

Saving and Investing Strategies and Influences

LESSON DESCRIPTION (Background for the Instructor)

In this lesson, students will learn about the difference between saving and investing, types of investment risks, and the time-tested investment risk reduction strategies of diversification, buy and hold, and dollar-cost averaging. They will also learn about factors that influence the amount that should be saved or invested to meet financial goals, including an investor's available time horizon and risk tolerance level.

The lesson includes five activities that instructors can select from. In these activities, students will:

- ◆ View the video *The Difference Between Saving, Investing, and Speculating* and answer debriefing questions about the video content
- ◆ Complete investment case study math problems using an online *Compound Interest Calculator*
- ◆ Use an interactive online tool, *The Balloon Test*, to assess their personal investment risk tolerance
- ◆ Complete a *Web Quest* and math calculations to learn about dollar-cost averaging
- ◆ Analyze and discuss the Lifehack infographic *Why You Should Start Investing Early*

The lesson also contains 10 assessment questions (5 multiple choice and 5 True-False), learning extensions (i.e., suggested learning activities beyond the scope of the lesson plan), and references and resources.

INTRODUCTION (Background for the Instructor)

Saving is typically done for emergency funds and short-term goals and usually has a known, but generally low, rate of return. *Investing* is done for long-term goals and capital appreciation (growth) of money over time and has a higher *potential* rate of return. Investors cannot expect to have characteristics of savings (e.g., predictable returns) in an investment product. What saving and investing both have in common is that savers/investors must “live below their means” and set money aside today to have available in the future.

People invest money for a variety of reasons including:

- ◆ To achieve financial goals (e.g., a new car and the purchase of a home)
- ◆ To increase current income (from dividends, interest, and capital gains)
- ◆ To achieve financial independence and have funds available for retirement

There is no such thing as a “perfect” (risk-free, tax-free, high return) investment. All investments involve trade-offs and some type of risk. However, if investors teach themselves to recognize and evaluate investment risks, they will be better able to balance their investment objectives and risk tolerance.

Investment risks that are essential for investors to understand include:

- ◆ **Market Risk-** The risk that prices of individual investments will be affected by volatility of the financial markets; i.e., a stock's price may fall simply because the overall stock market has dropped.
- ◆ **Business Risk-** The risk of events that affect only a specific company or industry. Some examples are a class action lawsuit against a company and the death or firing of a company's CEO.

- ◆ **Interest Rate Risk-** This risk affects fixed-income securities (e.g., bonds and bond funds). There is an inverse relationship between bond prices and interest rates. When interest rates rise, bond prices fall.
- ◆ **Inflation Risk-** The risk of a loss of purchasing power, which can occur if the rate of inflation (as measured by the Consumer Price Index or CPI) is higher than the rate of return on an investment.
- ◆ **Reinvestment Risk-** The risk of having to reinvest existing funds and earn a lower return than what was previously earned (due to decreasing market interest rates), resulting in a decline in income.

There are two basic ways to invest money: Investors can *loan* it to pay for a company's or a government entity's (e.g., state, city) operations OR they can *own* an investment outright:

- ◆ **Loanership-** When investors *loan* money to a company or government entity, they receive income based upon a set interest rate for a set period of time. The issuer of the investment promises to pay back the original principal plus interest. *Loanership* investments include bonds, bond mutual funds, money market accounts and mutual funds, Treasury bills, bonds and notes, and certificates of deposit (CDs).
- ◆ **Ownership-** When investors *own* an investment, they purchase all or part of it (e.g., apartment building or share of stock). The value of ownership assets will fluctuate with market conditions, potentially providing a higher return than investors would receive from loaning money. *Ownership* investments include stocks, stock mutual funds, real estate, commodities, collectibles, and precious metals.

Generally, investors incur more risk (of loss of principal), but have higher potential returns, with ownership investments. Many people struggle with the risk vs. reward tradeoff when they begin investing, however. They may choose investments that are so conservative that their money does not grow after taxes and inflation. Several strategies can reduce investment risk and increase the possibility of higher growth:

- ◆ **Diversification-** Selecting a variety of investments (e.g., stocks, bonds, and cash assets) and a variety of securities within each type of investment, such as stock issued by a variety of companies.
- ◆ **Buy and Hold-** Investing for a long period of time (at least five years), regardless of market volatility, and ignoring temporary ups and downs in the stock market.
- ◆ **Dollar-Cost Averaging-** Making regular investment deposits at regular time periods (e.g., \$100 per month). The set amount will buy more shares when prices are down and fewer when prices are high.

