) in the table would appear on the 2019 income statement?
d. What item(s) in the table would appear on the 2019 statement of cash flows?

Exercise 10-21A *Effective interest amortization of a bond premium* **LO 10-7**

On January 1, 2016, Young Company issued bonds with a face value of $300,000, a stated rate of interest of 7 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 6 percent at the time the bonds were issued. The bonds sold for $323,165. Young used the effective interest rate method to amortize the bond premium.

Required

a. Determine the amount of the premium on the day of issue.