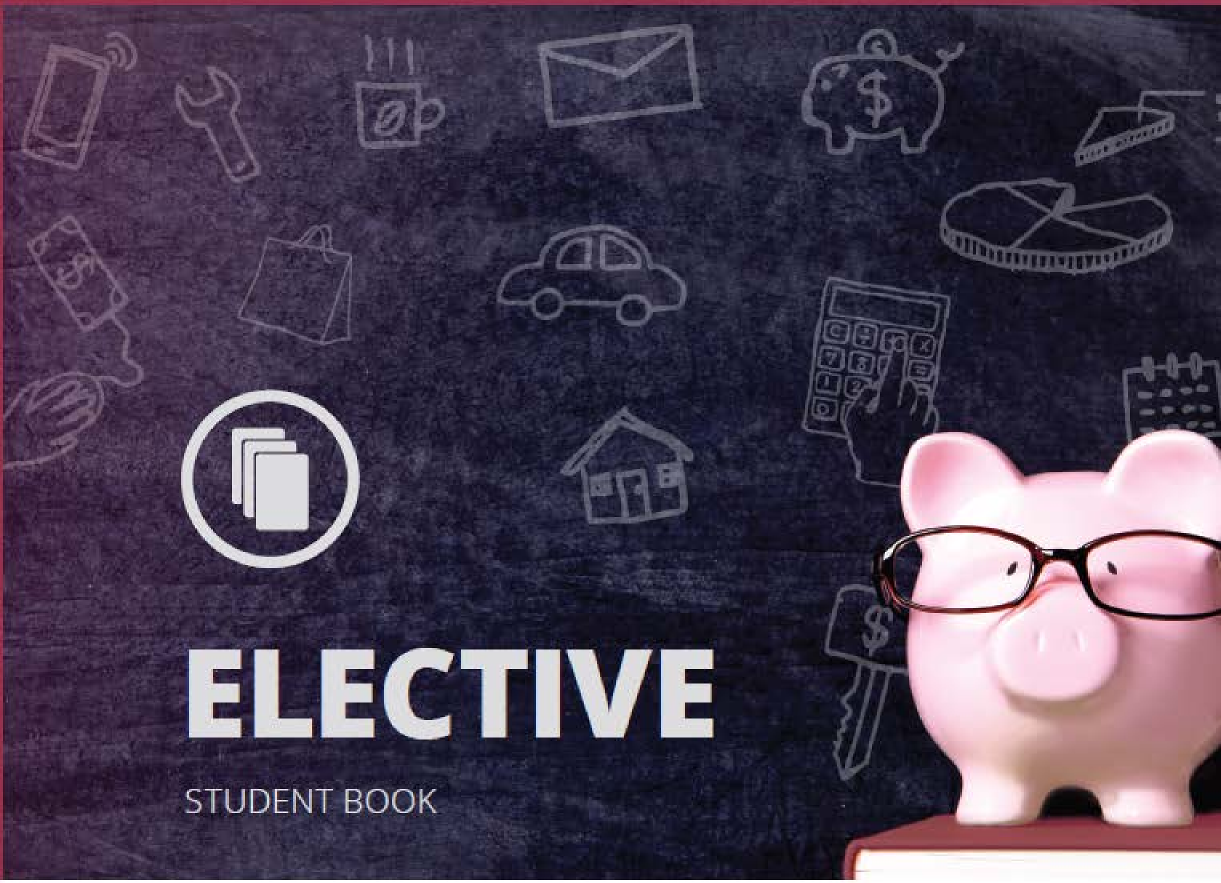
LIFEPAC®



ELECTIVE

STUDENT BOOK

Consumer Math | Unit 4

AOP

Saving and Investing

Introduction

Have you heard the phrase, "A penny saved is a penny earned?" Saving is an important aspect of a good financial plan. You'll need to save money to make big purchases like a car or home. You'll need to save money so you're prepared for emergency expenses like a medical issue or car repair. And you'll need to save for your retirement so you can live comfortably and enjoy your time. In this unit, you'll learn about different types of savings accounts and investments. You'll also learn how to research the best ways to save your money so it can grow. You learned about financial literacy in Unit 1. This unit will apply the same ideas of completing research to understand the best strategies for saving your hard-earned money in ways that will earn interest, earning you more money. Let's get started!