Three key factors influence how much money should be saved or invested to meet financial goals:

- ◆ **Time-** Young adults can invest less per month than older adults to reach a specific goal (e.g., \$1 million for retirement) because they have many years ahead of them to save and invest. For every decade of delay, the amount needed to set aside to reach a financial goal approximately triples.
- ◆ **Rate of Return-** The higher an investment's average annual return (e.g., 6% vs. 4%), the less money investors have to personally deposit because compound interest is working harder on their behalf.
- ◆ **Risk Tolerance-** This is an investor's capacity to handle the uncertainty that accompanies the selection of specific investment products such as stocks. Risk tolerance has also been referred to as the "sleep at night factor," as in "how much investment risk can you withstand and still be able to sleep at night?"

Not all factors related to investment risk tolerance are financial ones, such as income and net worth. An investor's knowledge about investing, previous investment experiences, and attitudes about risk-taking in general can also be influences. Risk tolerance levels associated with investments may also be associated with other types of risk-taking behaviors in life such as fast driving and participation in extreme sports.

Rutgers Cooperative Extension has an online [Investment Risk Tolerance Quiz](#). The quiz includes 13 questions and provides users with feedback about their capacity to handle investment risk. It also collects data for research. The higher the total score, the higher someone's investment risk tolerance. Quiz questions are based on both thoughts about risk in hypothetical situations and current investing behavior.

Ideally, an investor's risk tolerance level should remain about the same during bull (rising) and bear (falling) markets. However, this is often not the case. What often happens, instead, is that investors' risk tolerance levels are greatly influenced by the current direction of benchmark market indexes (e.g., DJIA).

Asset allocation is the process of dividing a person's portfolio (the sum total of their investments, whatever the amount), percentage wise, into different asset classes. For example, 50% stock, 30% bonds, and 20% cash equivalent assets. Different investments are then purchased within each asset class. Aggressive investors will have more stock in their portfolio than moderate investors and moderate investors will have more stock in their portfolio than conservative investors.

A frequently cited guideline is "110 – your age" as the suggested percentage of portfolio assets to put in stocks. For example, 110 – 30 (age) = an 80% stock allocation. At age 40, the stock allocation would decrease to 70% (110-40). This guideline corresponds with recommendations to gradually decrease the percentage of stocks in a portfolio as investors get older (rationale: to shift to more income-oriented investments and because there are fewer years of life left to recover from stock market downturns).

Note: Additional information about basic investing concepts and investment products can be found in the New Jersey Department of Education Standard 9.1.12.D.3 lesson plan [#6, Investing For Your Future](#).

OBJECTIVES

Students will be able to:

- ◆ Describe differences between strategies used to save and invest money.
- ◆ Calculate the amount of savings required to achieve financial goals in case study math problems.
- ◆ Compare the amount accumulated on savings and investments at various rates of return.
- ◆ Describe factors that affect the amount of savings/investments needed to achieve financial goals.
- ◆ Assess and describe their personal investment risk tolerance.
- ◆ Appreciate the awesome power of compound interest in growing savings and investments over time.

NEW JERSEY PERSONAL FINANCIAL LITERACY STANDARD

- ◆ Standard 9.1.12.B.2: Compare strategies for saving and investing and the factors that influence how much should be saved or invested to meet financial goals.
See <http://www.state.nj.us/education/aps/cccs/career/FLFAQ.htm#gradcredit> and <http://www.state.nj.us/education/cccs/2014/career/91.pdf> for information about Standard 9.1

TIME REQUIRED

45 to 180 minutes (depending upon student progress and content depth and number of activities used)

MATERIALS

- ◆ YouTube Video (2.48): *The Difference Between Saving, Investing, and Speculating*: <https://www.youtube.com/watch?v=blnxbftme0> and video debriefing questions
- ◆ *Compound Interest Calculator* (U.S. Securities and Exchange Commission): <https://www.investor.gov/additional-resources/free-financial-planning-tools/compound-interest-calculator>
- ◆ *Compound Interest Calculator Case Study Problems* activity handout
- ◆ *The Balloon Test* [investment risk tolerance assessment tool] (Barclays) and activity handout: <https://www.investmentphilosophy.com/behavioural-finance/your-attitude-to-risk/the-balloon-test>
- ◆ *Dollar-Cost Averaging Web Quest and Math Calculation* activity handout
- ◆ *Why You Should Start Investing as Early as Possible* Infographic (Lifhack): <http://www.lifhack.org/325117/why-you-should-start-investing-early-possible-infographic>
- ◆ *Saving and Investing Quiz* (ASSESSMENT)

Teachers are encouraged to use as many of the student learning activities as time permits to provide a fuller understanding of saving and investing strategies and influences. The activities can also be used for extra credit assignments, homework, or after-school activities.

