

Teacher's Guide

Financial Literacy Posters

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These posters and other economic education posters and materials are available at the KidsEcon Posters© website — www.kidseconposters.com. This Teacher's Guide is also available at the KidsEcon Posters© website. Click on Financial Literacy Posters. Questions? Call ICEE at 765/494-8545. Or e-mail kidseconposters@purdue.edu.

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Teacher's Guide

Financial Literacy Posters

Introduction: The goal of the five Financial Literacy Posters is to help educators teach their students critical principles of economics and personal finance. In the modern (United States) U.S. economy, where many people are now responsible for managing their own retirement accounts, it is more important than ever to understand these principles. The modern world of personal finance is very complex, and students must understand basic economic and financial principles if they want to prosper in it.

There are three basic themes in the set of five posters:

Theme 1: Basic Principles of Economics

- **Basic Principles of Economics:** This poster identifies foundational economic principles that students can apply to all areas of life, including personal finance.

Theme 2: Managing Risk

- **Financial Planning Pyramid:** This poster illustrates the relationship between risk and return (reward) for various types of investments — critical information to know when constructing an investment portfolio.
- **Watch Out for Investment Scams:** In the increasingly complex world of investing and finance, students must understand basic principles for avoiding investment scams.

Theme 3: Essentials of Savings

- **The Power of Compound Interest:** Students learn that the key to saving for the future is to save early and save regularly. The power of compound interest does the rest!
- **Steps to Save & Build Wealth:** This poster identifies six important steps for planning for the future and building financial security.

Lessons: Each poster is accompanied by a lesson that reviews poster content and gives suggestions for teaching. The lesson also includes a “Web Connection,” which identifies high-interest websites to use in instruction. We are confident that both teachers and students will benefit greatly from using these posters.

Blackline Masters: To aid instruction, five blackline masters of the posters are provided at the back of this Teacher's Guide.

Basic Principles of Economics

Poster Overview: This poster identifies six basic principles of economics. Students who understand these principles will have a much better ability to understand the economic and financial world around them, making them better savers, investors, producers, consumers, and voting citizens.

Key Teaching Points

These basic principles apply to all aspects of economics; however, it is important to show your students the specific ways they apply to financial literacy and personal economics. Two examples are listed for each basic principle.



1. Because of Scarcity, People Choose: Economists emphasize that we live in a world of scarcity. By this, they mean that there are never enough productive resources to provide all the goods and services that people want. The result is that people must constantly choose among competing alternatives. (This concept is the basis for the oft-repeated phrase, “There's no such thing as a free lunch!” The idea is that no scarce good or service is ever really free — someone has to give up something to get it.)

- People must decide whether to spend or save their scarce income.
- Savers must choose between various saving and investing opportunities.

2. All Choices Have an Opportunity Cost: Every time an investor, saver, consumer, or producer makes a decision, there is an alternative course of action that could be taken. Economists refer to the best forgone alternative as the opportunity cost of a decision. It is very important that students recognize the importance of considering the opportunity cost when making a decision.

- People decide whether to spend or save their after-tax income. A person who chooses to save \$100 gives up goods and services now as the opportunity cost of the decision to save.
- The opportunity cost of choosing to put money into a bank savings account instead of purchasing a long-term government bond is accepting less interest income. (But there is less risk.)

3. People Respond to Incentives in Predictable Ways: An incentive is something — either positive or negative — that influences the choices that a person makes. When incentives change, people's actions also change — often in very predictable ways.

- When real interest rates rise, there is an incentive to save more and consume less. (In other words, the opportunity cost of spending increases.)
- If other things do not change, when the prices of stocks or bonds fall, people will buy more; when the prices rise, people will buy less.

4. Market Forces and Economic Systems Influence Choices: People make financial decisions in the context of an economic system. The type of economic system (market, command, traditional, or some combination) will have a significant impact on the decisions people make. For example, in a market system, changing prices help guide decisions, such as where people invest their savings or what type of insurance they purchase.

- The different wages and salaries of certain occupations (e.g. doctor, teacher, store clerk), which are influenced to a significant degree by supply and demand in the market for human resources, will have an effect on whether or not a person decides to enter a certain field.
- In a strict command economy, where most property is owned and controlled by the government (e.g. North Korea), most people do not have the choice to invest in a stock market.

5. People's Choices Have Intended and Unintended Consequences Which Lie in the Future. Economists believe that the costs and benefits of decisions appear in the future since it is only the future that we can influence. However, sometimes people's choices can have unintended consequences!

- A person's choice to become a doctor will have intended consequences – many years of advanced school and training, hard work, but probably a higher income.
- A government may try to help consumers by putting a cap on gasoline prices; however, this will probably lead to the unintended consequences of long lines at the pump, black markets, and lots of irritation!