Objectives

Read these objectives. The objectives tell you what you will be able to do when you have successfully completed this LIFEPAC. When you have finished this LIFEPAC, you should be able to:

1. Define key financial terms associated with saving and investing, such as compound interest and principal.
2. Explain why it's important to save.
3. Identify tips that will help you save.
4. Calculate the amount in a savings account, given specific information such as interest rate.
5. Use the Rule of 72 to estimate savings returns.
6. Calculate how much savings will be needed to achieve a goal.
7. List the factors you should consider when selecting a savings account.
8. Describe how to open and maintain a savings account.
9. Identify tools and services available for saving.
10. Define key terms, such as U.S. Department of Treasury and CD.
11. Identify the purpose and features of special savings accounts, including savings bonds, CDs, 529 plans, and IDAs.
12. Analyze different types of savings accounts.
13. Define key terms such as stock market and stock quote.
14. Describe how to buy and sell stock.
15. Read stock market quotes and a stock table.
16. Explain the role of a stockbroker.
17. List factors that should be considered when buying stock.
18. Define key terms such as stock market and stock quote.
19. Describe how to buy and sell stock.
20. Read stock market quotes and a stock table.
21. Explain the role of a stockbroker.
22. List factors that should be considered when buying stock.

1. SAVING ACCOUNTS

You learned about financial institutions in Unit 3. Savings accounts were mentioned, but in this section, we'll take a closer look at how savings accounts work, different types of savings accounts, and factors you should consider when selecting a savings account. You'll also learn some great tips that will help you save your money as well as tools that can help you calculate how much you can save over time. You work hard to earn your money. Let's find ways to keep it safe and help it grow.

Section Objectives

Review these objectives. When you have completed this section, you should be able to:

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9. Identify tools and services available for saving.
10. Define key terms, such as U.S. Department of Treasury and CD.
11. Identify the purpose and features of special savings accounts, including savings bonds, CDs, 529 plans, and IDAs.
12. Analyze different types of savings accounts.

Vocabulary

Study these words to enhance your learning success in this section.

529 plan	**annual percentage yield**	**CD**
club account	**compound interest**	**IDA**
interest threshold	**money market account**	**principal**
return	**rule of 72**	**savings bond**
term	**treasury bills**	**treasury inflation-protected securities**
treasury notes	**U.S. Department of Treasury**	**variable interest rates**

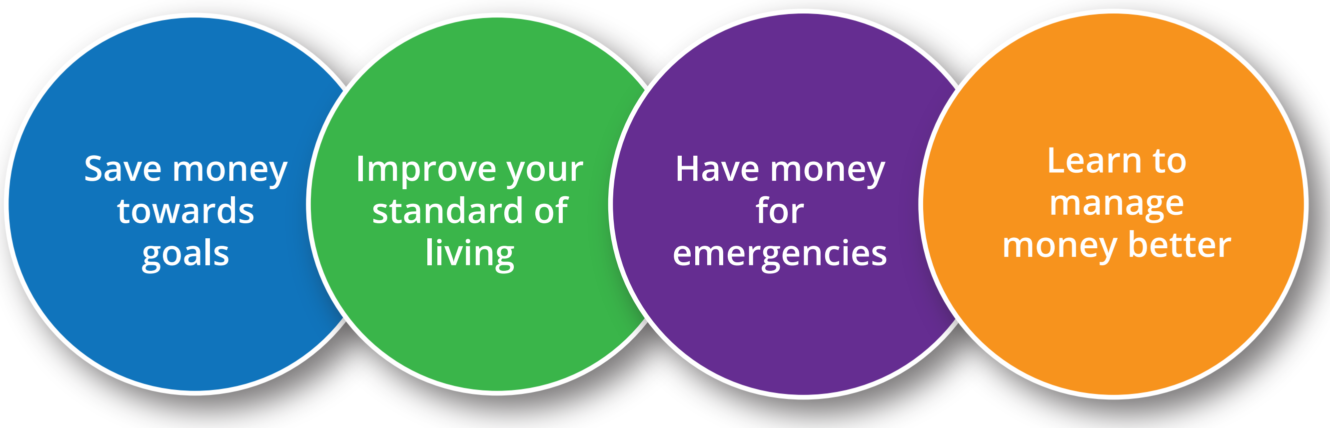
Note: All vocabulary words in this unit appear in **boldface** print the first time they are used. If you are unsure of the meaning when you are reading, study the definitions given.

