



Saving, Investing, and Risk Management

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Traditional Lesson Plans

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Extension Activities



Understanding College Costs and the FAFSA 31

The FAFSA form is used to evaluate a student’s (and parents’) financial ability to pay for college.



Compound Interest and the Rule of 72..... 43

Students use an online compound interest calculator to determine the growth of investments with varying interest rates and time horizons.



Understanding Stock Quotes 35

Students use the information found in a sample stock quote table to analyze a stock portfolio.



Junior Achievement *Save, USA* “Risk and Insurance”

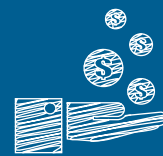
Online Lesson 49

This interactive lesson helps students define risk, common insurance terms, and the different types of insurances.



Roth IRAs: Teens and Retirement Savings 39

With earned income, students can invest and watch their savings grow for retirement.



Saving, Investing, and Risk Management Overview

Students explore and compare savings and investments as a part of their overall financial planning. They also examine risk and how insurance may help protect savings from both planned and unplanned events.

Objectives

Students will be able to:

- Identify the benefits of saving a portion of income for future use.
- Explain short- and long-term saving options.
- Explain some of the advantages and disadvantages of savings and investment options.
- Assess personal risk and risk management.

Preparation

Determine whether you will use the traditional classroom presentation or the Project-Based Learning option. Also, review and organize the materials for the extension activities you plan to teach.

Summary and Assessment

Use the lesson summaries at the end of each lesson to review concepts. To assess knowledge learned, administer the Saving, Investing, and Risk Management Assessment on Pages 25–26. (Answer Key is on Pages 27–28.)

Required Lessons

Lesson One: Saving and Investing
Lesson Two: Managing Risk

Time

The lessons typically can be completed in two 45-minute sessions.

Concepts

Benefits
Goals
Interest
Saving
Savings
Investment
Opportunity cost
Risk

Skills

Active listening, brainstorming, comparing, critical thinking and reasoning, collaboration, decision making, following directions, information literacy, math computation, reading for information, self-direction, speaking and listening, teamwork, summary writing

Extension Activities

1. Understanding College Costs and the FAFSA
2. Understanding Stock Quotes
3. Roth IRAs: Teens and Retirement Savings
4. Compound Interest and the Rule of 72
5. Junior Achievement *Save, USA* “Risk and Insurance” Online Lesson



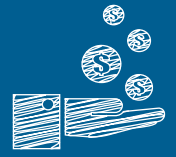
Saving, Investing, and Risk Management

Introduction

Teens and preteens need experience in working, earning, saving, and investing. Whether they are buying gifts for friends and family or planning a summer adventure, students need to know what it means to spend money wisely. Likewise, students will be more apt to save and invest if they know what they want their money to do for them.

According to the 2018 JA Teens and College Savings Survey, 52 percent of high school juniors and 39 percent of high school seniors feel they aren't as prepared as they should be to pay for or manage the cost of college. Smart money management means carefully planning for today's needs and wants as well as those in the years to come, either through saving or long-term investing. A wise saving plan involves three critical variables: the amount saved, the interest earned on that amount, and the length of time the money is invested. By starting at a young age, savers can expect to increase their wealth over the long term.

Still, even with a well-thought-out plan, life comes with risks. Changing interest rates and stock market swings can affect the return on investments up or down. Accidents and medical emergencies can and do occur, and they can affect a person's finances. Students will come to see that diversified investing and insurance for such things as health, life, and cars can help shield them from the unexpected. Insurance policies are like helmets and seat belts: They may never be needed, but they offer protection from unforeseen events.



Teacher Notes

Saving, Investing, and Risk Management

Lesson One: Saving and Investing

Teacher Introduction

Saving occurs when consumers choose not to spend all of their income. To avoid the temptation to overspend, students need to learn to “**Pay Yourself First**” (PYF), which means to automatically save a portion of income for future use.

Lesson Time:
45 minutes

So, where should hard-earned savings go? A **financial institution**, such as a bank, credit union, savings and loan, or investment firm, helps people save for the future with simple savings accounts and more complex investments. Putting money into a **savings account** is a safe way to save money. Saving accounts, however, offer low **interest** rates. There are many ways to **invest** to earn higher rates of return. Three common long-term investment types are **stocks**, **mutual funds**, and **bonds**. They allow savers to invest their **principal** and earn, over time, a higher rate of return than they would get if their money was in conservative savings accounts. But stocks and mutual funds are not guaranteed investments. Investors can lose part or all of their money. The value of bonds can erode if interest rates rise. Students, like investors, must learn to gauge **risk** when they decide how to make their savings work for them.

For many teens, the **opportunity cost** of starting a savings program with income from a summer job may seem challenging. And for those who choose to save, the number of options can be overwhelming. This lesson will introduce various methods of saving, such as savings accounts, stocks, and mutual funds.

Materials

- Student Workbooks
- Computers and Internet access
- JA Finance Park* Slides 1–12
- Highlighters

Vocabulary

Bond

An IOU issued by a company, municipality, or the federal government in exchange for a loan from an investor that will be repaid with a set rate of return.

Financial institution

A business that provides money-related services.

Interest

A fee received or paid for the use of money.

Invest

To commit money to gain a profit or earn interest.

Mutual fund

A collection of stocks or bonds of various corporations.

Opportunity cost

The next best alternative given up when making a financial choice.

Pay Yourself First (PYF)

To automatically save a specified amount from a paycheck for future use.

Principal

The amount of money originally invested.

Risk

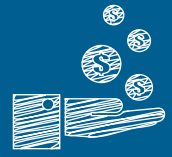
The possibility of financial loss or physical harm.

Savings account

An interest-bearing account where people put money for future use.

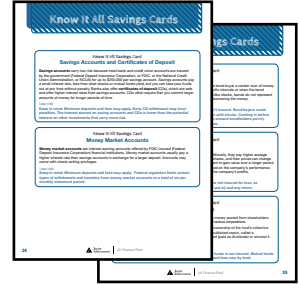
Stock

A share of a corporation sold to the public.



Lesson Preparation

- Optional: Obtain up-to-date savings rates for savings and money market accounts and certificates of deposit from your local bank or credit union or from a financial rate information site, such as Bankrate.com. You also may wish to get a rate of return for two or three popular stocks and an index mutual fund.
- Review Pages 14–15, Know It All Savings Cards.
- Review the Set the Stage talking points.
- Review Saving and Investing: Lesson Steps.
- Display the Savings Options Posters.



Know It All Savings Cards



Savings Options Posters

- Review the Student Worksheets on Pages 13 and 16.



Doodling for Dollars Worksheet



Tweet Worksheet

- Display Slide 1 as the lesson begins.





Saving and Investing: Lesson Begins

Set the Stage | 5 Minutes

Spend a few minutes discussing the following questions with the students.

- Money experts tell us to save early and often. What are the advantages to saving money? Is it a good idea to have a “just in case” fund for emergencies? Why or why not?
- Present Slide 2.



Money experts also tell us that a good rule of thumb is to save 10 to 20 percent of any money we receive. When you Pay Yourself First, you automatically save a portion of your paycheck for future use. What would you like to start saving for?

- Optional: Do your savings goals include college? In 2017–18, the College Board reported yearly tuition, fees, and on-campus room and board for an in-state public college averaged \$25,290. The cost at a private college averaged \$50,900. The price tags do not include books, supplies, off-campus housing, and transportation.
- Have students take a few minutes to explore the infographic on teens and saving for college on Page 32 in their Workbooks and on Page 8 in this guide.

