Building Your Future

A Student and Teacher Resource for Financial Literacy Education

About This Book

Personal finance is part knowledge and part skill – and the *Building Your Future* book series gives students a foundation in both. It addresses knowledge by covering the essential principles of banking in Book One, financing in Book Two and investing in Book Three. The series also addresses the mathematical skills that students need to live a financially healthy life. Students will be able to see the real-world consequences of mastering their finances, which helps them understand the relevance of good mathematical skills. We hope you enjoy this *Building Your Future* book series.

The catalyst for this book series was based on an original book authored and donated to The Actuarial Foundation by an actuary, James A. Tilley, FSA, who was interested in financial literacy education in schools. We thank Mr. Tilley for his original works that inspired this *Building Your Future* series.

About The Actuarial Foundation

The Actuarial Foundation, a 501(c)(3) nonprofit organization, develops, funds and executes education and research programs that serve the public by harnessing the talents of actuaries. Through *Advancing Student Achievement*, a program that seeks to improve and enhance student math education in classrooms across the country, we are proud to add *Building Your Future*, a financial literacy education curriculum for teachers and students, to our library of math resources. Please visit the Foundation's Web site at: www.actuarialfoundation.org for additional educational materials.

What is an Actuary? Actuaries are the leading professionals in finding ways to manage risk. It takes a combination of strong math and analytical skills, business knowledge and understanding of human behavior to design and manage programs that control risk. "Actuary" was included as one of the Best Careers of 2007 in US News and World Report. To learn more about the profession, go to: www.BeAnActuary.org.

Building Your Future

Table of Contents

Building Your Future

Chapter 1: Loans and Interest

Did You Know....

If you buy a $35,000 car and take a six-year loan at a rate of 7.9%, you will end up paying over $9,000 in interest on the car, making the total cost of the car $44,000.

Key Terms:

- Loan
- Credit report
- Credit rating
- Annual percentage rate/APR
- Variable interest rate
- Fixed interest rate
- Truth in Lending Act
- Loan sharks
- Payday loan

What You'll Learn

When you decide to borrow money, there is always a cost associated with that borrowing. It is important to know about loans, and to understand that a loan can have a significant effect on the overall purchase price of whatever it is you are buying. Through exploring the laws and regulations in place to protect consumers from lender abuses, you can learn how to determine when you should take a loan and what type of loan would best meet your needs.

Loan Basics

By learning about interest rates and loans, you can figure out:

- Why it takes so long to pay back a home mortgage loan
- How much money has to be paid each month on a car loan

At one time or another, most people encounter situations where they must take a **loan** to pay for something they need. This is also true for companies and governments. As a consumer and a taxpayer, it is important that you understand loans and interest and how they can affect both the lender and the borrower.

loan
an amount of money borrowed and repaid with interest

Career Link

Most auto and home insurers use credit scores (sometimes called insurance scores) based on credit report information to help determine the premiums they charge for automobile, homeowner's, renter's and other insurance policies. Most large insurers also use scores developed specifically by actuaries to predict insurance claims; these are not the same scores used to rank creditworthiness (i.e. determine if they can afford to repay a loan).

To help you better understand loans, interest and interest rates, imagine the following scenario. You have saved $400 from your part-time job. You want to go on a school-sponsored trip out of town next week, but the trip costs $700. You ask a classmate if you can borrow the $300 you need for the trip. (Note that in the following discussion, your classmate takes the place of a bank.) Before your classmate loans you the money, he or she asks several questions:

- Are you certain you will be able to repay the money?
- When will you be able to pay the money back?
- Since your classmate is losing out on the chance to use the money for other things, what is a fair interest rate to charge you for borrowing the funds?
- What will you do if you can't pay your classmate back?

These questions are very similar to the types of questions that banks ask borrowers when they apply for a loan. Bankers must do their best to ensure that borrowers can and will repay loans that they take from the institution. Banks are not obligated to give borrowers a loan. Getting a loan is a privilege you must earn. When you apply for a loan, you have to show that you have the means to repay it. You can do this by presenting evidence that your income can support the loan payment. In addition, the lender will check your **credit report**.

credit report
a report detailing an individual's credit history, including payments related to bills, loans, credit accounts and bankruptcies; used to determine one's creditworthiness

credit rating
a ranking, typically expressed as a number or letter, based on one's credit history and used by financial institutions for loan and credit approval

In conjunction with the credit report, the lender will receive your **credit rating.** The higher your credit rating, the better chance you have of getting a loan and having a low interest rate. The lower the rating, the better chance you have of being rejected for the loan or being charged a high rate of interest.

Like a lending institution, your classmate must keep your ability and willingness to repay the loan in mind when considering whether to loan you the $300. He or she must also consider the amount of time you need to repay the loan. If your classmate thinks there is a high risk that you may not repay the loan, then he or she should charge a high rate of interest, or not give you the loan at all.

Perhaps you will not be able to pay back all of the money at once, but instead choose to pay parts of the balance over time. Your classmate will want to keep this in mind when establishing the interest rate. He or she will need to continue to charge you interest on the outstanding amount you owe each month.

After considering your request, your classmate decides to loan you the money until the end of the year. It is September, so that will give you plenty of time to earn and pay back the $300. You have a part-time job earning about $160 a week, and you have always repaid people when you've borrowed money in the past. Based on the risks to them and the loan amount, your classmate decides to charge you 2% interest for each month that you borrow the money. On a $300 loan, that 2% equals $6 for the first month, then 2% on the unpaid balance each month thereafter.

When your classmate tells you the terms of the loan, you agree, but want to know what the **annual percentage rate** of interest will be. According to the monthly rate proposed (2%), the annual percentage rate comes to 24%. While this may seem high, it should encourage you to pay your classmate back in a timely manner while compensating him or her for loaning you the funds.

annual percentage rate/APR
yearly rate of interest; calculated by multiplying the monthly interest rate by 12 (number of months in a year)

Try It!