6. People Gain When They Trade Voluntarily. People do not produce all the goods and services they consume. Instead, they produce a narrower range of goods and services and then trade (exchange) with others to help satisfy their economic wants. Both parties expect to benefit from a voluntary trade; there are no “winners” and “losers.” This is why both buyers and sellers often say “Thank you!” after a purchase!

- When a person agrees to work for a company, the company benefits from the work the person provides and the person then benefits from the wage or salary received.
- When a person purchases a shirt, both the shirt producer and the person making the purchase benefit from this exchange.

Web Connection

Council on Economic Education, CEE (www.councilforeconed.org).

This website provides teachers with many resources to learn more about the basic principles of economics. Click on Resources for curriculum guides and lesson plans. See EconEdLink (www.econedlink.org) or ECONnections (www.e-connections.org) and links to other economic websites and organizations. The National Content Standards in Economics are listed as well. Click on Affiliates to learn about affiliated State Councils and Centers where additional training and resources are available.

Financial Planning Pyramid

Poster Overview: This poster illustrates the importance of having a balanced portfolio of investments. The Financial Pyramid demonstrates the relationship between the level of risk and the potential return on an investment. While individual portfolios vary from person to person, especially during different stages of life, it is usually wise to have a variety of investments and not put “all your eggs in one basket.”

Key Teaching Points

1. Review these key terms with your students:

- Return (Rate of Return): the amount an investment gains or loses in value
- Risk: the likelihood that an investment will decrease in value

2. Emphasize that the greater the potential for a high return, the greater the level of risk. For example, individual growth stocks offer the possibility of a relatively high rate of return, but also entail a fair amount of risk, especially in the near term. On the other hand, a U.S. savings bond is a very safe (low-risk) investment, but has a low rate of return.

3. Explain the investments listed on the Financial Pyramid. Discuss their level of risk versus their rates of return.



Very High Risk: Precious Metals, Collectibles, Options, Commodities, Penny Stocks

- Options: an investment security that gives the holder the right, but not the obligation, to buy or sell something at a fixed price within a specified period of time
- Commodities: products (corn, wheat, gold, etc.) that are traded on a futures exchange
- Penny Stocks: a stock selling for a very low price, sometimes less than \$1 per share

These investments are volatile and have significant risk. In the case of futures, options, and commodities, investors are frequently “leveraged.” This means that investors control a large amount of an asset with only a small “down payment.” This is very risky, and one's entire initial investment — and maybe more — can be lost quickly. Of course, there is the possibility for great gain, too!

High Risk: Real Estate, Growth Stocks, Aggressive Growth Mutual Funds

- Real Estate: land, including the buildings and natural resources found on it
- Growth Stock: a stock whose earnings and price are expected to show significant increases in the future
- Aggressive Growth Mutual Funds: mutual funds whose primary assets consist of growth stocks

Sometimes people consider real estate investments to be a “sure thing.” This is not always true since real estate values can fall as well as rise. Furthermore, when one makes a down payment and secures a mortgage, one is actually “leveraged.” If the market value of the house falls, one can lose most, and sometimes all, of the down payment/equity.

Moderate Risk: Municipal Bonds, Blue Chip Stocks, Income Mutual Funds, High-grade Corporate Bonds

- Municipal Bonds: issued by a municipality or state government and backed by the taxing authority of that governmental authority. The federal government does not tax the interest earned from municipal bonds. States levy no state income taxes on their own bonds, but sometimes tax interest on municipal bonds from other states.
- Blue Chip Stocks: the stock of a mature company with a history of good earnings and relative price stability
- Income Mutual Funds: a mutual fund whose primary assets are bonds and securities that give relatively high rates of interest or dividends
- High-grade Corporate Bonds: a bond issued by a business with the two highest ratings — AAA or AA

Although bonds are considered a relatively “safe” investment, they are quite volatile in times of fluctuating interest rates. Any fixed-interest security, like a bond, will lose value if interest rates in the economy rise. (Conversely, bond values will rise if interest rates fall.) This often happens in times of unexpected inflation.

Low Risk: Fixed Annuities, U.S. Government Bonds, Traditional (whole life) Insurance, Savings Accounts, Certificates of Deposit, Money Market Accounts

The key characteristic of these investments is that there is little market risk. (See definition below.) For some, the amount invested is even “guaranteed,” such as accounts backed by the FDIC (up to \$100,000 per account) and bonds issued by the U.S. government. The trade-off is that the return on these investments is quite low.