PROCEDURE

1. Ask students if they have any personal experience with investing. For example, have they received any investments (e.g., stock shares) as a gift or are they aware of investments owned by family members?

Answers will likely vary. Students may or may not have any personal or family experience. In the second case, ask if they are aware of any famous investors (e.g., Warren Buffet). Explain that most famous and successful investors use systematic strategies that they stick to over long periods of time.

2. **Activity 1:** Show the video *The Difference Between Saving, Investing, and Speculating*: <https://www.youtube.com/watch?v=blnxbftme0> and debrief the following questions (based on video content) with students:

What does the word “saving” mean?

Saving is the process of setting money aside as a reserve for emergencies or to make a short-term purchase (less than three years in the future).

What are the most important advantages of savings products?

Safety of principal (the amount of money that is put into savings) and no fluctuation in account value.

What are three types of savings products mentioned in the video?

Savings accounts, money market accounts, and certificates of deposit, which are described below:

- ◆ **Savings Accounts-** High flexibility (e.g., low required minimum balances and no or low required withdrawal amounts) and low interest rates
- ◆ **Money Market Accounts-** Less flexibility (e.g., higher required minimums and/or withdrawal amounts) and slightly higher interest rates than savings accounts (typically)
- ◆ **Certificates of Deposit (CDs)-** Time deposit commitments (e.g., 6 months) and higher interest

What is the biggest disadvantage of savings products?

Slow growth of principal due to a low rate of return on deposited funds.

What does the word “investing” mean?

Investing is a long-term process of setting aside money with the expectation of earning more than the rate of inflation through the growth of principal over time.

What are the most important advantages of investment products?

Potential for higher long-term returns than savings products and potential to outperform inflation.

What are two key disadvantages of investment products?

Risk of loss of principal and volatility (i.e., the value of most investments bounces up and down).

What does the word “speculating” mean?

Putting money at risk with the hope of earning a high return in a short period of time.

Using the words saving, investing, and speculating...

- ◆ **Which word defines protecting your money?** Saving
- ◆ **Which word defines growing your money?** Investing
- ◆ **Which word defines gambling with your money?** Speculating

3. **Activity 2:** Direct students to the *Compound Interest Calculator* on the U.S. Securities and Exchange Commission website: <https://www.investor.gov/additional-resources/free-financial-planning-tools/compound-interest-calculator>. Ask them to work together in small groups to analyze the case study below. Then debrief the activity and the take-away messages from the calculator results.

The calculator has fields or a drop-down menu (step 4) for four simple steps: 1. Initial investment amount (if any), 2. Amount added to the principal and length of time, in years, that savings deposits are made, 3. Interest rate (estimated annual rate), and 4. Compounding frequency (annually, semi-annually, monthly, and daily). Once these fields are completed, users can click “Calculate” for results.

Jon Bentley is 22 and plans to retire at 67. His uncle gave him a \$1,000 gift to start a retirement fund and Jon used it to start a Roth IRA. Jon also joined the 401(k) plan at work. If Jon earns a 6% average return on both accounts (the Roth IRA and his 401(k) at work), compounded annually, how much would he have in the Roth IRA account at retirement?

John would have \$13,764.61 in 45 years.

How much would Jon have if he added \$50 monthly to the \$1,000 lump sum from his uncle?

Jon would have \$141,410.72 in 45 years.

How much would Jon have if he added \$100 monthly to the \$1,000 lump sum from his uncle?

Jon would have \$269,056 in 45 years.

How much would Jon have if he added \$200 monthly to the \$1,000 lump sum from his uncle?

Jon would have \$524,249.04 in 45 years.

How much would Jon have if he added \$200 monthly to the \$1,000 lump sum from his uncle and he received a 50% employer match?

Jon would have \$779,641.26 in 45 years. There would be a \$300 monthly deposit: \$200 + \$100 match.

How much would Jon's 32-year old co-worker, Sara, have if she started to invest \$200 monthly for retirement with a 50% employer match until age 67?

Sara would have \$401,165.21 in 35 years.

How much would Jon's 42-year old co-worker, Steve, have if he started to invest \$200 monthly for retirement with a 50% employer match until age 67?

Steve would have \$197,512.24 in 25 years.

How much would Jon's 52-year old co-worker, Sandra, have if she started to invest \$200 monthly for retirement with a 50% employer match until age 67?

Sandra would have \$83,793.49 in 15 years.

Switch to the *Savings Goal Calculator*. With the \$1,000 gift from his uncle, 6% growth over 45 years, and annual compounding, how much must Jon invest to have \$1 million at retirement?

If Jon invests \$386.32 every month (including employer match) over the next 45 years, he will have \$1,000,000 in savings at age 67. See the graphic image of the *Savings Goal Calculator* below.