PAY YOURSELF FIRST

Vincent is 22 years old and just graduated from college. Like many people, Vincent spends all the money he earns and feels that there isn't enough left over to save. However, if he started saving money now, it would grow over time. In fact, if Vincent deposited his first bonus check of $2,000 in a savings account and chipped in $500 per year, in ten years he could have $9,861.18. In this section, you will see how your money grows when you save.

It Pays to Save. Financial experts recommend that you put money into a savings account first before you spend any. Why is that?

Depositing money into a savings account first helps you accomplish the following:



Save Money Toward Goals. Remember the goals you set in Unit 1 and revisited in Unit 3? Saving money is the most important step to reaching these goals. Some people save money for college, a vacation, a car, or a down payment for a house. The money you save at a young age will even help meet your distant goals of retirement.

Improve Your Standard of Living. The standard of living refers to the way people live. Do you drive a car or take the bus? Do you rent an apartment with three other people, or do you own a house? Can you afford vacations? Having a savings account is a way to improve the way you live and helps you afford the things you value.

Have Money for Emergencies. It's important to have money for emergencies or unexpected events, such as losing a job, paying for an expensive car repair, or hospitalization. Money in a savings account can be used for these unforeseen expenses.

Learn to Manage Money Better. Having a savings account helps you manage your money. Remember, the key to managing your money is planning how you spend and save. Putting money in a savings account on a regular basis is following through with your plan.

Let's look at some tips to help you save.

Tips for Saving. It may seem like saving money is difficult. Follow these tips to help you save:

- Spend wisely.
- If you receive cash as a gift, save at least part of it.
- Pay your bills on time to avoid late fees and finance charges.
- Use direct deposit or set up your account to automatically transfer money directly into your savings.
- Save any extra money, such as a raise or bonus from your employer.
- When you get a tax refund, save it.
- Save the change you have in your pocket, at the end of the day and deposit it regularly into a bank account.
- If your employer offers a retirement plan, join it.
- If you pay off a loan, continue to make the monthly payments to yourself.
- Avoid debt.

Write *T* for True or *F* for False.

1.1 ____________ If your employer offers a retirement plan, you should join it.

1.2 ____________ Buying things on credit cards helps you save money in the long run.

1.3 ____________ When you get a tax refund, that's extra money you should enjoy spending.

1.4 ____________ If you receive cash or a bonus from an employer, you should save it.

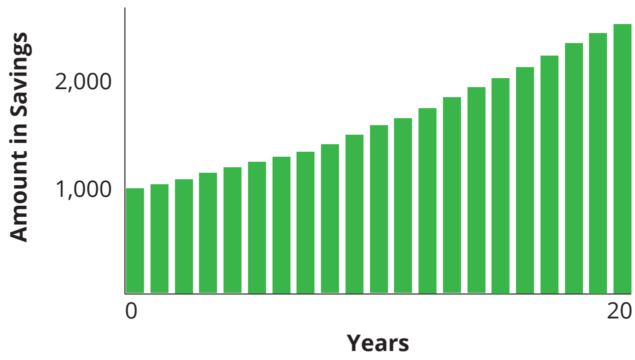
1.5 ____________ Using direct deposit or setting an automatic transfer into savings helps you save.

Compound Interest. Let's take a closer look at how a savings account actually helps you make your money grow.

Did you know that a savings account helps you earn more money? You deposit money and the bank pays you interest! Why can you deposit money in a bank account and then earn more money without even working? Money is a useful commodity. Interest is the rent the bank pays you for using your money. The most common way banks use your money is to lend it to somebody else, in the form of a home loan or car loan. So, the bank pays you interest, but makes even more money by using the money this way. For instance, the bank may pay you 1 percent in interest on the money in your savings account and charge a person 8 percent to use that money to buy a car.