Understanding College Costs and the FAFSA: Online Option

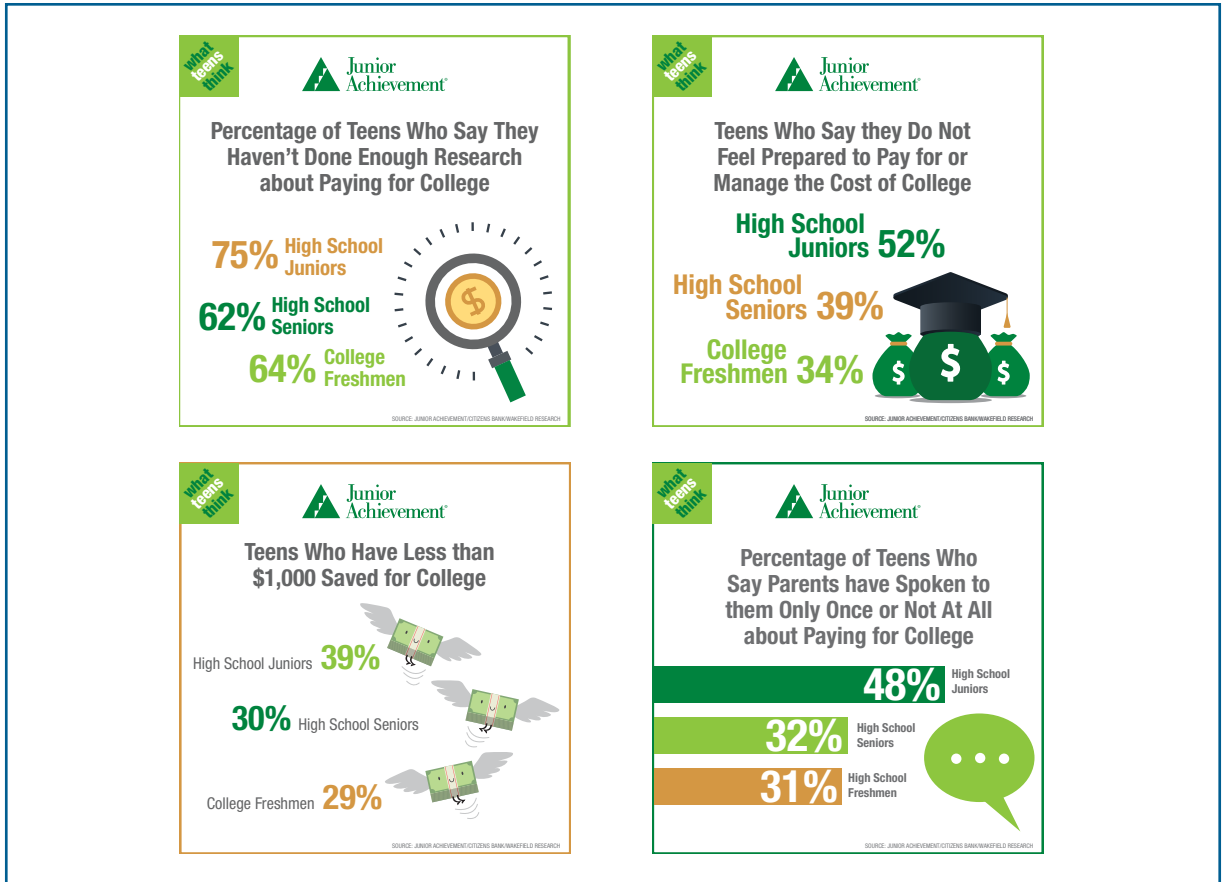
Introduce high school students to the FAFSA, the form used to evaluate a student’s (and parents’) ability to pay for college.

The Extension Activity starts on Page 31.

Save for College

A 529 plan is a savings account designed for educational expenses. Earnings are tax deferred, and distributions are free from federal tax and, in most cases, state tax. Risk varies depending on investment choices. Relatives may contribute to a 529 savings account up to the limit established by the plan.

Risk: Money must be used for college or graduate school or a 10 percent penalty must be paid.



Saving and Investing: Lesson Steps | 35 Minutes

1. Present Slides 3 and 4 with the lesson's vocabulary. Have students highlight the words in their Student Workbooks on Page 31 as you introduce them.



Inflation

Savers can safely assume that the price of most everything will be higher in the future. Inflation occurs when the prices of goods and services increase over time. For example, with a 3 percent inflation rate, consumers can expect to pay \$103 next year for what costs \$100 today. Smart savers look for long-term investments that will grow faster than the rate of inflation.



2. Have students look at the Doodling for Dollars Worksheet on Page 33 in the Student Workbook. Ask them to fill in the middle box with one thing they are saving for. Then, have them fill in the rest of the sheet explaining how they receive and spend money. If students don't receive money on a monthly basis, have them enter a \$50 sum. Define the following terms if necessary:

- Bar graph: Represents grouped data. It's a way to show a lot of information in a format that is easy to understand.
- Pie chart: A circle that is divided into wedges. It's a way to look at items that make up a whole of something. The circle of a pie chart represents 100 percent.

3. Give students 5–8 minutes to fill in their Worksheet. Ask a few volunteers to share their information with the class.

4. Ask students if they have some type of piggy bank at home. If so, do they save money in it? Does the amount in the piggy bank ever increase without putting more in? (no) Tell them there is a way to make their money earn more money.

5. Explain that one of the benefits of saving is earning interest, a fee received or paid for the use of money. Share the following example of **simple interest**. If Peter needs \$100 and Sophie has some money to spare, she may loan it to him for a year at 10 percent interest.

Peter will then return \$110 to Sophie at the end of the year. Ask students the following questions based on the Slide 5 Savings Chart, which shows the effects of **compound interest**.

Deposit	Interest	Savings at 10 Years	Savings at 20 Years
\$20.00	5%	\$21,000.00	\$27,720.00
\$50.00	5%	\$52,500.00	\$70,875.00
\$100.00	5%	\$105,000.00	\$141,750.00
\$200.00	5%	\$210,000.00	\$283,500.00
\$500.00	5%	\$525,000.00	\$708,750.00
\$1,000.00	5%	\$1,050,000.00	\$1,417,500.00

- If you save \$14 per week at 5 percent annual interest, how much money would you have at the end of 10 years? (Answer: Approximately \$9,463.)
- If you save \$19.20 per week for 10 years at 7 percent annual interest, how much will you have? (Answer: Approximately \$14,484.)
- If you save \$19.20 per week for 20 years at 9 percent annual interest, how much will you have saved? (Answer: Approximately \$56,029.)
- What conclusion can you draw from the information on the slide? (Answer: The amount of savings, called principal, plus time and rate of interest affect long-term financial growth.)

Vocabulary

Compound interest

Interest on the principal and the accumulated interest on a deposit or a loan.

Simple interest

Interest that is paid only on the original principal.

Compound Interest and the Rule of 72 Online Option

Simple and compound interest are further explained in the Extension Activity starting on Page 43.

- Present Slide 6 and review the three elements important to saving and earning interest (savings amount, time, interest rate).



- Present Slide 7 and discuss opportunity cost and the importance of wise decision making.



- Present Slide 8 demonstrating options for saving. Ask a volunteer to read aloud the five options from the slide. Ask the students if they recognize one or more of the options and what, if anything, they know about each. Present Slide 9 and tell class members that by the end of today's lesson, they will have a better idea of what options they prefer in their "savings basket."

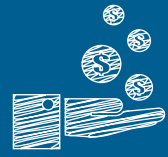


- Point to the Savings Options Posters as you discuss savings options. Students can follow along in their Workbooks on Pages 34–35. (The Know It All Savings Cards contain the same definition as the posters.) As you mention each option, share the interest rate information for the options you researched before class. Mention that savers also may choose to own real estate, purchase gold, or collect coins or antiques as part of a personal savings plan.

Understanding Stock Quotes

Students use the information found in a sample stock quote table to analyze a stock portfolio.

The Extension Activity starts on Page 35.



9. Present Slide 10 and remind students that a short-term savings goal means saving for something you will need in six months or less. This includes money you might need in an emergency or for an unexpected expense.



- As you present Slide 11, inform students that a long-term goal means saving anywhere from one to five years or even 20 years or more, such as for retirement savings. When putting aside money for a future goal, savers must consider their tolerance for risk and the rate and stability of future returns.



- Use Slide 12 to help illustrate that savings accounts, money markets, and certificates of deposits (CDs) provide safe, quick access to funds, yet usually offer a small return.

Type	Risk	Liquidity	Return
Savings Account	Low	High	Low
Certificate of Deposit	Low	Medium	Low
Money Market Account	Low	High	Low
Bond	Low to Medium	Medium	Medium
Stock	Medium to High	Medium	High
Mutual Fund	Low to High	Medium	Medium to High

- Ask students, “On a scale of 1 to 10, with 10 being the highest, how would you assess your tolerance for risk when it comes to your savings? Would you risk the possibility of losing a portion of your savings for the opportunity to make even more in a riskier investment? Why or why not?”

10. **Activity:** Separate the class members into five groups. Assign each group one Know It All Savings Card. (Each card contains information about one of five different savings types as shown on the poster and includes risk information.) The types are: savings accounts and certificates of deposit, money market accounts, bonds, stocks, and mutual funds.

- Have groups read the title and the information on their savings cards. Have them use a highlighter to highlight facts or details on their cards to better understand the content.
- Tweet activity: Direct students to Page 36 in the Student Workbook. Tell them they will compose a tweet (280 characters) or a brief statement that summarizes (as much as possible) the information found on their assigned card.

Roth IRAs: Teens and Retirement Savings

With earned income, students can invest and watch their savings grow for retirement.