COMPOUND INTEREST CALCULATOR | **SAVINGS GOAL CALCULATOR**

Step 1: Savings Goal
* Desired final savings. ▶

Step 2: Initial Investment
* Amount of money you have readily available to invest. ▶

Step 3: Growth Over Time
* Length of time, in years, that you plan to save. ▶

Step 4: Interest Rate
* Your estimated annual interest rate. ▶

Step 5: Compound It
* Frequency with which interest will be compounded. ▶

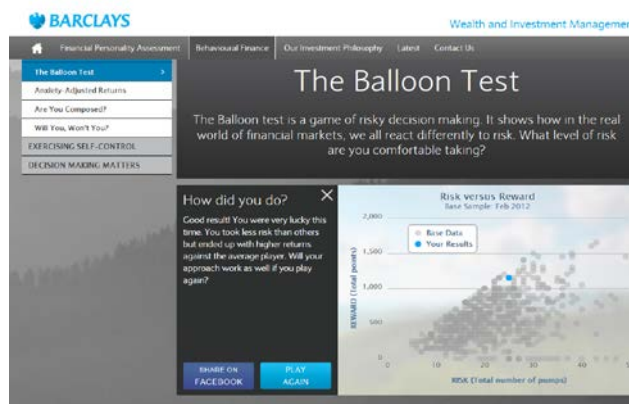
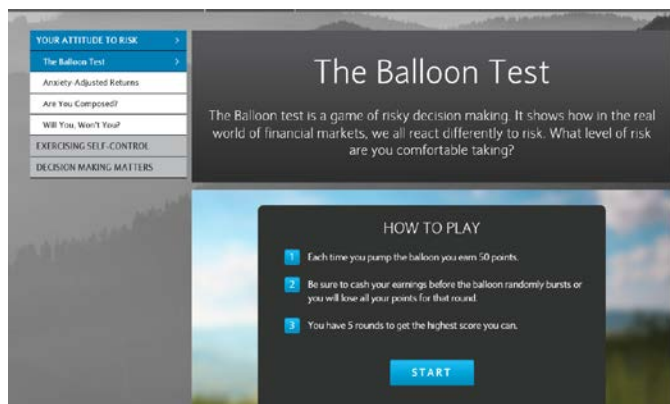
CALCULATE | **RESET**

Debrief the activity by having students discuss what they found out investing and compound interest.

Answers will likely vary and may include the following:

- ◆ *Growth on regular savings amounts is very impressive over time.*
- ◆ *Earnings on regular deposits over time are more impressive than earnings on a single lump sum.*
- ◆ *Employer matching (50 cents on the dollar, in this case) is a very valuable employee benefit to have because not all of the savings has to come from a worker's paycheck.*
- ◆ *The larger Jon's regular monthly savings amount, the more impressive his total savings was.*
- ◆ *It is very costly to delay retirement savings; for example, Steve has less than half of what Sara has.*
- ◆ *Saving less than \$100 a week in one's early 20s can result in \$1 million of savings at age 67.*

4. **Activity 3:** Distribute *The Balloon Test* activity handout and direct students to *The Balloon Test* interactive activity: <https://www.investmentphilosophy.com/behavioural-finance/your-attitude-to-risk/the-balloon-test>. Tell students to decide when (i.e., for how long?) to keep pumping the blue balloon to earn 50 points for each pump. This is like earning money on an investment. They also need to decide when to stop pumping to collect and bank points, ideally before a balloon bursts. This is like selling an investment and making a profit. At any time, balloons can burst, however, and make a loud popping noise. This is like losing money on an investment when stock or bond prices decrease.



Have students play *The Balloon Test* for five rounds. This is like investing for the long term where investment results can vary. Have students compare their total points to the baseline data by clicking “Compare with Others” and answer the following questions:

- **What was the highest and lowest number of points that you received on five rounds of play?**
Each student’s results will vary. Their total point values could vary from 0 to over 1,000 per round depending on how they played the game and the randomness of the balloon popping simulations.
- **How did you feel when your first balloon burst?**
Students will likely express disappointment or anger, especially when a balloon bursts before they have a chance to collect and bank any points. Investors often have the same types of feelings.
- **Did having a bubble burst change your behavior on subsequent rounds of play (i.e., future investment decisions)?**
Students may express a tendency to not pump a balloon as frequently after a few “pops.”
- **Did having a “good run” without balloons popping change your behavior on subsequent rounds of play?**
Students may express a tendency to pump a balloon more frequently after it doesn’t burst quickly.
- **How would you assess your risk tolerance as an investor?**
*Student answers will vary. Discuss differences, if any, by gender or grade level and ask students to describe similarities between decisions made on *The Balloon Test* activity and real life investing.*
- **What did *The Balloon Test* activity teach you about investing in stocks?**
Answers will vary but students should indicate that stock market performance is variable (i.e., both losses and gains) and unpredictable, just like balloon popping patterns vary from round to round.