Not only does the bank give you interest, they give you interest on the interest you have already earned. This is called **compound interest**. When a bank compounds the interest in your account, you earn interest on the money in your account and any previously paid interest. For instance, if you deposit $1,000 into a bank account that pays 5 percent interest, at the end of one year, your balance will have grown by 5 percent, or $50. So your account will have $1,050. Let's assume you leave the entire $1,050 in your account. The interest you get during the next year will be greater. For the second year, you'll earn 5 percent of $1,050. This equals $52.50. So the total in your account would be $1,102.50.

Now, suppose you left this money alone for twenty years and let compound interest work its magic. How much do you think your money would grow over those twenty years? If you start with $1,000 at 5% interest, you would have $2,653.30 after twenty years. And that's without depositing any other money!



As you can see, money increases with time and compounding. The original amount is called the **principal**. And the interest or gains that the money makes is called the **return**. Take a look at the following scenario and identify the principal and the return.

EXAMPLE

Vincent finally decided to start a savings account, and he deposited $600 into it. He earned 1.6% interest, compounded annually. At the end of the year, he has $609.60. What was the principal? And what was the return?

The principal is $600, and the return is $9.60.

So far, we've looked at an example that shows the interest compounding annually, or yearly. However, interest can compound daily or monthly, as well. And the more frequently interest compounds, the faster it grows.

Let's take a look at the chart below that shows annual versus monthly versus daily compounding. For all examples in the chart, the principal was $1,000 and the interest rate was 5%. However, the first example compounds annually, the second example compounds monthly, and the third example compounds daily.

	Annual Compounding	Monthly Compounding	Daily Compounding
Day 1	$1,000	$1,000	$1,000.14
Day 2	$1,000	$1,000	$1,000.28
Month 1	$1,000	$1,004.16	$1,004.17
Year 1	$1,050	$1,051.16	$1,051.27
Year 10	$1,629	$1,647	$1,649

Which earns the most interest over time? Annual, monthly, or daily? Daily compounding earns more than annual and monthly compounding. The more frequently it compounds, the faster it grows. This is good information to know when comparing savings accounts and deciding which one is best for you.

2. OVERVIEW OF INVESTING

Like many people, you may be intimidated by stocks or mutual funds because they can sound complicated. However, you don't need to be an expert or have lots of money to be a successful investor. You do need to understand the basics of investing and have some money available. This section, will give you some basic knowledge about investing.

Section Objectives

Review these objectives. When you have completed this section, you should be able to:

13. Define key terms such as stock market and stock quote.
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Vocabulary

Study these words to enhance your learning success in this section.

401k	**403b**	**fund manager**	**investing**
IRA	**mutual funds**	**P/E**	**portfolio**
rate of return	**share**	**shareholder**	**stock market**
stock quote	**stock symbol**	**stock**	**stockbroker**

Note: All vocabulary words in this unit appear in **boldface** print the first time they are used. If you are unsure of the meaning when you are reading, study the definitions given.

INVESTING VS SAVING

You're probably not in a position just now to start **investing**, but you may be sooner than you think! Having information about how to invest will prepare you to be financially successful. Let's look at the important information about investing. First, what's the difference between saving and investing? Investments have the potential to earn more money. However, they also come with risks. You may lose some money you invest or possibly lose the entire amount. When you put money in a savings account, it's impossible to walk away with less than you started. For example, if you deposit $200 and you make no withdrawals, you would have $200 or more (if the money earned interest) in the account. However, if you invest $200, you could end up with less or even nothing. The money you invest is not federally insured, like the money you deposit in savings accounts.

Do you earn more money when you make risky investments? In general, the higher the risk, the more money you can earn on investments. The gain or loss of an investment is expressed as a percentage. You might read that an investment made 7 percent. This percentage is called the **rate of return**.

How do people make money on investments? To earn money, an individual must sell an investment for more than he or she originally paid for it. For example, let's say you paid $200 to purchase **stock**. When you sold it, it was worth $220. You earned $20. The rate of return on this investment would be 10 percent since the original amount of your investment ($200) increased by 10 percent ($20).

In summary, the major differences between saving and investing are shown in the table below.