The Extension Activity starts on Page 39.

For example, a stock tweet might read:

#Stocks are ownership shares in a company. As a long-term investment, stocks may pay high returns but may lose money when markets go down. (138 characters)

Or students can choose to use symbols in place of familiar words:

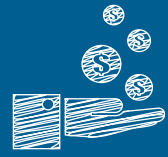
#Stocks are ownership shares in a company. As a long-term investment, stocks may pay high returns but may lose \$ when markets go down. (134 characters)

Note: Based on student knowledge of tweets, you may choose to increase the statements to 300 or more characters.

- Ask groups to share their tweets or summaries with the class.

Summary and Review | 5 Minutes

Students learned about the ways that savers save money. They also learned that smart money management means saving a portion of their income through savings accounts and long-term investing. If time permits, have students think about the infographic they explored at the beginning of the lesson. Ask them to share with the class the methods they identified that would help them save more. Emphasize that it's better to save even a little than not to save anything at all.



Doodling for Dollars

Saving, Investing, and Risk Management
Lesson One
Student Worksheet, Page 33

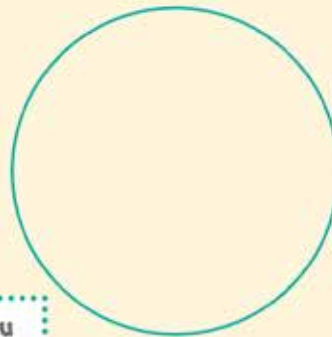
Doodling for Dollars

What are your goals? Do you want to live on your own someday? Go to college? How much money do you think you'll need? Create a graphic organizer to show what saving looks like for you. Start by writing your savings goal in the center. Complete each square.

To begin, shade in the bar graph to show the money you receive each month. If you don't receive a regular amount, use \$50.



Make a pie chart below to show how you spend money each month (music, eating out, movies, clothes, etc.).



What are you saving for?

Pay Yourself First. Show how you can save more money (even if it's just a dollar or two).

Where do you keep your money? (piggy bank, credit union, bank)

Know It All Savings Cards

Know It All Savings Card

Savings Accounts and Certificates of Deposit

Savings accounts carry low risk because most bank and credit union accounts are insured by the government (Federal Deposit Insurance Corporation, or FDIC, or the National Credit Union Administration, or NCUA) for up to \$250,000 per savings account. Savings accounts pay a small interest rate, less than what stocks or mutual funds yield, but you can take your funds out at any time without penalty. Banks also offer **certificates of deposit** (CDs), which are safe and offer higher interest rates than savings accounts. CDs often require that you commit larger amounts of money for longer periods of time in exchange for the interest paid to you by the bank.

Low risk

Keep in mind: Minimum deposits and fees may apply. Early CD withdrawal may incur penalties. The interest earned on saving accounts and CDs is lower than the potential interest on other investments that carry more risk.

Know It All Savings Card

Money Market Accounts

Money market accounts are interest-earning accounts offered by FDIC-insured (Federal Deposit Insurance Corporation) financial institutions. Money market accounts usually pay a higher interest rate than savings accounts in exchange for a larger deposit. Accounts may come with check-writing privileges.

Low risk

Keep in mind: Minimum deposits and fees may apply. Federal regulation limits certain types of withdrawals and transfers from money market accounts to a total of six per monthly statement period.

Know It All Savings Cards

Know It All Savings Card

Bonds

A **bond** is essentially an IOU. The issuer promises to pay the bond buyer a certain sum of money at the end of a stated period, plus interest payments at specific intervals or when the bond matures. A bond fund pools money from many investors. Unlike stocks, bonds do not represent ownership in the corporation, government agency, or utility borrowing the money.

Medium risk

Keep in mind: Unlike bank savings accounts, bonds aren't insured. Bond buyers could lose some or all of their money, but this is less likely than with stocks. Cashing in before the maturity date could result in the loss of principal (the amount bondholders invest). Bond funds are subject to the rise and fall of interest rates.

Know It All Savings Card

Stocks

Stocks represent a fractional ownership in a company. Traditionally, they pay higher *average* returns than most any other investment. Stocks are sold in shares, and their prices can change daily. They are long-term investments because they are meant to gain value over a longer period of time (although they can be bought and sold anytime) based on the company's performance. Some companies pay dividends to stockholders based on the company's profits.

Medium to high risk

Keep in mind: Stock markets go up and down. Stocks are not insured for loss, so stockholders could lose their principal (the amount they put in) and any return.

Know It All Savings Card

Mutual Funds

A **mutual fund** is a professionally managed investment with money pooled from shareholders (plus interest earned) to buy a collection of stocks or bonds of various corporations.

Each investor buys shares of the fund that represent partial ownership of the fund's collective holdings. A mutual fund's goals are explained in the fund's published report, called a prospectus. Shareholders can elect to take the money earned (paid as dividends) or reinvest it to buy more shares.

Low to high risk

Keep in mind: As with stocks, money invested in mutual funds is not insured. Mutual funds can lose value in stock market swings. Fund objectives and fees vary by fund.

Tweet

Saving, Investing, and Risk Management
Lesson One
Student Worksheet, Page 36

Tweet

Look over the savings option on your Know It All Savings Card. Briefly summarize its benefits and risks in a 280-character message, and print it below.

Count your characters—280 is tops!

Print your *Know It All Savings Card* title here
(Note: The card title is not part of your tweet.)

Post your tweet here.



Saving, Investing, and Risk Management

Lesson Two: Managing Risk

Teacher Introduction

Accidents, sickness, weather disasters, and emergencies happen even to the best prepared. Minimizing personal **risk** is the main reason people buy **insurance policies**. Insurance policies are legal contracts between companies and policyholders that safeguard assets by providing financial compensation in the event of significant accidents, needed medical care, or unforeseen circumstances.

Lesson Time:
45 minutes

- Health insurance: Protects individuals and families from unforeseeable health expenses or loss of income.
- Home insurance: Provides money and housing if a home is damaged or destroyed by fire, theft, and other hazards.
- Car insurance: Protects families from expensive surprises such as the theft of the family car, an accident, or an injury. Students old enough to drive know that to be covered by auto insurance, they must pay an annual fee, or **premium**. Before determining premiums, insurance companies will want to know the make, model, and age of the car; who will be driving (the person's age and driving record); and how the car will be used. Teen drivers also may need to provide their most recent school report card to the insurance company.

Generally, for many types of insurance, premiums are determined by a person's age, health, life habits, and where he or she lives.

Materials

- Sticky notes
- Computers and Internet access
- Download or make copies of the *Perfectly Matched* activity using two-different colored sheets. Half the class will receive the *Insurance Sheet* on Page 23. The other half will receive the *Life Sheet* on Page 24.
- JA Finance Park* Slides 13–15

Vocabulary

Insurance policy

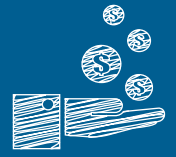
A contract that outlines coverage plans and protects a person against financial loss or damage.

Premium

The amount paid for an insurance policy.

Risk

The possibility of financial loss or physical harm.



Lesson Preparation

- Optional: Make copies of the Saving, Investing, and Risk Management Assessment, Pages 25–26, one for each student. Students will take the assessment at the conclusion of this lesson. The assessment takes 12–15 minutes to complete.
- Review the Set the Stage talking points.
- Review Managing Risk: Lesson Steps.
- Optional: Research auto insurance policies in your location to see how high school grades affect or do not affect the cost of premiums.
- Sketch the “Tree of Life” on the board to save time later.
- For the Perfectly Matched activity, download or make copies of the Insurance Sheet on Page 23 for half of the class using colored paper. Choose another color and make copies of the Life Sheet on Page 24 for the other half of the class. Each student will receive one sheet.



Insurance Sheet



Life Sheet

Managing Risk: Lesson Begins

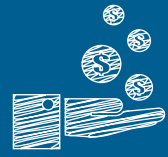
Set the Stage | 5 Minutes

Spend a few minutes discussing the following questions with the students.

Tell students that life involves risk. Protection against personal risk is why people choose to buy insurance. Ask if anyone has cell phone insurance. If so, what does it cover? Loss? Repair or replacement?

Provide the following “Did You Know?” examples for students to think about.

Did You Know? Jason borrows his mother’s car to drive to a state championship football game. Distracted, he veers off the road and hits a



guardrail. Jason is shaken up but OK. The damage to his mother’s car, however, is estimated at \$1,200. Fortunately, Jason shouldn’t have to use all of his savings to pay the repair bill because his mother has car insurance.