Examples and Practice

Using the scenario presented above, let's study the **Personal Loan Spreadsheet** and calculate the repayment of the $300 loan.

Personal Loan Spreadsheet

	A	B	C	D	E	F
1	**Month**	**Interest Rate**	**Beginning Outstanding Loan**	**Interest Charge**	**Loan Repayment**	**Ending Outstanding Loan**
2	Sept.	2.00%	$300.00	$6.00	$60.00	$246.00
3	Oct.	2.00%	$246.00	$4.92	$160.00	$90.92
4	Nov.	2.00%	$90.92	$1.82	$80.00	$12.74
5	Dec.	2.00%	$12.74	$0.25		$12.99

- *How do you calculate the Interest Charge amount in column D? Describe the mathematical steps for doing this along with the spreadsheet formula you would use.*
- *How do you calculate the Ending Outstanding Loan amount in column F? Describe the mathematical steps for doing this along with the spreadsheet formula you would use.*
- *Why does the Beginning Outstanding Loan amount change from month to month? Explain.*
- *If you want to repay the loan in full in December, how much would you need to pay? Describe the mathematical steps you used to calculate this amount.*
- *What was the total amount of money you had to pay your classmate when you repaid the loan? Describe how you calculated this amount.*

fixed interest rate
interest rate that stays the same over the course of the loan

variable interest rate
interest rate that can change over the course of a loan

Interest Rates

As you have learned, part of a loan is the interest rate. Interest rates can be **fixed** or **variable**. Variable interest rates change based on the current rates set by the financial market, so the amount of interest you must pay can go up or down. This means that your total monthly loan payment can go up or down as well.

Try It!

Examples and Practice

Use the data from the spreadsheet above to create your own spreadsheet. Increase the interest rate by one percentage point each month. Study the spreadsheet and answer the following questions:

- *How does changing the monthly interest rate change the Ending Outstanding Loan balance?*
- *How does changing the monthly interest rate change the final amount you would have to pay in December if you wanted to repay the outstanding balance on the loan?*
- *How does changing the monthly interest rate change the total amount of money you had to pay when you repaid the loan?*
- *Based on this example, which do you think is better, a fixed interest rate or a variable interest rate? Why?*

The Truth in Lending Act and Selecting a Lender

Truth in Lending Act
requires lenders to explain how they compute loan charges and list the annual percentage rate; also gives the borrower three business days to opt out of the loan

As you can see, getting a loan can be a complicated process with many factors to consider. One of the ways consumers are protected is through the **Truth in Lending Act**. This legislation is designed to make sure that the borrower has a complete understanding of the loan's interest rate and terms.

Not all lenders are alike. Some offer better loan packages than others. When you decide to borrow money, you should always research the various types of loans available. Using the Internet or the phone to survey the interest rates

How Loans and Interest Affect You as a Consumer and a Taxpayer

Of all of the practices in finance and investments, the practice of charging or paying interest is probably the biggest and most important.

Companies throughout the world borrow substantial amounts of money. Interest rates determine how much those loans will cost them each year; these interest costs are just as real as the cost of goods used to produce the products consumers purchase. Therefore, the interest rates companies pay on their loans affect the cost of the products sold in the marketplace. Countries, states, cities and towns throughout the world also borrow substantial amounts of money. The interest rates they have to pay on their loans affect the amount of taxes they have to raise.

Interest rates affect world affairs very much. Since interest rates change little from day to day, and often quite a lot from year to year, there are many people who spend a great deal of their time monitoring interest rates.

and fees associated with a loan is an effective way to narrow your search for a lender. When researching a lender, factors to consider should include:

- Loan fees charged to the borrower for processing and completing the loan transaction
- Interest rate on the loan
- Repayment terms on the loan (some lenders charge penalties for early repayment of the loan)

In addition, always remember to select a reliable lender such as a bank or credit union. Avoid taking loans from **loan sharks** or companies that offer **payday loans**. These loans are usually for small amounts of money ($500 or less) and can include an APR of up to 400%. Regulations for payday loans vary from state to state. These loans are really just cash advances against the next paycheck you will receive from your employer. Avoid this type of loan, as it can be very costly.

loan sharks
individuals who charge exorbitant interest rates on loans

payday loan
short-term, high interest loan

Independent Practice

You want to purchase a laptop computer. You have done your research, and the computer you want to buy will cost $1,500. You are considering how you will pay for this purchase. Assume you earn $160 per week from your part-time job and have expenses that take 75% of this income.

Upon researching loans, you learn that you can obtain a loan from the computer retailer at a rate of 10.99% APR. You call the bank to find out how much you can earn on your savings account. They are running a special and you can earn 2.75% on your money per year, paid monthly. You currently have no savings.

Use spreadsheets to help you analyze how much you will pay for the computer if you wait to save the entire amount vs. taking the loan from the computer store. If you save the entire amount, how long will it take?

Decide which option you would choose and be prepared to explain why you selected this option.

Building Your Future

Chapter 2: Home Loans

Did You Know….

For the vast majority of American homeowners, their home is their most important financial asset. Some 34% of homeowners say their home accounts for "all or most" of their personal financial worth and another 34% say it represents about half of their worth.

Key Terms:

- Mortgage
- Down payment
- Principal
- Interest
- Interest rate
- Credit rating
- Variable interest rate
- Lifetime cap
- Equity
- Fixed interest rate
- Amortization schedule
- Escrow
- Closing costs
- Pre-payment penalties
- Refinancing
- Truth in Lending Act
- Delinquent
- Workout
- Foreclosure

What You'll Learn

Purchasing a home is one of the biggest investments a person will ever make. A home is also an important asset when determining your financial health. There are many factors to consider when purchasing a home, such as down payments, interest rates and the terms of the loan. These factors affect the overall price paid for the home. We'll look at all the things that need to be considered when it comes to financing a home.