Investing	Saving
Risky	Safe
potentially earns more money	earns a lower amount in interest
not federally insured	federally insured
sometimes earns money through dividends	no dividends; earns interest
necessary to sell an investment to use the money	no need to sell; withdrawals permitted

Write *T* for True or *F* for False.

2.1 ____________ Savings accounts are safer than investing.

2.2 ____________ Investing is not federally insured.

2.3 ____________ There are no guarantees you funds will grow with investments.

2.4 ____________ It is possible to lose money in a savings account.

2.5 ____________ To earn money, an investor must sell an investment for less than the original purchase price.

Complete these activities.

2.6 The rate of return is the __________.

a. the money that is returned to you when you sell an investment
b. interest you earn from stock
c. number that lets you know how risky an investment is
d. percentage that shows how much gain or loss an investment makes

2.7 Using money to try to make more money is called __________ .

a. investing b. trading c. diversifying d. saving

Preparing for Investments. Before you think about investing, there are some steps you should take. First, you should be debt free. If you have any credit card debt, you should pay it off. Credit card debt is expensive. It may cost as much as 15 to 20 percent of the amount you owe, and it's pretty unlikely you'll make more than 15 to 20 percent on an investment. For example, if you have a balance of $1,000 on your credit card, and you are being charged 20 percent interest, you would be paying $200. If you decided not to pay off your credit card and instead invested $1,000, earning 6 percent, you would only earn $60, leaving you with a net loss of $140. This is why paying off your credit card balance should be your first step. Second, you should have an emergency fund that would cover six months of basic living expenses in case you lose your job or become unable to work. In other words, you should be financially stable before investing.

Third, you should learn how to invest and practice investing money. You wouldn't become a head chef of a gourmet restaurant before you learned how to cook, right? The same is true when investing money. There's a great deal to learn about the different types of investments, and there are ways to practice without risking your money. We'll investigate techniques to practice investing in the next project.

Once you've paid off your credit card balance, built an emergency fund, and learned about investing, you're ready to invest.

When you do start investing, you don't want to jump into the most complicated investments first. It's important to start with simple investments to help you learn what investing is all about. Let's take a look at some of the more common investment products.

Complete these activities.

2.8 Miranda thinks she's ready to invest in the stock market. What should she have done to prepare?

a. She should have invested in a mutual fund.
b. She should have paid off credit card balances, saved up an emergency fund, and learned the basics about investing.
c. She should have learned all about types of investing, even the most complicated investment types.
d. She should have purchased a home and saved enough to live for three to six months.

2.9 List three things you should do before investing.

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2.10 What should an emergency fund be able to cover?

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____

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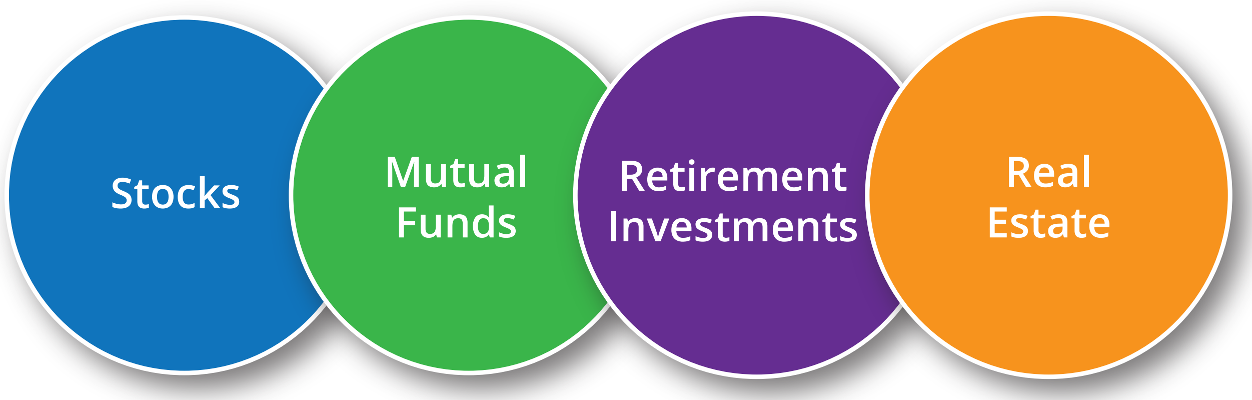
INVESTMENT PRODUCTS