Did You Know? The Stover family plans a \$6,000 vacation, including nonrefundable airline and cruise fare tickets. Just before it’s time to leave, Stacie, the youngest, gets sick and the family trip must be put off. If the Stovers had bought travel insurance, they may not have been responsible for paying the total cost of the trip.

Did You Know? Roma’s 10-year old cat, Cuddles, fractures her leg and needs immediate surgery. The veterinary clinic cost is estimated at \$2,300. Roma has pet insurance, so she agrees to the necessary treatment, knowing that most of the cost will be covered.

Managing Risk: Lesson Steps | 35 Minutes

1. Present Slide 13 with the lesson’s vocabulary. Have students highlight the words in their Student Workbooks on Page 37 as you introduce them.
2. Present Slide 14, describing types of insurance, and discuss.



Share the following with students:
Insurance policies safeguard against risk by providing money in the event of sickness, injury, accidents, or unforeseen events.

- Insurance provides protection in exchange for a fee, called a premium.
- If you have an accident or injury, you file a claim with your insurance company with the expectation that you will be compensated or reimbursed for your loss.
- Various types of insurance can be purchased independently through a company or agent and, in the case of health insurance, through an employer or government program.
 - » Consumers have a choice of health plans and usually receive an enrollment card that proves they have coverage. The card lists the **deductible** or **co-pay** amounts a person must pay before the insurance company covers a portion or all of the remaining costs.

Insurance Online Option

The Junior Achievement *Save, USA* “Risk and Insurance” online interactive Extension Activity helps students understand risk, insurance terms, and types of insurance. Instructions start on Page 49.

Vocabulary

Deductible/ co-pay
Money paid out of pocket before insurance covers the remaining costs.

- Policyholders with all types of insurances may have to pay a deductible and/or co-pay before insurance covers the remaining costs.
 - » In the auto insurance example discussed at the beginning of the lesson, Jason may have to pay a deductible of \$500 toward the repair of his mother's car. The insurance company would then pay the remaining \$700. Even though Jason's mother pays a yearly premium plus deductible costs for each accident she or covered drivers have, the benefits of car insurance outweigh the cost.
3. Describe how insurance works. Tell students that insurance companies pool the money they receive. Using statistical analysis, they determine what percentage of insured people will actually suffer a loss and file a claim (usually a small number), and with that information, they set the amount consumers pay in premiums. For many types of insurance, premiums are determined by a person's age, health, life habits, and sometimes where they live.
- A location's risks can make a difference in premium costs. Think about two houses, one built on a mesa (a high desert plateau) in Arizona and the other built on the Louisiana coast (below sea level). Which location is more likely to experience flooding? Which house would have lower premiums for flood insurance?
 - Share with students that auto insurance premiums are usually higher for teen drivers than for middle-age drivers. Ask what they think that tells us about teen drivers. (Answer: Teens pay higher auto rates because statistically they have more accidents than older drivers. That means the probability of a teen driver having an accident is higher than people in other age groups.)

Life Insurance

Do you need life insurance? It can help provide money for those who depend on you financially if you can't be there for them. For example, if you have small children, you will need a life insurance policy with a high-dollar amount to cover their care until they can care for themselves. As children grow and leave, you will need less protection. How much you pay for life insurance will depend on your age, health, and the size of the benefit you want.

Term life insurance policies are the least costly. They pay death benefits. As the word *term* suggests, these policies are in effect for a specific time period or until you reach a certain age.

Whole life, universal life, and other cash value policies combine a long-term savings and investment product with life insurance. These are usually more expensive.



- Additionally, health insurance premiums are usually higher for smokers than nonsmokers. Ask the students why they think this is. (Answer: Smokers with health issues generally submit more health insurance claims than nonsmokers.)

4. Present Slide 15 or draw a tree with seven long branches on the board or interactive whiteboard. Label the tree the “Tree of Life.” On each branch, print one type of insurance—home, health, auto, dental, life, travel, and phone.



5. Distribute the sticky notes. Ask students to think of events that happen over the course of a lifetime in which having insurance would help cover the costs. Ask students to think of things they or their families have experienced, such as an illness or injury that required doctor or specialist visits and/or hospitalizations, a car accident or a house fire, dental checkups, the loss of a phone, or personal property theft or damage done to another person’s property. Have them write each event they can think of on individual sticky notes.
6. Discuss which branches on the Tree of Life each event would fall under and then ask students to take turns attaching the sticky notes to the appropriate branches.
7. Finally, tell the students that people often buy insurance but never need it or use it. Ask students if they think having insurance is worth the money. (Possible answers: Yes, for the peace of mind of having it when you need it; or no because it’s expensive.)
8. **Activity:** Play the Perfectly Matched activity. Randomly distribute the Insurance Sheets to half of the students in the room and the Life Sheets to the other half. Have the students review their sheets.
 - Tell students that the Insurance Sheet shows many different types of insurance. If they have this sheet, they will need to find customers (classmates) who need the insurances and then have them initial the sheet. Ask students to stand if they have this sheet.

Disability Insurance

How long could you afford to be without a paycheck? If you are disabled, you lose your ability to work and earn a paycheck. Financially speaking, disability can be more costly than death. Unable to work, you must still find a way to pay your living expenses and medical bills. Disability insurance helps you replace lost income.

Many employers offer some type of disability insurance. There are two types of disability policies: short-term and long-term. Short-term disability policies have a maximum benefit of two years, while long-term disability policies have benefits that can last the rest of your life.

- The second sheet, the Life Sheet, has life scenarios that would benefit from having insurance. If students have this sheet, they will need to “shop for insurance” and find a classmate with different types of insurance to sell. Ask students to stand if they have this sheet.
9. Tell students they have 10 minutes to walk around the room and find the best match for each box on their sheets. For example, a garage fire (on one student’s Life Sheet) would be perfectly matched, or covered, by homeowners insurance, which helps protect the structure of your home and garage (found on another student’s Insurance Sheet).
 10. Once a match is found, students initial each other’s sheets and move on to find another. The sheet with the most matches and unique initials (those belonging to more than one student) wins the challenge.

Important! Students will discover that they have life events with no matching insurance coverage. Ask students to consider how they would cover these expenses without insurance.

Summary and Review | 5 Minutes

Students learned that life involves risk. Protection against personal risk is the reason why people choose to buy insurance. Even though people often pay a yearly premium and deductible, the benefits of insurance, including peace of mind, almost always outweigh the out-of-pocket cost of an accident or illness.

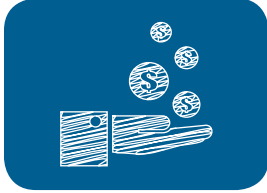
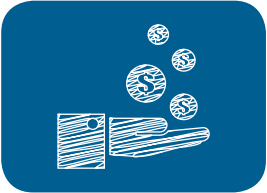
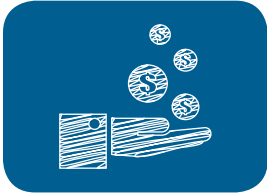
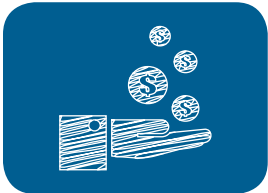
With today’s activity in mind, have students discuss the pros and cons of having insurance and how their opinions about paying for insurance may have changed from the start of the lesson.

Digging Deeper: Flash Card Activity

Have students create their own flash cards to demonstrate the ways people can help protect themselves against costly accidents or injury. For example, wearing a helmet when riding a bike or using a seat belt when riding in a car may help reduce the need for doctor visits or hospital stays. Students can draw a picture of the scenario on one side of an index card and their explanation of it on the other side. Ask students to separate into pairs to compare their cards.

Optional: Distribute the Saving, Investing, and Risk Management Assessment Sheets and have students complete them. The Answer Key is found on Pages 27–28.