Getting a Home Loan

Regardless of their size and location, homes are expensive: they are probably the most expensive items that most of us will ever purchase. Whether you're talking about a $100,000 home or one that costs millions of dollars, the simple fact is that most people do not have enough money saved to purchase a home outright. Because of this, most home buyers turn to banks, credit unions or finance companies to get a **mortgage** to purchase their home.

mortgage
a loan used to purchase a home

Career Link

Most mortgage companies require a borrower to have enough mortgage insurance coverage to pay off the mortgage's outstanding balance, which is not always enough to cover the home's value. Basic insurance pricing assumes that the home's full value is being insured. Actuaries make the adjustments necessary to price the insurance when this is not the case.

down payment
the amount of money a buyer pays in cash for the purchase of a house

Part of purchasing a home involves saving up enough money to make a **down payment**. Most banks and finance companies require buyers to make a down payment; depending on a buyer's qualifications, this down payment may be anywhere from 5% to 20% or more.

Try It!

Examples and Practice

A family decides to purchase a home for $150,000. They currently have $30,000 in savings, but they are only willing to make a down payment of $25,000 on the house. In order to buy the home, the bank must agree to give the family a loan for $125,000.

Using the information above, calculate the following:

- *If the family puts $25,000 down on the house, what percentage of the purchase price of the home does this amount represent?*
- *Do you think it is a good idea for the family to put more than 5% down for the house? Why?*

Once the down payment and loan amounts have been determined, it is important for home buyers to think about the loan repayment process. Since

they are borrowing a very large amount of money, they cannot expect to pay it back quickly. Instead, they should plan to pay back small amounts on the loan month by month over a long period of time. Since most people have to pay the loan back in small amounts, home loans are considered long-term loans. Borrowers typically select loans that are repaid over 15 to 30 years.

As with any other loan, the bank is going to charge **interest** on the loan. Since borrowers pay interest on the loan each month, part of the borrower's mortgage payment will be interest paid to the bank, and the remainder of the payment will be applied to the loan **principal**. **Interest rates** can vary widely from lender to lender. They are typically based on the borrower's credit rating, the length of the loan and the down payment amount. The interest rate can make a big difference on the amount of money paid each month and the overall cost of the home, so it is important to take the time to research various lenders and get interest rate quotes from them to secure the best loan with the lowest payment.

When borrowers apply for a home loan, part of the loan review process involves a credit check so that the lender can assess the borrower's creditworthiness. One of the tools used to assess creditworthiness is called a **credit rating**. A high credit rating means that you have a history of making timely payments to people who have loaned you money in the past. The higher your rating, the better chance you have of getting a loan and having a low interest rate. Consumers with lower ratings have been less reliable as borrowers in the past, and risk being rejected for the loan or getting the loan at a high rate of interest.

While most people prefer to have a **fixed interest rate**, or conventional mortgage, people will sometimes opt for **variable** or adjustable **interest rate** mortgages. Fixed rate loans offer the borrower peace of mind, because the loan's rate, and the monthly payment amount, will always remain the same. With an adjustable rate mortgage, the initial rate is usually lower than that of a conventional loan; the disadvantage is that borrowers don't know whether their monthly payments will increase or by how much they will increase, though they have some protection based on the loan's **lifetime cap**.

When considering a mortgage loan, borrowers must think about how long they want to spend repaying the loan. The longer the period of time a borrower is given to repay a loan, the smaller the monthly payment will be. However, the longer the loan, the more the borrower will end up paying in interest. Most people choose a 15- or 30-year home loan. The advantage of a 15-year loan is that borrowers can usually get a lower interest rate and will build **equity** in the home more quickly. The advantage of a 30-year loan is that payments are lower and the borrower will have more money to use for day-to-day expenses and saving.

interest
money that is paid to the lender by the borrower for the use of the lender's money

principal
the original borrowed amount

interest rate
percentage paid to the lender for the privilege of borrowing the money

credit rating
a ranking, typically expressed as a number or letter, based on one's credit history and used by financial institutions for loan and credit approval

fixed interest rate
interest rate that stays the same over the course of the loan

variable interest rate
interest rate that can change over the course of a loan

lifetime cap
a limit on how much the interest rate of a variable-rate loan can increase

equity
a home's market value less the outstanding mortgage balance

Try It!

amortization schedule
a schedule for repaying the loan

Examples and Practice

To better understand how loans work, create a spreadsheet showing the **amortization schedule**. We'll use the earlier example: a $150,000 house purchased with a $25,000 down payment, resulting in a loan for the difference of $125,000. See the next page for a sample spreadsheet.

For this activity, we are going to assume that the borrower is making monthly payments on a 30-year fixed-rate loan. The interest rate is 8.00%. Input the necessary formulas to calculate the dollar amounts for columns D, E, F, G, and H. The first three rows of data are provided for you.

Answer the following questions based on what you have learned and the data from the spreadsheet.

- *Discuss what happens to the interest payment and loan repayment amounts over the course of the loan.*
- *Calculate the total cost of the home by the time the entire loan has been repaid. Don't forget to include the initial $25,000 down payment in the cost.*
- *What do you think would happen to the cost of the house if you applied $100 extra to the loan repayment (principal) column each month? Explain why.*
- *Assume you have a variable interest rate that began at 4% and rises a ¼% a year for the first 10 years of the loan and then declines ¼% every two years for the remaining life of the loan. What is the total cost of the loan repayment over the course of the loan now?*
- *If you could choose a type of interest rate, would you select a fixed or variable rate of interest? Why?*

closing costs
fees paid in addition to the cost of the home

pre-payment penalties
fees designed to keep the borrower from paying the loan off early

escrow
property or money held by a third party until the terms of a contract are met

Truth in Lending Act
requires lenders to explain how they compute loan charges and list the annual percentage rate; also gives the borrower three business days to opt out of the loan

Other Costs Associated with Home Loans

When shopping for a home loan, there are other factors to consider besides interest rate and the term of the loan. Borrowers should also pay attention to **closing costs** and **pre-payment penalties**. Closing costs include a wide range of fees in addition to the cost of the home, such as title searches, deed filings, property surveys and lawyer's fees. Some loans with low interest rates have pre-payment penalties which require the borrower to keep the loan and pay interest on it for a set number of years.