What are some ways to invest? Some common types of investments are:



Stocks. A stock is a certificate representing a **share** of ownership in a company. When you buy stock, you're buying shares of a company. This means that you actually become part owner of the company. You might purchase two shares that cost $62.38 each, or you might purchase one hundred shares that cost $12.65 each. Keep in mind there may be thousands of people who own stock in a certain company. If the company does well, the value of the stock increases, and you may receive dividends. If the company does poorly, you may lose your money. You'll explore stocks and the **stock market** in more detail later in this section.

Mutual Funds. A **mutual fund** is a professionally managed collection of money from a group of investors. A mutual fund allows investors to pool their money, so it can be invested in many different stocks and bonds. The collection of different investments is called a **portfolio**. You can invest in a mutual fund once, or you can put money into the mutual fund on a regular basis. A **fund manager** is the person who decides where to invest the money while trying to outperform other investments and minimizing risk. This person may invest the money in various stocks, bonds, and other products. Investors are charged a small percentage of the investment to pay the professional fund manager and for the expenses associated with buying and selling stock. Fund managers often promote their funds by publishing information about the fund's performance. Other professionals analyze the different mutual funds and write reports about which are the best and worst to invest in.

Because there are so many different mutual funds, it's important to research the funds to find out which is the best mutual fund for you. Here are some steps you should take when choosing a mutual fund:

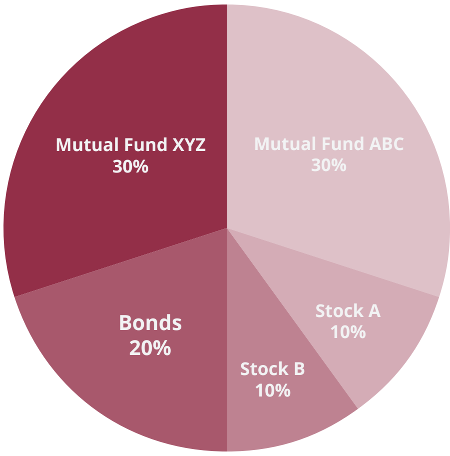
1. Decide how much tolerance you have for risk.
   Some funds are riskier than others.
2. Review ratings of mutual funds.
   Websites and other publications analyze the various funds.
3. Review the past performance. Did the mutual fund increase in value over the past year, five years, or even ten years?

Look at the fund's expenses. As an investor, you cover the expenses, so you want to look for funds that keep their expenses low.

FOR MORE INFORMATION

Find and read websites, such as www.morningstar.com, that review and rate mutual funds.

Retirement Investments. A retirement investment lets you save and invest money tax-free until you withdraw it when you retire. In addition, you design the investment strategy within the investment plan. This means within the retirement investment, you are allowed to choose different types of investments, such as stocks, bonds, and mutual funds, depending on how much risk you want to take. For example, you may allocate 30 percent to one mutual fund, another 30 percent to a different mutual fund, 20 percent to bonds, 10 percent to a certain stock, and 10 percent to another stock.



Three types of common retirement investments are the **401(k)** plan, a **403(b)** plan, and an **IRA**. Here's a description of each plan:

- A 401(k) is a retirement plan that some private corporations offer their employees.
- A 403(b) plan is similar to a 401(k), but is offered to employees of some nonprofit organizations, such as schools and hospitals.
- An IRA is a retirement plan for individuals who earn under a certain amount per year or who do not have the opportunity to invest in a 401(k) or a 403(b).

What's unique about these retirement plans? Money is deducted from your paycheck before taxes are taken out. For example, if your gross pay for the current pay period is $500 and you deduct $50 to be deposited in a retirement investment, your employer will calculate the taxes for the remaining $450 instead of the entire $500. This saves you some money. You also don't pay taxes on the interest, capital gains, or dividends you make on retirement investments. However, when you start withdrawing money during retirement, you do pay taxes on the amount you withdraw. Another advantage to retirement investments is that your employer may match part of your contribution. If you contribute $100, they may contribute as much as $50.