Insurance Sheet

<p>Homeowners Insurance helps protect your home and garage.</p> <p><i>Find: a homeowner whose garage was damaged by fire.</i></p>	<p>Medical Health Insurance</p> <p><i>Find: a person who went to the emergency room.</i></p>	 <p>No Insurance</p>	<p>Auto Insurance with collision coverage helps pay for vehicle repairs.</p> <p><i>Find: a car owner with \$4,500 in damages.</i></p>
Initials _____	Initials _____	Initials _____	Initials _____
<p>Auto Insurance with comprehensive coverage helps pay for weather-related or vandalism repairs.</p> <p><i>Find: a car owner with hail damage.</i></p>	<p>Homeowners Insurance with additional coverage</p> <p><i>Find: a homeowner with a sewer backup.</i></p>	<p>Medical Health Insurance</p> <p><i>Find: a person who was recently hospitalized.</i></p>	<p>Auto Insurance with personal injury coverage will help pay lost income if the insured person is hurt.</p> <p><i>Find: an injured car owner who can't work.</i></p>
Initials _____	Initials _____	Initials _____	Initials _____
<p>Phone Insurance with extended warranty offers replacement coverage if a phone is lost, stolen, or damaged.</p> <p><i>Find: someone who just lost his/her phone.</i></p>	<p>Homeowners Insurance with personal liability coverage helps pay if others are hurt in your home.</p> <p><i>Find: a homeowner whose friend was injured on his/her property.</i></p>	<p>Auto Insurance with underinsured/uninsured coverage offers protection in accidents with drivers who have little or no insurance.</p> <p><i>Find: a car owner with \$6,600 in damages.</i></p>	<p>Homeowners Flood Insurance</p> <p><i>Find: a homeowner with a flooded basement.</i></p>
Initials _____	Initials _____	Initials _____	Initials _____
 <p>No Insurance</p>	<p>Homeowners Earthquake Insurance</p> <p><i>Find: a homeowner with no place to live because of an earthquake.</i></p>	<p>Dental Insurance with braces coverage.</p> <p><i>Find: a person needing braces.</i></p>	 <p>No Insurance</p>
Initials _____	Initials _____	Initials _____	Initials _____
<p>Medical Health Insurance</p> <p><i>Find: a person who needs care for a head injury.</i></p>	 <p>No Insurance</p>	<p>Medical Health Insurance</p> <p><i>Find: someone who needs outpatient surgery.</i></p>	<p>Homeowners Insurance with content replacement coverage helps cover furniture and clothing.</p> <p><i>Find: a homeowner whose furniture was destroyed in a house fire.</i></p>
Initials _____	Initials _____	Initials _____	Initials _____

Life Sheet

<p>Creek overflows and your basement floods. Cost: \$10,500</p> <p><i>You need: Homeowners Flood Insurance.</i></p>	<p>Phone stolen. Cost: \$500</p> <p><i>You need: Phone Insurance.</i></p>	<p>You need braces. Cost: \$4,500</p> <p><i>You need: Dental Insurance with braces coverage.</i></p>	<p>Emergency room visit. Cost: \$1,150</p> <p><i>You need: Medical Health Insurance.</i></p>
Initials _____	Initials _____	Initials _____	Initials _____
<p>Garage fire. Cost: \$6,500</p> <p><i>You need: Homeowners Insurance.</i></p>	<p>Outpatient surgery. Cost: \$5,400</p> <p><i>You need: Medical Health Insurance.</i></p>	<p>Home struck by lightning. Cost: \$16,100</p> <p><i>You need: Homeowners Insurance.</i></p>	<p>Car accident. Cost: \$4,500</p> <p><i>You need: Auto Insurance with collision coverage.</i></p>
Initials _____	Initials _____	Initials _____	Initials _____
<p>Uninsured motorist damages your van. Cost: \$6,600</p> <p><i>You need: Auto Insurance with underinsured/uninsured coverage.</i></p>	<p>Friend is hurt in your home. Cost: \$2,000</p> <p><i>You need: Homeowners Insurance with personal liability coverage.</i></p>	<p>Sewer backup. Cost: \$1,200</p> <p><i>You need: Homeowners Insurance with additional coverage</i></p>	<p>Hail damages your car. Cost: \$1,500</p> <p><i>You need: Auto Insurance with comprehensive coverage.</i></p>
Initials _____	Initials _____	Initials _____	Initials _____
<p>Earthquake destroys your home.</p> <p><i>You need: Homeowners Earthquake Insurance.</i></p>	<p>Emergency room visit. Cost: \$3,200</p> <p><i>You need: Medical Health Insurance.</i></p>	<p>Hospitalization. Cost: \$32,000</p> <p><i>You need: Medical Health Insurance.</i></p>	<p>Auto accident injury. Cost: lost wages</p> <p><i>You need: Auto Insurance with personal injury coverage.</i></p>
Initials _____	Initials _____	Initials _____	Initials _____
<p>Lost phone. Cost: \$500</p> <p><i>You need: Phone Insurance.</i></p>	<p>Furniture destroyed in house fire. Cost: \$1,700</p> <p><i>You need: Homeowners Insurance with content replacement coverage.</i></p>	<p>Head injury. Cost: \$4,300</p> <p><i>You need: Medical Health Insurance.</i></p>	 <p>Doing Fine!</p>
Initials _____	Initials _____	Initials _____	Initials _____

Saving, Investing, and Risk Management Assessment

Choose the best answer for each question. Write the letter that corresponds with your answer on the line next to the number. For lists or topics requiring an explanation, write your answers on the lines provided.

1. ___ When it comes to personal savings, what does the acronym PYF stand for?

- a. Prepare Your Future
- b. Pay Your Friends
- c. Pay Yourself First
- d. Prepay Your Finances

2. List three things you learned about saving and investing.

- a. _____
- b. _____
- c. _____

3. List two short-term and two long-term savings options.

4. ___ A saver who wants her savings insured by the FDIC (Federal Deposit Insurance Corporation) wants to use this savings option.

- a. Stocks
- b. Bonds
- c. Mutual funds
- d. Savings account

5. ___ This type of investment is essentially an IOU with a set rate of return. The issuer promises to pay the buyer a certain sum of money at the end of a stated period plus interest payments at specific intervals. This type of investing doesn't represent ownership in the corporation, government agency, or utility borrowing the money.

- a. Money market account
- b. Stock
- c. Bond
- d. Certificate of deposit

Saving, Investing, and Risk Management Assessment

6. True or false:

- ___ A long-term investment usually means an investment period of one to three months.
- ___ Stocks are insured against loss by most banks and credit unions.
- ___ By automatically reinvesting dividends, you are buying additional shares and increasing your investment.
- ___ Interest is the fee received for the use of money.
- ___ The higher the probability that some event will happen, the more expensive the insurance premium to protect against that event will be.

7. ___ Protection against risk is the primary reason people purchase this type of policy.

- a. Auto insurance
- b. Health insurance
- c. Home insurance
- d. All of the above

8. List the pros and cons of owning a health insurance policy.

9. Chris is off to college this fall, but he has discovered that under his parents' health policy, he is only covered for emergency medical care while at school. Should Chris consider purchasing additional medical insurance just in case he needs it? Explain your answer.



Saving, Investing, and Risk Management

Assessment Answer Key

Choose the best answer for each question. Write the letter that corresponds with your answer on the line next to the number. For lists or topics requiring an explanation, write your answers on the lines provided.

- C** When it comes to personal savings, what does the acronym PYF stand for?
 - Prepare Your Future
 - Pay Your Friends
 - Pay Yourself First
 - Prepay Your Finances
- List three things you learned about saving and investing. **(Answers will vary)**
 - The degree of risk**
 - How easy it is to get your money**
 - The rate of return**
- List two short-term and two long-term savings options.

Short-term options could include savings accounts, certificates of deposit, and money market accounts.

Long-term options could include stocks, bonds, and mutual funds.
- d** A saver who wants her savings insured by the FDIC (Federal Deposit Insurance Corporation) wants to use this savings option.
 - Stocks
 - Bonds
 - Mutual funds
 - Savings account
- C** This type of investment is essentially an IOU with a set rate of return. The issuer promises to pay the buyer a certain sum of money at the end of a stated period plus interest payments at specific intervals. This type of investing doesn't represent ownership in the corporation, government agency, or utility borrowing the money.
 - Money market account
 - Stock
 - Bond
 - Certificate of deposit

Saving, Investing, and Risk Management

Assessment [Answer Key](#)

6. True or false:

F A long-term investment usually means an investment period of one to three months.

F Stocks are insured against loss by most banks and credit unions.

T By automatically reinvesting dividends, you are buying additional shares and increasing your investment.

T Interest is the fee received for the use of money.

T The higher the probability that some event will happen, the more expensive the insurance premium to protect against that event will be.

7. d Protection against risk is the primary reason people purchase this type of policy.

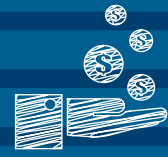
- a. Auto insurance
- b. Health insurance
- c. Home insurance
- d. All of the above

8. List the pros and cons of owning a health insurance policy.

Pros: Health insurance allows you to get regular medical health care and medicine when you need it. If you become seriously ill or injured, some or most of your care—including hospitalizations and surgery bills—also may be covered. Cons: Health care insurance is expensive. You pay for something you may never need. Deductibles and co-payments usually apply. You may be denied coverage or have limitations on office visits and specialists you can see.