5. **Activity 4:** Distribute the *Dollar-Cost Averaging Web Quest and Math Calculation* activity handout and ask students to find information about dollar-cost averaging and to write a simple definition of this investment technique. Then ask them to complete the table and questions about the mutual fund dollar-cost averaging case example below. Note: Information to be completed by students is shown in **red**.

Month	Regular Investment	Price Per Share	Shares Acquired
1	\$100	\$10.00	10.00
2	\$100	\$7.50	13.33
3	\$100	\$5.00	20.00
4	\$100	\$7.50	13.33
5	\$100	\$10.00	10.00
TOTAL	\$500		66.66

How much money was invested? \$500

How many shares were purchased? 66.66

What was the average cost per share? \$7.50 ($\$500 \div 66.66 = \7.50)

How much are the investor's shares worth on the day of the month 5 purchase? \$666.60 (66.66 shares purchased x \$10 per share)

What is the take-away message from this table? Investing happens on a regular schedule. Investors buy shares with a fixed monthly deposit (\$100). They buy more shares when share prices are low (e.g., \$5.00 per share) and fewer shares when share prices are high (e.g., \$10.00 per share). The average cost per share is calculated by dividing the amount invested (e.g., \$500) by the number of shares purchased (e.g., 66.66). Dollar-cost averaging lowers the average cost per share over time, resulting in an increased opportunity for investors to make a profit (capital gain). It also reduces the emotions associated with investing because share purchases are made regardless of stock market conditions.

6. **Activity 5:** Direct students to the *Why You Should Start Investing as Early as Possible* infographic at <http://www.lifehack.org/325117/why-you-should-start-investing-early-possible-infographic>. Ask them to describe its take-away message. Debrief students' responses with the entire class.

Student answers will vary but should center on the fact that David has \$151,975 more than Bruce at age 65 even though David only saved for eight years from age 19 to age 26 (total of \$16,000) vs. Bruce saving for 38 years from age 27 to age 65 (total of \$76,000). The reason is that David made his savings deposits at a young age and his early deposits earned compound interest for an extra decade.

CLOSURE

Ask students if they have any remaining questions about investing terminology and strategies. Remind them that investment risk tolerance is a personal preference and there is no “right” risk tolerance level. Conservative investors will need to save more money out-of-pocket than more aggressive investors (i.e., investors with more stock in their portfolio), however, because their money will likely grow more slowly.

GLOSSARY

Asset Allocation- The placement of a certain amount (percentage) of one’s investment capital within different types of asset classes; e.g., 50% stock, 30% bonds, and 20% cash equivalent assets.

Bond- A debt security (IOU) issued by a government or corporation that pays periodic interest to investors.

Buy and Hold- A strategy of purchasing securities believed to be of high quality and keeping them for a number of years.

Capital Gain- Profit made when an investor sells an investment for more than the amount paid to buy it.

Certificate of Deposit (CD)- A fixed amount of money deposited with a financial institution for a specified amount of time (e.g., 6 month and 12 month CDs) to earn interest.

Collectible- A tangible item (e.g., coins, stamps, art, and collector cars) purchased as an investment.

Compound Interest- Earning interest on previously-earned interest to build investment wealth over time.

Diversification- The process of reducing investment risk by selecting a variety of investments.

Dollar-Cost Averaging- Investing a set amount at set time intervals; e.g., \$50 on the first of every month.

Investing- Setting aside money to grow your net worth and to achieve long-term financial goals.

Loanership Investment- Type of investment where investors loan money to a company or government entity and receive income (interest) for a set time (e.g., corporate, U.S. Treasury, and municipal bonds).

Ownership Investment- Type of investment where investors own all or part of something and the asset value fluctuates with market conditions (e.g., common stock, stock mutual funds, and real estate).

Principal- The original amount of money that someone invests (e.g., stocks) or borrows (e.g. a mortgage).

Risk- The chance of loss of investment principal; e.g., a high-risk investment has a high chance of loss.

Risk Tolerance- Personal feelings of individuals about how much investment risk they want to take.

Saving- Setting aside money for emergencies, upcoming expenses, and short-term financial goals.

Speculating-The act of investing in securities that have a high risk of loss with the expectation of a large gain (profit) in a short period of time.

Stock- Unit of ownership of a corporation represented by shares owned by individual investors.