Fill in the blanks.

2.11 A(n) ________________________________ is a type of investment that involves buying a share of a company.

2.12 ________________________ or ________________________ are types of retirement investments offered to employees.

2.13 A(n) ________________________________ is a type of retirement investment offered to employees of some nonprofit organizations.

2.14 A(n) ________________________________ is a professionally managed collection of money from a group of investors.

2.15 A(n) ________________________________ is a person who decides where to invest money in a mutual fund.

2.16 A(n) ________________________________ investment lets you save and invest money tax-free until you withdraw it when you retire.

Real Estate. Real estate is another common way for individuals to invest their money. To invest in real estate, individuals buy and sell land, houses, and buildings. At times, the value of property increases at a steady rate. However, investing in real estate may be risky because the value of land and houses may decrease, or real estate may become difficult to sell.

Other Investments. There are many ways to invest money. Any time money is used to try to make more money, it is investing. Here is something to think about: Is buying your own home an investment? Yes, it's an investment. The value of your home may increase. For example, if you purchased a house for $200,000 and the value of the house increases to $220,000, your investment has increased by $20,000. Can the home decrease in value? Yes, just like other investments.

Here is something else to think about: What do the following items have in common?

» art
» coins
» comic books
» postage stamps
» baseball cards
» sports memorabilla

STOCKS

Christopher purchased stock with company XYZ. He bought 150 shares of stock at $32.12. Almost every day now, he goes online or looks in the newspaper to see if the stock has gone up or down. Today he's happy to see that the stock has gone up 10 cents per share. Since he owns 150 shares, he quickly calculates 150 x .10 and gets $1.50. His shares of stock are worth $1.50 more than yesterday. If you didn't understand everything in Christopher's example, that's OK. In this section, you'll learn about how to invest in stocks and how to read **stock quotes**.

Buying Stock. You've already learned in the previous section that stock represents a share in the ownership of a company. If you own stock in a company, then you're part owner of the company, or a **shareholder** in it. When the company does well, the stock increases in value. When the company doesn't do well, the value of the stock decreases. What are the stock market and stock exchange? The stock market is an organized way for people to buy and sell stocks. The stock exchange is just another word for the stock market. The New York Stock Exchange (NYSE) and NASDAQ are the biggest stock markets, or exchanges, in the United States. About 2,400 companies list their stock on the NYSE. A company that lists its stock with a stock market is considered publicly owned. For example, Apple Inc. is a publicly owned company.

Although it's called a stock market, it doesn't look at all like the markets you might know. It's a fast-paced environment with many brokers buying and selling stocks almost simultaneously. To an outsider, it might seem very disorganized ... and loud!

How does the stock market work? How is stock bought and sold?

First, a company that's publicly owned sells shares of stock to raise money to operate or expand its business. Or an individual might decide to sell shares of stock that he owns.

Once shares of stock are available for purchase, and an individual decides to buy some of those shares, the individual puts in an order to buy stock with a **stockbroker**.

Next, a broker notifies the person that trades the stock for their firm. **Trade** is just another way of saying to buy or sell. The trade is executed either electronically or on the exchange floor. So, if the trade is made at the NYSE on the exchange floor, the person who is buying the stock for their firm finds another person on the floor who is willing to sell the stock. The two people agree on a price. If it's sold electronically, the sale is made online. The broker keeps track of the trade and notifies the individual when the stock has been purchased and the price for which it was purchased.

Then, the person who purchased the stock waits and watches how the stock is doing by looking at **stock quotes**.

Finally, when the individual is ready to sell his stock, they submit an order with a broker to sell the stock. Again, the broker makes sure the trade is executed electronically or on the exchange floor. The money from the sale is either sent to the seller as a check or deposited into the seller's account.

To summarize, the steps in buying and selling stock include the following:

» A company or individual makes shares avaiable for sale.

» An individual submits an order to buy stock with a broker.

» The trade is executed on the exchange floor = or electronically.

» The individual waits and watches the stock.

» The individual puts in an order to sell stock.

- The sale is executed either electronically or on the exchange floor.
- Money is sent to seller.

Let's take a closer look at buying stock.