9. Chris is off to college this fall, but he has discovered that under his parents' health policy, he is only covered for emergency medical care while at school. Should Chris consider purchasing additional medical insurance just in case he needs it? Explain your answer.

Chris can check with his parents' insurer to see if it offers a policy for students who attend school out of state. He also can look into purchasing a medical plan with ample coverage sponsored by his college or university, or he can consider purchasing an individual health policy.



Saving, Investing, and Risk Management Extension Activities



Understanding College Costs and the FAFSA31

The FAFSA form is used to evaluate a student's (and parents') financial ability to pay for college.



Understanding Stock Quotes35

Students use the information found in a sample stock quote table to analyze a stock portfolio.



Roth IRAs: Teens and Retirement Savings39

With earned income, students can invest and watch their savings grow for retirement.



Compound Interest and the Rule of 7243

Students use an online compound interest calculator to determine the growth of investments with varying interest rates and time horizons.



Junior Achievement Save, USA "Risk and Insurance" Online Lesson49

This interactive lesson helps students define risk, common insurance terms, and the different types of insurances.



Understanding College Costs and the FAFSA

Extension Activity

Overview

The U.S. Department of Education’s Free Application for Federal Student Aid (FAFSA) is required for all federal grants or loans. It is used to evaluate a student’s (and parents’) financial ability to pay for college.

Activity Time:
30 minutes

Teacher Introduction

According to the National Center for Education Statistics (NCES), the number of high school students projected to go to college in 2019 is 19.9 million.

College-ready students pay for costs in a number of ways. They may use money saved in personal accounts, use prepaid tuition or college savings plans, borrow money using loans, pay through income, or receive “free” money through federal grants or merit (academics, talent, or athletic) scholarships. College costs include tuition and fees, on-campus housing, and meals. Students also must consider indirect college costs: books, supplies, transportation, and any off-campus housing.

To apply for need-based financial aid from the federal government, students need to complete the FAFSA at www.fafsa.ed.gov in January of their senior year of high school. The form is filled out and filed electronically.

After the form is complete, the government returns a Student Aid Report. This includes the EFC (Expected Family Contribution), the amount students and their families can expect to pay before any federal grants or loans are given. The FAFSA must be completed each year a student is in college.

Tips for students filling out the FAFSA:

1. Use your legal name; no nicknames.
2. The application assumes the student (not the parent) is completing the application.
3. Fill in each Social Security blank.
4. Dollar amounts should not include cents.
5. Tax information must be accurate and up-to-date.

Materials and Preparation

- Computers and Internet access
- Student Workbooks, Page 38



FAFSA 101
Worksheet

FAFSA Activity Steps

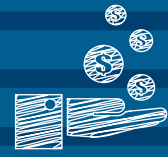
1. Review the Student Worksheet on Page 33 of this guide.
2. Students visit the FAFSA home page at www.fafsa.ed.gov.
3. Assignment: Students watch the FAFSA: Apply for Aid YouTube videos. They also fill in the Student Worksheet with information they find at the site.

Optional: The Department of Education provides a standard format for evaluating college costs and performance. Have students visit <https://collegecost.ed.gov/catc/>, and compare costs.

Summary and Review

Review the major concepts of the FAFSA. Have students demonstrate what they have learned by creating one or more collaborative posters. Each student should use a single colored marker so you can easily track his or her work.

Ask students to share what they learned today about FAFSA with their parents or caregivers. A helpful video for parents can be found at <https://www.youtube.com/watch?v=QdaGZASwjZU&feature=youtube>.



FAFSA 101
Saving, Investing, and Risk Management
Extension Activity
Student Worksheet, Page 38



FAFSA 101
Extension Activity

It's a good idea to keep college debt to a minimum. According to a 2018–19 U.S. News report, the average tuition at an in-state college is \$9,717 compared with \$35,676 at a private college.

- Assignment: Fill in the FAFSA worksheet with information you find at www.fafsa.ed.gov and find out how federal grants and loans work.

What is the Student Aid Deadline for your state? _____

Go to YouTube.com and watch the FAFSA videos about applying for aid.

- Video 1: "Overview of the Financial Aid Process" https://www.youtube.com/watch?v=H_iS7gmQd9o
- Video 2: "How to Fill Out the FAFSA" <https://www.youtube.com/watch?v=LK0bbu0y5AM>
- Video 3: "After the FAFSA: What Happens Next?" <https://www.youtube.com/watch?v=ZursF3MUrPA>

Select "Who Gets Aid" at the top of the page.

How can the Federal Student Aid Office help you with college costs?

Select "Types of Aid." Based on the information you find, what is the difference between federal and private loans? (For example, the interest rates on federal student loans are generally lower than private loans or credit cards. Also, you can expect to start paying back a federal direct loan six months after you graduate college.)



Understanding Stock Quotes

Extension Activity

Overview

Students read stock quotes and learn how the quotes help investors stay informed on a stock's movement in the stock market.

Activity Time:
20 minutes

Teacher Introduction

Understanding stock quotes is an important skill for all students. Students need to understand that buying stocks is not just for rich people. In fact, if students invest only in low-risk instruments such as savings accounts, CDs, and money market accounts, their savings are not likely to grow to their full potential or to beat inflation.

A stock's value will change depending on the day's market forecast and other conditions. A stock quote contains information that helps the investor see at a glance a number of things about the stock. Based on this information, investors and analysts track individual stock performance, assess risk, and get clues on how the stock might perform in the future.

A stock quote includes more information than the current market price. It also may have the previous close and opening price, the daily high and low selling price, the 52-week high and low price, the total number of shares that were traded throughout the day, and the total shares outstanding, among other information.

Stock quotes can be obtained from newspapers or from the Internet. Information found online from sites like MarketWatch or MSN Money is updated throughout the day. Online sites often include historical stock price information provided by financial institutions as well as extensive research, charts, and up-to-date news reports.

Stock Value Example

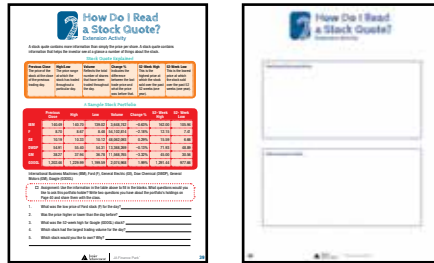
Students also can determine the value of an individual stock holding by using the following formula:

Daily closing price x the number of stock shares held = total stock value

Example:
General Electric (GE) \$10.22 x
70 shares =
\$715.40

Materials and Preparation

- Student Workbooks, Pages 39–40



How Do I Read a Stock Quote? Worksheets

Understanding Stock Quotes Activity Step

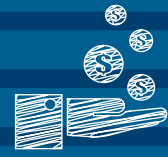
Students answer worksheet questions based on the information found in the abbreviated stock quote table.

Summary and Review

Have students use their own words to define a stock quote. Ask them to imagine receiving a gift of \$1,000, which they must use to buy three stocks. Which stocks would they buy and why? Give them the opportunity to research stocks in the newspaper or online and keep track of them on Page 40 in their Workbooks for several days or weeks.

How Do I Read a Stock Quote? Answer Key

1. What was the low price of Ford stock (F) for the day?
8.48
2. Was the price higher or lower than the day before?
lower
3. What was the 52-week high for Google (GOOGL) stock?
\$1,291.44
4. Which stock had the largest trading volume for the day?
Ford
5. Which stock would you like to own? Why?
Answers will vary.



How Do I Read a Stock Quote?

Saving, Investing, and Risk Management
Extension Activity
Student Worksheet, Page 39



How Do I Read a Stock Quote?

Extension Activity

A stock quote contains more information than simply the price per share. A stock quote contains information that helps the investor see at a glance a number of things about the stock.

Stock Quote Explained

Previous Close	High/Low	Volume	Change %	52-Week High	52-Week Low
The price of the stock at the close of the previous trading day.	The price range at which the stock has traded throughout a particular day.	Reflects the total number of shares that have been traded throughout the day.	Indicates the difference between the last trade price and what the price was before that.	This is the highest price at which the stock sold over the past 52 weeks (one year).	This is the lowest price at which the stock sold over the past 52 weeks (one year).

A Sample Stock Portfolio

	Previous Close	High	Low	Volume	Change %	52- Week High	52- Week Low
IBM	140.49	140.70	139.02	3,648,742	-0.63%	162.00	105.94
F	8.70	8.67	8.48	54,102,814	-2.18%	12.15	7.41
GE	10.19	10.33	10.12	48,062,093	0.29%	15.59	6.66
DWDP	54.91	55.40	54.31	13,368,269	-0.13%	71.93	48.89
GM	38.27	37.94	36.78	11,568,765	-3.32%	45.00	30.56
GOOGL	1,202.46	1,229.99	1,199.59	2,074,968	1.99%	1,291.44	977.66

International Business Machines (IBM), Ford (F), General Electric (GE), Dow Chemical (DWDP), General Motors (GM), Google (GOOGL)

Assignment: Use the information in the table above to fill in the blanks. What questions would you like to ask this portfolio holder? Write two questions you have about the portfolio's holdings on Page 40 and share them with the class.