When purchasing a home, you may be asked to put money into **escrow**. This lets the seller know that the buyer is committed to purchasing the house. In turn, the buyer does not risk losing his or her money if the seller cannot meet the conditions necessary to sell the house (such as passing a house inspection).

As you can see, getting a loan can be a complicated process with many factors to consider. One way consumers are protected is through the **Truth in Lending Act**. This legislation is designed to make sure that the consumer has a complete understanding of the interest rate and terms of the loan.

	A	B	C	D	E	F	G	H
1	**Month**	**Loan Interest Rate**	**Loan Payment**	**Principal**	**Interest**	**Principal + Interest**	**Calendar Year Interest**	**Loan Balance**
2	1	8.00%	$917.20	$83.87	$833.33	$917.20	$833.33	$124,916.13
3	2	8.00%	$917.20	$84.43	$832.77	$917.20	$1,666.11	$124,831.70
4	3	8.00%	$917.20	$84.99	$832.21	$917.20	$2,498.32	$124,746.70
5	4	8.00%	$917.20					
6	5	8.00%	$917.20					
7	6	8.00%	$917.20					
8	7	8.00%	$917.20					
9	8	8.00%	$917.20					
10	9	8.00%	$917.20					
11	10	8.00%	$917.20					
12	11	8.00%	$917.20					
13	12	8.00%	$917.20					
14	13	8.00%	$917.20					
15	14	8.00%	$917.20					
16	15	8.00%	$917.20					
17	16	8.00%	$917.20					
18	17	8.00%	$917.20					
19	18	8.00%	$917.20					
20	19	8.00%	$917.20					
21	20	8.00%	$917.20					

Refinancing and Foreclosure

In our previous example, the fixed interest rate on the home loan was 8%, which is locked in for the life of the loan. As time goes by, interest rates change. Sometimes rates enter a trend where they become lower and lower. As interest rates decrease, the number of people interested in **refinancing** tends to increase since a new loan will ultimately be less costly to the borrower. Just like with the initial loan, borrowers must shop around and pay attention to the costs associated with refinancing. Since the borrower is still seeking a loan, the borrower will again pay many of the same types of fees paid when the original loan was processed. If a borrower is planning to sell the property in the next few years, then refinancing may not be a wise decision because of the costs of securing a new loan; additionally, there may be prepayment penalties in effect which would increase the cost of getting a new loan.

refinancing
paying off the original loan by taking out a new, typically more favorable loan

Try It!

Examples and Practice

Refer back to the spreadsheet you created earlier. Experiment with the spreadsheet by completing the following tasks and analyzing the results.

- *The initial fixed interest rate on the loan was 8%. Let's say the borrower decides to refinance after 5 years to a 6.5% fixed rate loan for the remainder of the loan. How will this affect the borrower's annual payment? The overall price paid for the home?* ***HINT:*** *Remember to include the $2,500 of closing costs incurred when the home was refinanced.*

- *The initial fixed interest rate on the loan was 8%. After paying this rate for 8 years, the borrower decided to refinance at a rate of 5%. After paying $2,000 in closing costs and making the new loan payment for 2 years, the borrower sells the house. What happened to the borrower's annual payment after the home was refinanced? In the end, how much money did the borrower end up saving/losing as a result of this decision?*

Sometimes borrowers are unable to meet their financial obligations and pay their loans on time. When a borrower is **delinquent** and unable to fulfill the loan contract as negotiated, lenders have two choices: they can either establish a **workout** or initiate a **foreclosure**. When a borrower has a property foreclosed upon, this becomes part of his or her credit report for a period of seven years and can prevent the borrower from obtaining loans in the future.

delinquent
past due on a scheduled loan payment

workout
formal repayment or loan forgiveness arrangement between a borrower and lender

foreclosure
legal process that allows a lender to seize property if the mortgage loan is not paid; typically, the lender sells the property and applies the proceeds to the outstanding debt

Independent Practice

You are buying your first home and want to select the best possible mortgage loan. Your home is one of the biggest investments you will ever make, and making sure that you can repay the loan is of primary importance. Use the spreadsheet you have already created to compare a fixed rate loan of 5.5% and a variable rate loan that starts at 3.25% and increases ¼% yearly for the duration of the loan. (Ask your teacher for the spreadsheet handout on page 4 of the Teacher' Guide if you do not have access to a computer.)

Assume the loan is for a $200,000 home with a 20% down payment, and that you are requesting a 30-year loan. Also assume that the variable rate loan has a lifetime cap of 6%, which means that the interest rate cannot exceed 9.25%.

Once you have created the spreadsheets, compare the loan scenarios and select the one that you believe is best in terms of the real cost of the home. Justify your loan selection in writing by answering the following questions on a separate sheet of paper.

- *What is the overall cost of the home based on the loan scenario you selected? How does this compare with the overall cost of the other scenarios presented?*
- *Why did you select this loan scenario as the best option for you? Explain.*
- *What risks do you face by selecting this loan scenario?*
- *At what point would you consider refinancing the loan you selected? Why?*

Building Your Future

Chapter 3: Auto Loans

Did You Know....