LEARNING EXTENSIONS

If time permits, the following activities can be used to extend the depth of this lesson:

- ◆ Use the learning activities and/or learning extension activities found in the *Investing For Your Future* lesson plan: <http://njaes.rutgers.edu/money/pdfs/DoE-Lesson-Plan-12-Investing-for-Your-Future.pdf>.
- ◆ Ask students to check with their parents or other family members to see if they own any investments and, if so, what types of securities are owned.
- ◆ Invite a local certified financial planner® as a guest speaker to discuss investment terminology, products, and strategies and share stories about successful and unsuccessful investors.
- ◆ Have students take the online Rutgers Cooperative Extension *Investment Risk Tolerance Quiz* and debrief the meaning of the results: <http://njaes.rutgers.edu/money/riskquiz/>
- ◆ Refer students to the *Financial Planning and Investing Glossary* for additional terminology definitions: <https://njaes.rutgers.edu/money/glossary.asp>.
- ◆ Have students view and debrief additional YouTube videos about investing:
Dollar Cost Averaging, Explained (Paddy Hirsch): <https://www.youtube.com/watch?v=ZFEnwg54Zj4>
Investing Basics: Retirement (Investools): <https://www.youtube.com/watch?v=LB4k-uL4nwM>
Saving vs. Investing (Zions TV): <https://www.youtube.com/watch?v=SoHgDXLj9hY&t=35s>
The Power of Diversification (E*Trade): <https://www.youtube.com/watch?v=pNO3Rmmezc0&t=29s>
Time Value of Money (Zions TV): <https://www.youtube.com/watch?v=0etEIitEINZw>
- ◆ Have students try out one or more of the following investment calculators listed below. Teachers may want to create simple case studies with personal finance data that can be entered into the calculator.
Investment Calculator (Bankrate): <http://www.bankrate.com/calculators/retirement/investment-goal-calculator.aspx>
Investment Calculator (American Funds): <https://www.americanfunds.com/individual/planning/tools/investment-calculator.htm>
Investment Calculator: Investing Now vs. Later (Scottrade): <https://research.scottrade.com/knowledgecenter/Public/Calculators/Investment>
- ◆ Have students write a summary of what they learned about investments for the school newspaper.
- ◆ Have students analyze and discuss information contained within the following infographics:
4 Investment Strategies to Grow Wealth Infographic (Motif Investing): <https://www.motifinvesting.com/blog/investment-strategies-to-grow-wealth>
Investing by Age Infographic (Nerd Wallet): <https://www.nerdwallet.com/blog/investing/infographics/infographic-investing-age/>
Rules of the Game: How Investing Works Infographic [Compares Investing to Basketball With words and Pictures] (Northern Trust): <https://wealth.northerntrust.com/investing/how-to-start-investing-rules-of-the-game>

ASSESSMENT: *Saving and Investing Quiz*

Instructors are encouraged to use the questions below for content review or as a pre-and/or post-test to determine gains in student knowledge about saving and investing after teaching this lesson.

Correct answers to the multiple choice and True-False questions are shown in boldface type.

Multiple Choice Questions

1. Buying a specific amount of stock or mutual fund shares at regular time intervals is called
 - a. Market timing
 - b. Asset allocation
 - c. Dollar-cost averaging**
 - d. Speculating
2. The process of owning many stocks in a variety of industries to reduce investment risk is called
 - a. Asset allocation
 - b. Speculating
 - c. Dollar-cost averaging
 - d. Diversification**
3. What of the following is *not* an ownership asset?
 - a. Real estate
 - b. U.S. Treasury bond**
 - c. Stock index fund
 - d. Shares of Apple and Google stock
4. Using a frequently cited guideline, what percentage of a 35 year old's investments should be in stock?
 - a. 65%
 - b. 70%
 - c. 75%**
 - d. 80%
5. What investment strategy do investors typically follow as they get older and approach retirement?
 - a. They choose less risky investments**
 - b. They choose more risky investments
 - c. Their investment strategy does not change
 - d. They choose speculative investments to try to make a large profit quickly

True-False Questions

1. Bonds are an example of a loanership investment (**TRUE: When investors buy bonds, they are lending money to a city, county, state, or the federal government or a for-profit corporation for a period of time, such as 10 or 30 years. During this time, bond investors receive interest from the bond issuer. When the bond matures, investors receive back their principal**)