1. What was the low price of Ford stock (F) for the day? _____
2. Was the price higher or lower than the day before? _____
3. What was the 52-week high for Google (GOOGL) stock? _____
4. Which stock had the largest trading volume for the day? _____
5. Which stock would you like to own? Why? _____

How Do I Read a Stock Quote?
Saving, Investing, and Risk Management
Extension Activity
Student Worksheet, Page 40



**How Do I Read
a Stock Quote?**
Extension Activity

Stock portfolio questions:

A large rectangular area enclosed by a dotted blue border, intended for students to write their stock portfolio questions.

Stock research notes:

A large rectangular area enclosed by a dotted blue border, intended for students to write their stock research notes.



Roth IRAs: Teens and Retirement Savings

Extension Activity

Overview

With earned income, students can invest and watch their savings grow for retirement.

Activity Time:
20 minutes

Teacher Introduction

Teaching students to put even small amounts of money aside for a time far away, such as retirement, is not easy. Indeed, living for the moment and having fun is a lot more appealing. But to harness the power of compound interest, it is crucial for all earners to set aside a portion of each paycheck toward a retirement account. Contributing to a Roth IRA (Individual Retirement Account) can help students think about their future and consider the importance of saving for a lifetime after high school. **Dollar-cost averaging** with income earned from a summer or part-time job can be a solid first step. Dollar-cost averaging is a method of investing a fixed amount in the same type of investment at regular intervals, regardless of price. With time, the potential for retirement savings growth can be sizable.

In 2019, students were allowed to invest earnings up to \$6,000 in a Roth IRA. (The funds must be earnings; allowances and birthday money do not count.) If students don't earn that much, parents and grandparents can contribute matching dollars to reach the income limit. Only after-tax money can be invested in a Roth.

As a rule, contributions to a Roth IRA can be withdrawn tax free at any time with no penalty. Earnings are typically taxable, along with a 10 percent penalty if they are taken before age 59½. This penalty, however, is waived if the money is used for qualified college expenses. A Roth IRA typically isn't counted in federal or college financial aid formulas since it is considered a retirement account. Students, however, should check with their schools to see if this holds true for them. Note: If funds are withdrawn during the college years, the money will be counted as student income for the calendar year the withdrawal is made. Again, families should check with their accountant or financial adviser for information and advice specific to their circumstances.

Roth IRAs and Teens

Unlike traditional IRAs, contributions to Roth IRAs are not tax deductible, but potential earnings are tax free if withdrawn after age 59½ and the account is at least five years old.

Note: Students who hold Roth IRAs have access to their money upon the age of majority—that is, the age when they can sign contracts and take full legal responsibility for themselves.

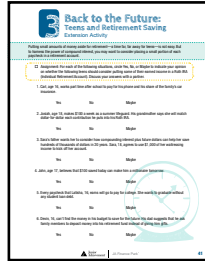
Vocabulary

Dollar-cost averaging

A method of investing a fixed amount in the same type of investment at regular intervals, regardless of price.

Materials and Preparation

- Review the Student Worksheet on Page 41
- Student Workbooks, Page 41



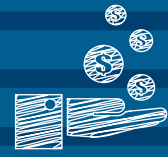
Back to the Future: Teens and Retirement Saving Worksheet

Roth IRAs – Back to the Future Activity Step

Students read six teen scenarios and decide whether it's a good idea if any or all of the teens should start saving for retirement with a Roth IRA.

Summary and Review

Students learned that putting aside money for retirement means making choices with today's dollars. Suggest to students that they ask a relative what it's like to live on retirement money or a fixed monthly income.



Back to the Future: Teens and Retirement Saving

Saving, Investing, and Risk Management

Extension Activity

Answer Key



Back to the Future: Teens and Retirement Saving

Extension Activity

Putting small amounts of money aside for retirement—a time far, far away for teens—is not easy. But to harness the power of compound interest, you may want to consider placing a small portion of each paycheck in a retirement account.

□ Assignment: For each of the following situations, circle Yes, No, or Maybe to indicate your opinion on whether the following teens should consider putting some of their earned income in a Roth IRA (Individual Retirement Account). Discuss your answers with a partner.

1. Carl, age 16, works part time after school to pay for his phone and his share of the family's car insurance.

Yes

No

Maybe

With his expenses, Carl may not have enough money to open a retirement account.

2. Josiah, age 18, makes \$100 a week as a summer lifeguard. His grandmother says she will match dollar-for-dollar each contribution he puts into his Roth IRA.

Yes

No

Maybe

A match is free money and may pay off in added savings over time.

3. Sara's father wants her to consider how compounding interest plus future dollars can help her save hundreds of thousands of dollars in 20 years. Sara, 18, agrees to use \$1,000 of her waitressing income to kick off her account.

Yes

No

Maybe

Sara understands how compounding works and sees the advantages of saving early.

4. John, age 17, believes that \$100 saved today can make him a millionaire tomorrow.

Yes

No

Maybe

John has a great attitude toward savings, but we don't have enough information to know if he should open a retirement account.

5. Every paycheck that Latisha, 16, earns will go to pay for college. She wants to graduate without any student loan debt.

Yes

No

Maybe

Latisha has made a decision to use her paycheck to start saving for college. Retirement can wait.

6. Devin, 16, can't find the money in his budget to save for the future. His dad suggests that he ask family members to deposit money into his retirement fund instead of giving him gifts.

Yes

No

Maybe

Devin agrees with his dad. He doesn't want many of the gifts he receives anyway and his family is happy contributing to his retirement knowing it's what he really wants. A win-win situation for all involved.



JA Finance Park®



Compound Interest and the Rule of 72

Extension Activity

Overview

Compound interest is interest paid on an asset's reinvested earnings. The Rule of 72 is a simple way to estimate how savings can grow over time and with a predetermined interest rate.

Activity Time:
30 minutes

Teacher Introduction

It's important to understand the "miracle" of compound interest. Educating students about compound interest and savings accounts will foster strong financial habits. Compound interest is interest paid on a starting amount, called the principal, plus prior interest. This differs from simple interest in which interest is calculated on the original amount only.

For example, \$100 in a savings account that pays 6 percent interest compounded annually earns \$6.00 in interest the first year.

$$\begin{aligned} \$100 \times 0.06 &= \$6 \\ \$100 + \$6 &= \$106 \end{aligned}$$

That investment (\$106) in the second year earns \$6.36 in interest with compound interest.

$$\begin{aligned} \$106 \times 0.06 &= \$6.36 \\ \$106 + 6.36 &= \$112.36 \end{aligned}$$

For compound interest to work, it requires time and the reinvestment of earnings. By giving investments more time to grow, the accumulation of interest on the interest itself can help increase a savings or investment account.

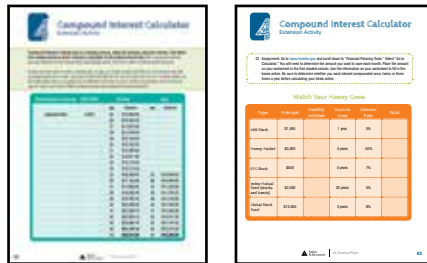
Have students look at the Compound Interest Calculator Worksheet on Page 42 in the Student Workbook and consider the following simplified example. Kristie and Josh want to start a savings plan. At age 25, Kristie invests \$10,000 at a 5 percent interest rate that is compounded once a year. Josh also invests \$10,000 at 5 percent, but he waits until he is 35 to start saving. As the table on the next page shows, by giving her investment more time to grow, Kristie accumulates more money by age 45.