According to the Department of Labor's Bureau of Labor Statistics, the annual cost of car ownership and operation is 17% of the average household's expenditures, ranking second only to the cost of housing.

Key Terms:

- Trade-in value
- Book value
- Incentives
- Lease
- Purchase

What You'll Learn

There are many factors to consider when purchasing a car. Given the potentially significant costs, it is important to consider a wide range of factors when selecting a vehicle and determining how you'll pay for it. By learning about concepts such as trade-in and book value and knowing how to analyze dealer incentives, you'll be able to determine whether leasing or purchasing is the more sensible, cost-efficient method of obtaining a car.

Car Buying Basics

When it comes to buying a car, most people don't have enough money on hand to pay cash for the vehicle they want. Since this is a major purchase, you should look for ways to save money while still obtaining the car that best meets your needs. When purchasing a car, there are some terms that you should understand in order to get the most for your money and select the financing that is most cost-effective.

Many car buyers have a used car they want to trade in to the dealer for the new car they wish to purchase. While the used car is not worth as much as it was when it was new, it still has some value. Many times the **trade-in value** of a used car is called the **book value**. Pricing information in guides such as the

trade-in value
amount the dealer gives you for the car you're providing as partial payment for the car you wish to purchase

book value
how much a particular car is worth based on condition, mileage and other factors

Career Link

Car owners are required to carry liability insurance; this insurance is an important factor in determining a vehicle's overall operating cost. Actuaries develop car insurance pricing plans to help encourage careful driving. They determine how to adjust car insurance prices for various deductible amounts—the larger the deductible, the lower the price.

Kelley Blue Book or from services such as Edmunds offer a starting point for determining book value.

incentives
factors such as special finance rates, rebates or other offers designed to encourage buyers to purchase a vehicle

New car dealers sometimes offer **incentives** to encourage people to buy. Incentives can include discounts, credits, reduced interest rates or reduced down payment requirements, and should be compared by the buyer to determine which one will save him/her the most money on the vehicle.

Try It!

Examples and Practice

Suppose you are buying a new car. The dealer's price on the car is $20,000. The trade-in value on your four-year-old used car is $7,000. You have $1,000 cash to use as a down payment. In addition, there are special incentives being offered by the manufacturer. You can select either 1.9% financing over the course of the loan, which is 48 months, or you can elect to receive a rebate of $4,500 cash back on the vehicle, applied to the amount due at purchase. If you choose the cash back offer, you can take a loan from your bank, which has quoted you a rate of 6.5% on a 48-month loan. Whichever option you select, you will still need to get a loan to pay for the vehicle.

Create a spreadsheet like the one below and use it to determine the total cost of the car under both incentive scenarios. (If you have completed the chapter on buying a home, you'll notice this spreadsheet looks exactly like the one created for a home loan.) When computing the interest portion (Column E) of your monthly loan payment, remember to multiply the previous month's ending loan balance (Column H) by the loan interest rate (Column B) and divide by 12 since these are monthly calculations.

Answer these questions:

- *Calculate your total cost of the car after your down payment and trade-in. This is the amount for which you'll need a loan under either scenario.*
- *What is the total cost of the car for each incentive scenario?*
- *According to your calculations, which incentive is more economical—the low interest rate or the cash rebate? Why? Explain.*

	A	B	C	D	E	F	G	H
1	**Month**	**Loan Interest Rate**	**Loan Payment**	**Principal**	**Interest**	**Principal + Interest**	**Cumulative Interest**	**Loan Balance**
2	1	1.9%	$259.82	$240.82	$19.00	$259.82	$19.00	$11,759.18
3	2	1.9%	$259.82	$241.20	$18.62	$259.82	$37.62	$11,517.98
4	3	1.9%	$259.82	$241.58	$18.24	$259.82	$55.86	$11,276.40
5	4	1.9%	$259.82	$241.96	$17.85	$259.82	$73.71	$11,034.44

New vs. Pre-Owned

When buying a car, one of the first decisions you must make is whether to purchase a new car or a pre-owned (used) vehicle. There are advantages to each. New cars offer the latest in technology, features and design and typically have a warranty; however, they also cost more, and typically lose some of their value as soon as they leave the lot. A used car is generally less expensive, but it may lack certain features you are seeking; it may not be in the best shape; and it may have high mileage, limited items covered by warranty, and a history of repairs or problems. When considering whether to purchase a new or used car, you must consider all of these things along with what you can comfortably afford.

And don't forget about the "hidden" costs of car ownership. Paying for the car is only part of the cost: you must also keep in mind that you will need to pay insurance premiums, maintenance costs, repair costs, the cost of gasoline, and taxes and licensing fees. These expenses can add up to thousands of dollars each year, so you should include them in your calculations when deciding what you can realistically afford.

lease
paying only a portion of the vehicle's sales price and returning it to the dealer at the end of the specified time

purchase
paying the car's full price and keeping it as long as you want

Leasing vs. Purchasing

If you've decided that it's time for a new car, you'll also need to decide whether you want to **lease** the car or **purchase** it. There are several differences between the two in areas such as ownership, maintenance, payments, and more; the chart below presents the pros and cons of each option.

Lease vs. Purchase: Pros and Cons

LEASE		PURCHASE	
Pros	*Cons*	*Pros*	*Cons*
• *Usually little or no down payment required* • *Fewer up-front, out-of-pocket fees (ex: sales tax)* • *Lower monthly payments* • *New car every few years* • *No chance of being "upside down," or owing more on the car loan than the car is worth* • *Allows you to have a more expensive car* • *Some dealers will cover regular maintenance* • *Tax advantages if used for a business*	• *You always have a car payment* • *You never own the car* • *Mileage restrictions (usually 12,000-15,000 per year) and fees for overages (usually 15-25 cents per mile)* • *Higher insurance coverage costs* • *Charges for excess wear and tear* • *Higher credit score requirements* • *Typically, you must be 18 or older to lease a car*	• *You own the car after you make all the payments (usually 48-60 payments)* • *Can own the car for as long as you want* • *Can drive as many miles as you want* • *Insurance costs are usually lower*	• *Down payment required* • *Up-front, out-of-pocket costs (ex.: sales tax)* • *Higher monthly payments* • *Can end up "upside down," or owing more on the car loan than the car is worth* • *Loan limits for the price of the vehicle (usually not more than $30,000 allowed)* • *Have to pay for vehicle maintenance*

Try It!