2. The potential return on an investment is typically related to the amount of risk than an investor assumes **(TRUE: The potential return on investments typically rises with the level of risk that investors assume. When an investment has a low level of risk and uncertainty, it typically has a low potential return and when an investment has a high level of risk and uncertainty, it typically has a high potential return. This is often referred to as the risk-return tradeoff)**
3. The minimum time to invest using the “buy and hold” strategy is one year **(FALSE: “Buy and hold” is a passive investment strategy where high quality stocks are held for a long period of time regardless of stock market fluctuations. The minimum recommended holding period for this strategy is typically five years. By holding investments for more than a year, investors qualify for favorable long-term capital gain income tax rates vs. higher tax rates for short-term investments)**
4. For every decade that people delay investing, the amount that they need to save to reach a financial goal approximately doubles **(FALSE: The amount that must be invested a decade later (e.g., by a 35-year old vs. a 25 year old) is about three times higher. People who delay investing by ten years lose a decade of compound interest and compound interest is not retroactive)**
5. Investment products are more likely to outpace the rate of inflation than savings products **(TRUE: Savings products, such as bank CDs, may actually lose purchasing power after taxes and inflation. For example, a CD that pays 2% would only earn 1.5% after taxes in the 25% marginal tax bracket. If the inflation rate is 2.5%, an investor’s purchasing power would be reduced by 1%)**

REFERENCES AND RESOURCES

Assessing Your Risk Tolerance (U.S. Securities and Exchange Commission):

<https://www.investor.gov/research-before-you-invest/research/assessing-your-risk-tolerance>.

Dollar-Cost Averaging-DCA (Investopedia):

<http://www.investopedia.com/terms/d/dollarcostaveraging.asp>.

How to Reduce Investment Risk (Zacks): <http://finance.zacks.com/reduce-investment-risk-5269.html>.

Kapoor, J.R., Dlabay, L.R., Hughes, R.J., & Hart, M.M. (2016). *Focus on Personal Finance*. New York, NY: McGraw Hill Education.

Risk Tolerance (Investopedia): <http://www.investopedia.com/terms/r/risktolerance.asp>.

3 Strategies to Help Reduce Investment Risk (Ameriprise Financial): <https://www.ameriprise.com/research-market-insights/financial-articles/investing/strategies-to-help-reduce-investment-risk/>.

Types of Investment Risks (Investopedia): <http://www.investopedia.com/exam-guide/finra-series-6/evaluation-customers/types-investment-risks.asp>.

What are “Ownership” and “Loanership” Types of Investments? (eXtension):

<http://articles.extension.org/pages/39847/what-are-ownership-and-loanership-types-of-investments>.

What is Your Risk Tolerance? (Investopedia):

http://www.investopedia.com/articles/pf/07/risk_tolerance.asp.

The Difference Between Saving, Investing, and Speculating

Debriefing Questions

After watching the video *The Difference Between Saving, Investing, and Speculating*, answer the following questions:

What does the word “saving” mean?

What are the most important advantages of savings products?

What are three types of savings products mentioned in the video?

What is the biggest disadvantage of savings products?

What does the word “investing” mean?

What are the most important advantages of investment products?

What are two key disadvantages of investment products?

What does the word “speculating” mean?

Using the words saving, investing, and speculating...

- ◆ **Which word defines protecting your money?**

- ◆ **Which word defines growing your money?**

- ◆ **Which word defines gambling with your money?**

Compound Interest Calculator Case Study Problems

Visit the *Compound Interest Calculator* on the U.S. Securities and Exchange Commission website:
<https://www.investor.gov/additional-resources/free-financial-planning-tools/compound-interest-calculator> .

Work together in small groups to analyze the case study below.

Jon Bentley is 22 and plans to retire at 67. His uncle gave him a \$1,000 gift to start a retirement fund and Jon used it to start a Roth IRA. Jon also joined the 401(k) plan at work. If Jon earns a 6% average return on both accounts (the Roth IRA and his 401(k) at work), compounded annually, how much would he have in the Roth IRA account at retirement?

How much would Jon have if he added \$50 monthly to the \$1,000 lump sum from his uncle?

How much would Jon have if he added \$100 monthly to the \$1,000 lump sum from his uncle?

How much would Jon have if he added \$200 monthly to the \$1,000 lump sum from his uncle?

How much would Jon have if he added \$200 monthly to the \$1,000 lump sum from his uncle and he received a 50% employer match?

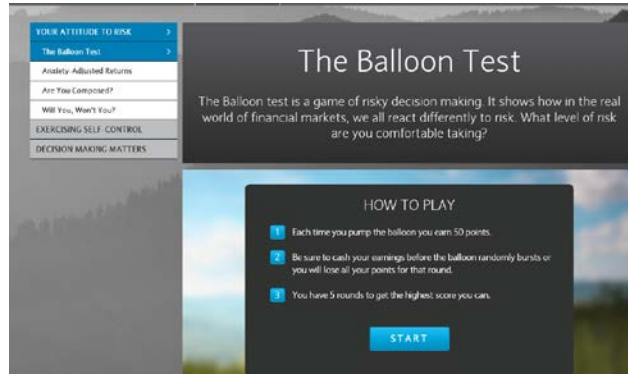
How much would Jon's 32-year old co-worker, Sara, have if she started to invest \$200 monthly for retirement with a 50% employer match until age 67?