Ask the students, "How much more?" (Answer: \$10,244.03)

Investment Amount	\$10,000	Kristie		Josh	
		Age	Balance	Age	Balance
Interest Rate	5.00%	25	\$10,000.00		
		26	\$10,500.00		
		27	\$11,025.00		
		28	\$11,576.25		
		29	\$12,155.06		
		30	\$12,762.82		
		31	\$13,400.96		
		32	\$14,071.00		
		33	\$14,774.55		
		34	\$15,513.28		
		35	\$16,288.95	35	\$10,000.00
		36	\$17,103.39	36	\$10,500.00
		37	\$17,958.56	37	\$11,025.00
		38	\$18,856.49	38	\$11,576.25
		39	\$19,799.32	39	\$12,155.06
		40	\$20,789.28	40	\$12,762.82
		41	\$21,828.75	41	\$13,400.96
		42	\$22,920.18	42	\$14,071.00
		43	\$24,066.19	43	\$14,774.55
		44	\$25,269.50	44	\$15,513.28
		45	\$26,532.98	45	\$16,288.95

Materials and Preparation

- Computers and Internet access
- Student Workbooks, Pages 42–43



Compound Interest Calculator Worksheets



The Rule of 72

Students can quickly figure how long it would take to double their money by using the Rule of 72. Divide 72 by the interest rate to determine the number of years savers need for their money to grow. Savers also can divide 72 by the number of years to determine the interest rate they need to double their money.

$72 \text{ divided by interest rate} = \text{the number of years to double money}$

For example, with a 6 percent interest rate, savers should divide 72 by 6, which equals 12 ($72/6 = 12$ years). It will take 12 years for savings to double.

Compound Interest Activity Steps

1. Review the Student Worksheets for this activity.
2. Assignment Options:

- » **Option One:** Have students use an online compound interest calculator (one can be found at the U.S. Securities and Exchange Commission site*) and see how different investment types grow with varying interest rates and time horizons. Have students fill in Page 43 in their Workbooks.

*Go to www.investor.gov and scroll down to Financial Planning Tools. Select “Go to Calculator.” Use the following link to get to the page directly:

<https://investor.gov/additional-resources/free-financial-planning-tools/compound-interest-calculator>.

- » **Option Two:** Using a pencil and paper and the information in the table provided on Page 42 of the Student Workbook, have students graph Kristie’s data, using units of one year for age and \$500 for the balance. Students will prepare a graph and share it with the class. (A copy of the table is on Page 46 of this Guide.)
- » **Option Three:** Working in teams, have students use a graphing calculator and enter Kristie’s data using the same units as above. Have one member of the team share his or her results with the class.

Digging Deeper

Ask students, “What do these visual results tell us about compound interest? What kind of function is this? (quadratic) Why? (The principal keeps increasing.)”

Summary and Review

Students examined the way varying savings amounts and interest rates can increase personal wealth over a long time period. Have students create a graphic organizer showing what they learned about compound interest or the Rule of 72 and post it on the class bulletin board.

Compound Interest Calculator
 Saving, Investing, and Risk Management
 Extension Activity
 Student Worksheet, Page 42

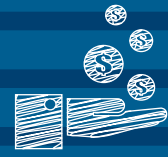


Compound Interest Calculator
 Extension Activity

Compound interest is interest paid on a starting amount, called the principal, plus prior interest. This differs from simple interest in which interest is calculated on the original amount only. With compound interest, you earn interest on the interest that your savings earns. Over time, even a small amount can grow.

Kristie and Josh want to start a savings plan. At age 25, Kristie invests \$10,000 at a 5% interest rate that is compounded once a year. Josh also invests \$10,000 at 5%, but he waits until he is 35 to start saving. As the table below shows, by giving her investment more time to grow, Kristie accumulates more money by age 45. How much more? What do these results tell us about compound interest?

Investment Amount	\$10,000	Kristie		Josh	
Interest Rate	5.00%	Age	Balance	Age	Balance
		25	\$10,000.00		
		26	\$10,500.00		
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Compound Interest Calculator
 Saving, Investing, and Risk Management
 Extension Activity
 Student Worksheet, Page 43



Compound Interest Calculator
 Extension Activity

Assignment: Go to www.investor.gov and scroll down to "Financial Planning Tools." Select "Go to Calculator." You will need to determine the amount you want to save each month. Place the amount on your worksheet in the first shaded column. Use the information on your worksheet to fill in the boxes online. Be sure to determine whether you want interest compounded once, twice, or three times a year before calculating your totals online.

Watch Your Money Grow

Type	Principal	Monthly Addition	Years to Grow	Interest Rate	Total
ABB Stock	\$1,000		1 year	5%	
Money Market	\$5,000		4 years	.50%	
EFG Stock	\$500		5 years	7%	
Index Mutual Fund (stocks and bonds)	\$2,000		20 years	5%	
Global Stock Fund	\$10,000		3 years	8%	



Junior Achievement *\$ave, USA* “Risk and Insurance” Online Lesson Extension Activity

Overview

This interactive online lesson will help students understand risk, insurance terms, and types of insurance.

Activity Time:
30 minutes

Teacher Introduction

Why do you need insurance? What kinds should you have? Everyone has different insurance needs. Students learn key insurance definitions and the benefits of certain kinds of insurances. They also see they can reduce risk by making smart choices.

Materials and Preparation

- Computers and Internet access
- Student Workbooks, Page 44



Junior
Achievement
\$ave, USA
Worksheet

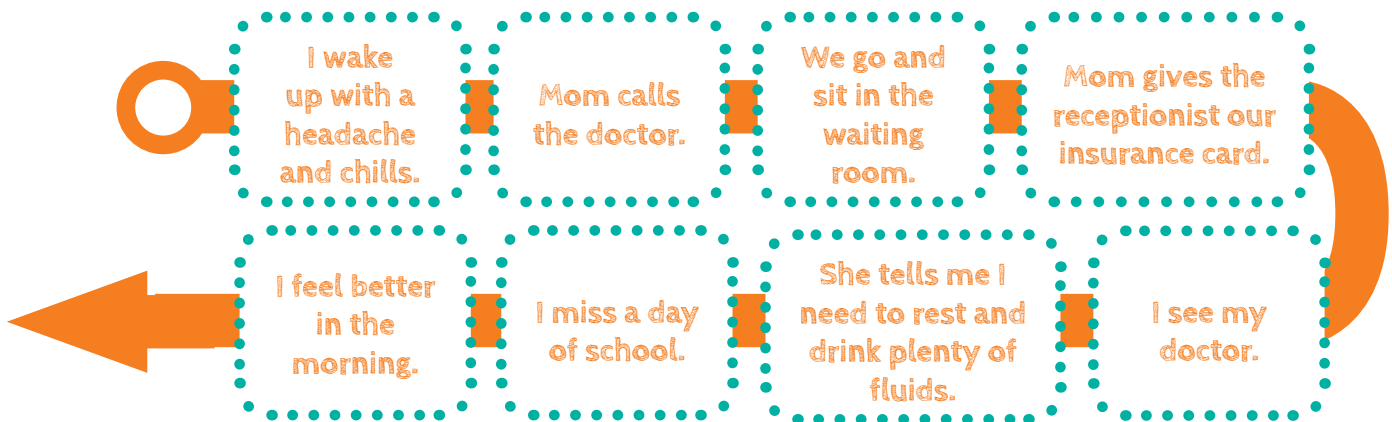
Junior Achievement *Save, USA* Online Activity Steps

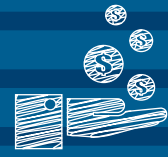
Have students log on to www.juniorachievement.org/web/ja-usa/junior-achievement-save-usa.

1. Scroll down to the Upper Elementary/Lower Middle Grades “Risk & Insurance” lesson. Select **Play Online Now**.
2. Students view five modules on insurance. A check mark will appear on each icon once the module has been read and/or completed.
 - Module 1: Select **Introduction: Risk!** to view the short video, “Life Comes with Risk.”
 - Module 2: Select **Risk & Insurance** and rate the activity risks from highest to lowest. Read about consequences and what you can do to lessen risk.
 - Module 3: Insurance is something you buy just in case you need it. Select **Learning About Insurance**. View the need for insurance and an insurance example. Learn common insurance terms: *beneficiary, claim, deductible, insurance, insurance agent, policy, premium, risk*. Take the **Test Your Knowledge** quiz.
 - Module 4: Select **Types of Insurance**. Read about an extended warranty and three types of insurance: vehicle, renters, and health.
 - Module 5: Congratulations! You’ve completed the “Risk & Insurance” lesson.

Summary and Review

Students observed that risk is a part of life that can be reduced with responsible behavior and insurance. If time permits, ask students to sequence a life event such as a mild illness that may have required insurance to help pay costs and then diagram the sequence. For example:





Junior Achievement \$ave, USA Online Lesson

Extension Activity

Junior Achievement \$ave, USA Online Activity Steps

Assignment: Go to www.juniorachievement.org/web/ja-usa/junior-achievement-save-usa. Scroll down to the Upper Elementary/Lower Middle Grades “Risk & Insurance” lesson. Select **Play Online Now**.

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- Module 5: Congratulations! You’ve completed the “Risk & Insurance” lesson.