Examples and Practice

Use the data from the **Auto Loans: Lease vs. Purchase Worksheet** provided by your teacher to answer the questions below.

- *Based on your data from the worksheet, do you think you would prefer to purchase or lease a vehicle? Why?*
- *Describe what you think would make a perfect car buyer.*
- *If you were to describe the ideal candidate for leasing a car, what would that buyer's characteristics include?*

Independent Practice

You want to purchase your first car. You can either buy a new car or a pre-owned, low-mileage car. Using the data on the **Independent Practice Worksheet** provided by your teacher, determine which car you will select. Be prepared to share your decision and the process you used for making it.

Building Your Future

Chapter 4: Insurance

Did You Know....

As of March 2008, nearly 43 million U.S. citizens, approximately 14.3% of our country's population, had no health insurance coverage.

Key Terms:

- Insurance
- Insurer
- Insurance policy
- Policyholder
- Premium
- Claim
- Deductible
- Life insurance
- Risk
- Beneficiary
- Estate
- Health insurance
- Coverage
- Benefits
- Co-pay
- Co-insurance
- Flexible Spending Account/FSA
- COBRA
- Auto insurance
- Homeowner's and renter's insurance

What You'll Learn

Insurance of all types is important in preventing financial ruin due to illness, injury, property loss, and even death. Learning about the different types of insurance will help you minimize your financial risk through purchasing and utilizing insurance policies that best meet your financial needs and goals.

Insurance Terminology

To understand various types of insurance, you need to know a handful of key terms, as listed below.

- **Insurance**: promised payment for specific, potential and/or future losses in exchange for a periodic payment
- **Insurer**: a company that pays to compensate another company or person for losses or damages as described in an insurance policy as long as the premium is paid
- **Insurance policy**: a written contract between an insurer and another company or person describing the term of the insurance, what is covered, the cost of the premium and the deductible amount
- **Policyholder**: the owner(s) of an insurance policy
- **Premium**: the periodic payment for an insurance policy

- **Claim**: official notification sent to an insurance company requesting payment of an amount due based on what is covered by the terms of the insurance policy
- **Deductible**: a set dollar amount an insured person pays before the insurer starts to make payments for covered services

Life Insurance

life insurance
money paid to a designated person/group of people when you die

Nearly everyone needs **life insurance**, and people buy this type of insurance for a variety of reasons. Some choose life insurance as a means of replacing lost income to support their families in the event of their death. This way, if a parent dies, there is money available to pay expenses and support the family. Others purchase life insurance to pay the cost of their final expenses such as funeral and burial costs, debts, medical bills, taxes and so on. Still others purchase life insurance as a way to provide heirs with an inheritance. The reasons for purchasing life insurance are as varied as the people who buy it. In order to decide if you need life insurance, you should ask yourself, "If I died tomorrow, would it be a financial hardship on the people I care about?" If the answer is yes, then you probably need life insurance.

Many employers offer life insurance as one of the benefits of working for the company. Amounts differ from employer to employer, and sometimes these amounts can be selected by the person being insured. Many employers offer life insurance benefits at no expense. Others offer employees the opportunity to purchase life insurance for themselves and their family members through the company at a reduced rate.

risk
the probability that something may happen

When you purchase life insurance, a medical exam is typically required by the insurance company. This exam helps the company determine the **risk** associated with issuing a policy to you. Risk can vary due to family characteristics (such as a history of illness), your personal characteristics (age), or your lifestyle choices (being overweight). Actuaries use sophisticated techniques to calculate risk.

Insurance companies are not required to insure everyone who applies, nor are they required to charge the same premium to everyone they insure. If an insurance company completes a physical examination and determines you have a high mortality risk (such as if a terminal disease is found, for example), they can reject your application and deny you coverage. If you are in good health and have a healthy lifestyle (i.e., don't smoke, avoid alcohol, don't have dangerous hobbies such as skydiving), then you can be insured for a relatively small amount of money. On the other hand, if you have health issues, an unhealthy lifestyle, are elderly, participate in dangerous activities, or hold a high-risk job, the cost of the insurance policy may be higher. The insurance company considers all of this before they issue a policy and determine the premium they will charge for it.

Many people are unsure about how much life insurance they should purchase. There are many resources, such as the Life and Health Insurance Foundation for Education at *http://www.lifehappens.org/*, that can be consulted to determine how much life insurance one needs. It truly varies based on each person's circumstances and needs.

When selecting life insurance, consumers have several options available to them. Below you will find a chart that highlights the various types of life insurance that are available.