How much would Jon's 42-year old co-worker, Steve, have if he started to invest \$200 monthly for retirement with a 50% employer match until age 67?

How much would Jon's 52-year old co-worker, Sandra, have if she started to invest \$200 monthly for retirement with a 50% employer match until age 67?

Switch to the *Savings Goal Calculator*. With the \$1,000 gift from his uncle, 6% growth over 45 years, and annual compounding, how much must Jon invest to have \$1million at retirement?

The Balloon Test



Instructions:

1. Go to *The Balloon Test* web site at <https://www.investmentphilosophy.com/behavioural-finance/your-attitude-to-risk/the-balloon-test>
2. Read the activity objective on the top of the home page (under the title) and click “Start.”
3. Decide when (i.e., for how long?) to keep pumping a balloon to earn 50 points for each pump. This is like earning money on an investment.
4. Decide when to stop pumping to collect your points, ideally before the balloons burst. This is like selling an investment for a profit. At any time your balloons can burst, however, and make a loud popping noise (if sound is turned up on your computer). This is like losing money on an investment.
5. Play the game for 5 rounds. This is like investing for the long term where investment results can vary.
6. Compare your total points to the baseline data by clicking “Compare With Others” and answer the following questions:
 - What was the highest and lowest number of points that you received on the five rounds of play?
 - How did you feel when your first balloon burst?
 - Did having a bubble burst change your behavior on subsequent rounds of play (i.e., future “investing” decisions)?
 - Did having a “good run” with hundreds of points without balloons popping change your behavior on subsequent rounds of play?
 - How would you assess your risk tolerance as an investor?
 - What did *The Balloon Test* activity teach you about investing in stocks or stock mutual funds?

Dollar-Cost Averaging Web Quest and Math Calculation

Instructions:

1. Go to an online search engine (e.g., Google, Bing) and search for the term “dollar-cost averaging.”
2. Write down a simple definition of dollar-cost averaging in your own words.
3. Complete the second table below. Fill in the blank spaces and answer the questions below it.

Information Source	Description of Dollar-Cost Averaging

Month	Regular Investment	Price Per Share	Shares Acquired
1	\$100	\$10.00	
2	\$100	\$7.50	
3	\$100	\$5.00	
4	\$100	\$7.50	
5	\$100	\$10.00	
TOTAL		-----	

How much money was invested?

How many shares were purchased?

What was the average cost per share?

How much are the investor’s shares worth on the day of the month 5 purchase?

What is the take-away message from this table?

Why You Should Start Investing as Early as Possible

Source:

Lifhack: <http://www.lifhack.org/325117/why-you-should-start-investing-early-possible-infographic>



What is the take-away message from this infographic?

Saving and Investing Quiz

Multiple Choice Questions:

Circle the correct answer from among the four answers provided.

1. Buying a specific amount of stock or mutual fund shares at regular time intervals is called
 - a. Market timing
 - b. Asset allocation
 - c. Dollar-cost averaging
 - d. Speculating
2. The process of owning many stocks in a variety of industries to reduce investment risk is called
 - a. Asset allocation
 - b. Speculating
 - c. Dollar-cost averaging
 - d. Diversification
3. Which of the following is *not* an ownership asset?
 - a. Real estate
 - b. U.S. Treasury bond
 - c. Stock index fund
 - d. Shares of Apple and Google stock
4. Using a frequently cited guideline, what percentage of a 35 year old's investments should be in stock?
 - a. 65%
 - b. 70%
 - c. 75%
 - d. 80%
5. What investment strategy do investors typically follow as they get older and approach retirement?
 - a. They choose less risky investments
 - b. They choose more risky investments
 - c. Their investment strategy does not change
 - d. They choose speculative investments to try to make a large profit quickly

True-False Questions:

Mark "T" for True or "F" for False in the space before each question.

- ____1. Bonds are an example of a loanership investment.
- ____2. The potential return on an investment is typically related to the amount of risk that an investor assumes.
- ____3. The minimum time to invest using the "buy and hold" strategy is one year.
- ____4. For every decade that people delay investing, the amount that they need to save to reach a financial goal approximately doubles.
- ____5. Investment products are more likely to outpace the rate of inflation than savings products.

The *Saving and Investing Strategies and Influences* lesson plan was written by Dr. Barbara O’Neill, CFP®, Extension Specialist in Financial Resource Management for Rutgers Cooperative Extension (boneill@njaes.rutgers.edu).

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