Buying Stock. There are a few ways to buy stocks, but the easiest way is through an online stockbroker. After opening an account and depositing money, you can buy stocks through the broker's website. You can also use a full-service stockbroker or buy stock directly from the company.

The process of opening an online brokerage account is a similar to opening a bank account. You complete an online application, provide proof you're your identification, and choose whether you want to fund your account by mailing a check or by transferring money electronically.

Whether you use an online stockbroker or a full-service stockbroker, there is a fee. It will vary depending on the company. But a full-service stockbroker will be more expensive. However, a full-service stockbroker has studied the market and will provide advice. Many people who invest a great deal of money will hire a full-service stockbroker.

When you buy stock, you're actually buying shares of stock. Remember Christopher from the introduction? He bought 150 shares, or units, of stock. If the stock was worth $32.12 per share when he bought it, how much did he pay?

It looks like he paid $4,818. However, since there are fees for buying stock, he actually paid a little more. Since Christopher chose an online stockbroker, he only paid $7 to buy the stock. So, he paid $4,825.

Fill in the blanks.

2.18 Opening a brokerage account is similar to opening a(n) ______________________________ account.

2.19 When hiring a stockbroker, a(n) ______________________________ stockbroker is more expensive.

2.20 When you buy stocks, you're actually buying ______________________________ of stock.

It's important to research the stocks you're interested in buying. Think about companies you already have experience with. Which companies do you really like? Do some research online to see how those companies have been doing financially. Once you settle on a company you're interested in, it's time to do more specific research. You can find the company's annual report online, which is a report of earnings (or losses) sent to company shareholders every year. It's also a good idea to look up any recent news about the company.

When you have decided on a potential company, consider the amount of money you have to invest, and calculate how many shares you can buy. It is a good idea to purchase a single share initially to get a feel for buying stock and to see how you handle seeing rises and falls of the stock market!

You can go online anytime to view your stock account and review the number or shares you purchased and their value. The stock market can fluctuate, so you may see your stocks rise in value, but you also may see them fall in value. As you become more experienced, you may be able to predict what will happen to some extent, which can help you know when it's a good time to buy and when it's a good time to sell!

Complete these activities.

2.21 The stock market is __________ .

a. the same as a brokerage firm
b. an organized way for people to buy and sell stocks
c. a place where you buy and sell stock
d. the section of the newspaper where you look up how much a stock is worth

2.22 Teresa would like to buy stock. What should she do?

a. She should visit the stock market, open an account, and purchase stock.
b. She should choose a broker, open an account, and deposit money, or buy stock directly from the company.
c. She should go online to the NYSE site and buy stock.
d. She should go to her bank and fill out the necessary documents.

Wait and Watch the Stock. During this period of waiting and watching, you should look for the right time to sell, which could be weeks, months, or years. How do you know when it's time to sell? Reading about the company and following the price of the stock can help you make this decision. News about the company may be found in newspapers, financial magazines, or on financial websites. Why is news important to the value of stock? Let's say a pharmaceutical company was approved to sell a new drug that can benefit millions of people. Do you think the price of the stock would go up? Yes, it probably would. And what if a company reported terrible earnings? Do you think the price of the stock would go up? Probably not. The news influences stock prices in many ways. It's a good thing there are stock analysts who can help. Analysts are professionals who gather information and make suggestions about buying, holding, or selling stock. You can review what analysts are saying on various financial websites.

When you want to see how your stock is doing, you look at a stock quote. A stock quote is the current value or price of a stock. You'll need the company's **stock symbol** to look up the quote. A symbol is a unique set of letters assigned to a company for the stock market. It's between two and five letters in length. For example, the symbol for Intel Corporation is INTC. If you don't know the symbol, it's possible to look it up. Some websites have a special field to look up symbols. To read stock quotes, you can open the financial section of a newspaper and look for the appropriate symbol. They're listed in alphabetical order. However, there is a much easier way to get a stock quote. You can visit certain websites, enter the stock symbol, click on a button, and the quote appears. Here's an example of what a stock quote looks like.

Intel Corporation (NASDAQ: INTC)

21.05 ↓ 14 (0.66 %) 1:45 PM ET

AOP

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