When purchasing life insurance, you must designate a **beneficiary**. Typically, there is a primary beneficiary and a secondary beneficiary. You designate these people when you purchase the policy. By appointing a secondary beneficiary, you eliminate the risk of losing the insurance payout in the event that the primary beneficiary also dies. For example, married people will typically name their spouses as primary beneficiary and their children as secondary beneficiaries. You can also name your **estate** as the beneficiary.

beneficiary
the person(s) who will receive the insurance payout in the event that you die

estate
wealth and possessions left by someone to be divided after they die

Life Insurance Options	
Type of Insurance	**Key Characteristics**
Term Life	• Least expensive form of life insurance • Covers you for a set period of time, known as a "term" (for example, 10 years) • Requires renewal, usually at a higher rate, at the end of the term • The cost rises as you get older • Only pays if you die • You can select the amount of coverage you want at the end of each term
Whole Life	• The premium you pay always stays the same • The value of the policy increases over time because you build cash value that is tax-deferred • You are not allowed to select the investments; the insurance company controls how the money is invested • You cannot change the amount of coverage you have
Universal Life	• You can adjust the amount of coverage you have • You can adjust the amount you pay for your premium • The value of the policy increases over time because you build tax-deferred cash value • The insurance company guarantees a certain rate of return on your money • You cannot decide how the money is invested • If you lower the amount you pay for your premium for too long, then the coverage could lapse and you would no longer have the policy
Variable Life	• You can select the investment options you want • You are not taxed on the earnings until you redeem the policy • You can use the interest earned on the investments to pay the premiums • If you select bad investments, you could lose money on the policy • You cannot withdraw cash from this policy

Health Insurance

health insurance
protects you from monetary losses associated with illness or bodily injury

coverage
what the insurance company includes as part of the insurance policy

benefits
specific services the insured is entitled to under the policy

co-pay
a form of cost-sharing that requires the insured to pay a fixed dollar amount for a medical service or prescription

Health insurance provides coverage for medication, doctor and emergency room visits, hospital stays, medical equipment and other medical expenses. Policies vary widely, and there are limits on **coverage** depending on the type of policy. In addition to coverage limits, most policies require the insured to meet a deductible or to make reduced payments for services.

At one time or another, all of us need medical care, and it can be very expensive. A typical office visit to a doctor can cost anywhere from $80 to $220. If you have health insurance, then some of the cost of the visit and any medications or additional treatments you may require as a result of that visit will probably be covered, at least in part, by the health insurance provider. The **benefits** are described in the policy and can vary widely.

Some health insurance policies require a **co-pay** for services. For example, if you go to the doctor for an office visit, you might pay a $25 co-pay. If medication is prescribed, you may have to pay the pharmacy a $10 co-pay to get the medication. The insurance company pays the remaining cost of the office visit and the prescription.

Career Link

Insurance Underwriter

As an insurance underwriter, you would review applications for insurance policies. It would be your job to understand the amount of risk, or the chance that the applicant would file an insurance claim, associated with each application. You would also decide how much each applicant would have to pay to be insured by your company. In a typical day, you might review several applications, including medical or business records and other documents. You would speak with insurance agents about applications they had forwarded to you, and you might join an insurance agent to make a combined presentation to an important client.

Insurance underwriters typically have a bachelor's degree in business or math, and some knowledge of basic accounting principles. They also possess strong interpersonal and communications skills, as the work involves working with other people in a variety of ways.

Insurance Agent

Your job as an insurance agent would include meeting with potential clients to determine their insurance needs. You could be a captive agent, working for one insurance company and only selling that company's products, or you could be an independent insurance agent, or broker, represent several companies. In either case, once you truly understood a client's insurance needs, you could select the policy that is best suited for your client. You would then help your client fill out an insurance application, which you would forward to an underwriter. After the company issued the policy, you would deliver it to the client and review it to make sure your customer fully understood the coverage.

As your industry knowledge and experience increased, you might also be able to act as a financial consultant who would help clients customize a complex array of insurance coverage and minimize their financial risk.

Another common feature of most health insurance plans is a deductible. Deductibles range from several hundred to several thousand dollars, depending on the type of coverage you have and the type of service you receive. In addition to deductibles, many insurance companies now require policy holders to pay **co-insurance**.

co-insurance
a form of cost-sharing that requires the insured to pay a set percentage of medical expenses after the deductible has been met

Many people obtain health insurance through their employers as a benefit. In most cases, the employer pays some or all of the insurance premium, and the employee pays for the remaining costs associated with purchasing the health insurance plan. Individuals can also purchase health insurance, but this is usually at a much higher rate. For this reason, many people cannot afford health insurance or must select insurance that covers only catastrophic events, not the everyday illnesses and injuries that typically send people to a doctor.

As you have learned, even with health insurance, medical expenses can add up quickly through the accumulation of co-pays, deductibles, co-insurance and premiums. To help people pay some of these expenses, the law allows employers to offer their employees **Flexible Spending Accounts**, or FSAs. These accounts are basically tax-deferred savings accounts that can be used to pay unreimbursed medical expenses. The monies in a FSA must be completely used by the end of each calendar year or they are forfeited, so careful record-keeping is essential.

Flexible Spending Account/FSA
allows people to put a set amount of wages into a special account without paying taxes on those wages; money in this account can be used to pay for uncovered medical expenses such as co-pays, the deductible, and co-insurance payments

Sometimes people are forced to leave a job that has provided them with health insurance. This could be because of retirement, relocation, dismissal or a number of other reasons. When an employee leaves a company that has previously provided health insurance, that person can maintain insurance coverage through **COBRA**.

COBRA
a law that allows a person to continue to be covered under the company's health insurance plan for a specified amount of time as long as he or she pays for that coverage

Auto Insurance

Auto insurance is required by nearly every state. An automobile accident can be financially devastating if it involves serious injuries and/or damage to the vehicles. By carrying auto insurance, drivers protect themselves and others from bearing the burden of unexpected costs due to an accident, vandalism or fire.

auto insurance
a means of protecting you and others in the event of an accident, theft, etc.

There are several major types of auto insurance summarized for you in the chart below. Study the chart to familiarize yourself with the various types of auto insurance, noting which are required and which are optional.

Like all types of insurance, auto insurance policies cost money. The factors that affect the price you will pay for auto insurance are listed below.

- Driving record (good record = lower rate, bad record = higher rate)
- Driver's age (younger drivers have more accidents, so their insurance costs are higher because they pose a greater risk to the insurance company)

Types of Auto Insurance	
Type of Coverage	**Key Characteristics**
Bodily Injury and Property Damage Liability	• Most states (48) require this type of insurance for all vehicles • Pays for damage you cause including bodily injuries, property damage and legal bills resulting from lawsuits related to the damages • Listed on policies in the form of three numbers such as 25/50/25: the first number represents the bodily injury coverage for each individual in thousands of dollars; the second number lists the maximum amount that will be paid for bodily injury per accident in thousands; the third number represents the property damage coverage per accident • If you do not carry enough insurance coverage, you can be sued for additional funds if the liabilities exceed what the insurance company has agreed to pay
Personal Injury Protection	• Less than half of all states require this type of insurance • It pays for medical expenses, funeral expenses and lost wages for you and any passengers in your vehicle
Collision	• This coverage is not required in any state • If you have an accident and it is your fault, this type of coverage will pay for the repairs to your vehicle • If your car is completely destroyed, the insurance company provides you a set percentage of the car's value
Comprehensive	• This coverage is not required in any state • No matter what causes the damage to your vehicle, whether it is vandalism, theft, fire, a natural disaster, etc., the insurance company will pay for the damages • This type of insurance is expensive, and people who have it usually choose to have a high deductible to keep the cost lower
Uninsured/ Underinsured Motorist	• This type of coverage is required in many states • If you are in an accident involving an uninsured motorist, a motorist who doesn't have enough insurance to cover the costs of the accident or you are the victim of a hit and run driver, this type of policy will pay for your medical bills and property damage
Miscellaneous Coverage	• While not required, many policies offer extra features such as roadside assistance and towing or the cost of rental car in the event of an accident • This type of coverage adds cost to a policy, but is also very convenient if you are in an accident or have mechanical difficulties

- Type of coverage selected
- Where you live (key factors include crime and accident rates in your area)
- Make/model of your vehicle
- Deductible (choosing a higher deductible will generally decrease your premium payment but means you pay more out of pocket in the event of a claim)
- Claims history (making lots of claims raises your premium)
- Payment history

As a young driver, your premium will typically be higher because drivers age 16-24 are typically involved in more accidents than more experienced drivers. To help lower the cost of auto insurance premiums, some insurance companies offer young driver discounts for taking certified driver's education courses or maintaining good grades in school.

Homeowner's and Renter's Insurance

As we discussed in an earlier chapter, the most valuable asset owned by most people is their home. Since homes cost so much money, it is important that they be insured. Homeowner's insurance is required by lenders until the home is paid for in full. Even after you own your home, maintaining **homeowner's insurance** is important to protect you from financial loss. (Homeowner's insurance is often referred to within the insurance industry as homeowner's and condominium owner's insurance because it covers condominiums as well.) Homeowner's insurance prices vary based on several factors, including the age of the home, what the house is made of, and the home's proximity to a fire station. The deductible amount also affects the insurance premium. Choosing a higher deductible decreases the premium. In addition, discounts are often

homeowner's and renter's insurance *protects you from financial loss if your home is damaged or destroyed, a theft occurs, or you face certain types of medical or liability claims*

available if the home has specific safety features such as alarm systems and working smoke detectors. You may also receive discounts by having your insurance bundled, that is, by purchasing several policies (for example, auto and homeowner's) from the same agent, broker or insurance company.

When selecting insurance coverage, it is important to know how much your home is worth, what it would cost to rebuild it if it were destroyed, the value of your home's contents, and specific coverages necessary because of the location of your home (such as flood insurance).

If you are renting a home, townhouse or apartment, you should consider having renter's insurance on your personal property in the event of a fire, theft or some other event. **Renter's insurance** will pay for losses incurred while you are living in a rented residence by providing you with a cash payment to replace the items that have been lost or the damages incurred. Renter's insurance can be purchased inexpensively and, like most other policies, has a deductible that must be met before a claim is paid. Many leasing companies require their tenants to purchase renter's insurance before they are approved for the lease.

Both homeowner's and renter's insurance policies typically provide protection if personal property kept within your residence is lost or stolen; they also often provide coverage for certain medical and liability risks, such as "slip and fall" types of injuries in your home, as well as claims against you for libel or slander.

Independent Practice

You are just starting your first job and need to get insurance. You have an insurance line item in your budget of $2,000 per year. Using that budget along with the Insurance: Independent Practice Worksheet that you'll receive from your teacher, research the cost of life, health, auto and homeowner's/renter's insurance. Use your findings to make decisions about the types of insurance coverage you will be able to afford, knowing that they are all important. Your goal should be to prioritize the types of insurance you need and then to find pricing that will enable you to purchase life, health, auto and homeowner's/renter's insurance. Be prepared to discuss your findings with classmates.

Building Your Future

Appendix: Online Resources

Below you will find a list of additional resources related to the chapters in this book. These resources can be used to extend your understanding and study of the subjects in each section.

Chapter 1: Loans and Interest

Teacher's Federal Credit Union
Utilize loan calculators and compare rates on various types of loans
http://www.teachersfcu.org/rates/consumerloan_rates.html

Chapter 2: Home Loans

Loan Calculator
Free tool with a number of loan calculators that can be utilized
http://www.loanscalculator.org/

American Land Title Association
Article "Should You Refinance"
http://www.alta.org/consumer/refinance.cfm

Chapter 3: Auto Loans

Credit Union National Association (CUNA)
Find free auto loan calculators that illustrate the cost of leasing vs. purchasing
http://cucalc.cuna.org/10562/lease_vs_buya.html

Chapter 4: Insurance

Life and Health Insurance Foundation for Education
Find specific information about health and life insurance along with calculators for determining coverage and cost
http://www.lifehappens.org

Insurance Information Institute
Includes information about all types of insurance, a glossary of insurance terms, and important facts and statistics related to insurance
http://www.iii.org/