4. Discuss these five basic types of Investment Risk.

- Financial Risk: the risk that the business or government will not be able to return the money you invested, to say nothing of giving a positive return on the investment! For example, businesses and even governments sometimes go bankrupt, rendering investments worthless.
- Market Risk: the risk that your investment is subject to changes in the market (volatility)
- Inflation Risk: the risk that your investment will lose value because of inflation. If the inflation rate is 3%, a nominal return of 8% on a certain investment is really only a 5% real return. Bonds are very susceptible to inflation risk because inflation typically causes interest rates to rise, which causes bond prices to fall.
- Liquidity Risk: the risk that your investment cannot be converted to cash quickly
- Fraud Risk: the risk that your investment is misrepresented

5. Take these “Action Steps” to become a prudent investor.

- Determine your investment goals.
- Reduce your exposure to risk. Diversify. Don’t put all your eggs in one basket.
- Determine your level of acceptable risk. (This will vary depending on your stage of life.)
- Seek counsel from qualified professionals or friends.

6. Discuss this frequently-heard statement about “tempting” investment offers: “If it sounds too good to be true, it probably is!” Do students agree or disagree with it? Why?

Web Connection

The Mint (www.themint.org).

The Mint provides students with information regarding many of the investments listed on the Financial Planning Pyramid. Click on Investing and then Ways to Invest. Each type of investment is described in terms of safety, liquidity, and return on investment.

Watch Out for Investment Scams

Poster Overview: This poster gives students rules to protect themselves from becoming the victim of investment fraud. Understanding these rules will remind students to remain guarded with their money when considering investment opportunities.

Key Teaching Points

1. Discuss each of the following rules with your students.

Remember That Investing Involves Risk: There is no such thing as a completely “safe” investment because you always stand a chance of losing your money regardless of where you invest it. It is important to remind students that some investments are safer than others. (For an overview of investment risk, see the Financial Planning Pyramid poster and teaching guidelines.)

Investigate Before You Invest: The riskiest investments are those where you have little or no information. There are many resources such as magazines, newspapers, websites, and television programs that provide information about investments. You should also request written information such as a prospectus or a financial statement for potential investments. Remember, take the time to examine your investment options before you invest.

Call Your State’s Securities Regulator: Find out if those who promote investments are legitimate. The state securities regulator licenses individuals who want to provide investment advice. They can tell you if the individual you are dealing with follows the rules. If an individual is not registered, find out why.

Don’t be Pressured into a Quick Investment Decision: If you make a quick decision about an investment opportunity, you may suffer because you have not gathered all the necessary information. Con artists use pressure tactics and phrases such as “this offer is good today only” or “act now before this opportunity passes you by” to get you to commit your money without knowing all the facts. They also use strong emotions such as greed or fear to get you to make a quick decision. Take your time; it is better to lose the opportunity than to lose your money.

Be Cautious When Investing Your Money in Response to Unsolicited Offers: Exercise patience when you’re presented with an investment opportunity. Ask for a prospectus or a financial statement about the investment opportunity being offered. Talk to a friend, relative, or financial advisor before you respond to a cold call. Consider how your investment decision may affect you and your family.

Beware of Fantastic Promises of Easy Profits: If it sounds too good to be true, it probably is! Remember the relationship between return and risk — higher potential returns come with higher risk. If someone is offering you an investment that guarantees high returns and no risk, ask questions!

2. Con Artists, Swindlers, and Scammers:

Regardless of what they are called, these individuals often present themselves and their “opportunities” as honest, legitimate, and safe. Many are polished and come across as well spoken and polite. There are several types of investment frauds that are commonly used in different forms. It is important for students to recognize the characteristics of each in order to avoid becoming the victim of one.

Discuss these types of investment scams with your students.

Pyramid Schemes: This scheme promises huge returns to investors that buy into the program. In order to recoup their initial investment and obtain the returns, the investor has to recruit new investors to the program. This type of fraud initially succeeds because early investors are paid off, but eventually the pyramid will collapse because there simply are not enough people in the world to keep it going.



Ponzi Schemes: A Ponzi scheme is a type of pyramid scheme named for Charles Ponzi. In the 1920s, Ponzi created a scam to dupe investors by promising returns of 40% in three months. He told investors that he could buy international mail coupons overseas for pennies and then resell them in the U.S. for dollars. He claimed investors would make money by taking advantage of the differences in U.S. and foreign currencies. Ponzi was a terrific salesman. In one three-hour period, he brought in one million dollars! The scam was made to look legitimate early on because Ponzi used the “rob Peter to pay Paul” principle, paying off a few of the early investors with money he received from new investors. Ponzi’s scheme was doomed to fail because he only ever purchased \$30 worth of coupons.

Pump and Dump: The promoters of these schemes create a buying frenzy for micro-cap (companies with little value) or non-existent companies through the release of false or misleading statements. Once the stock price rises in value, the promoters stop touting the stock and sell their shares, and the misled investors are left with shares of near worthless stock.

Affinity Fraud: Con artists who commit affinity fraud take advantage of the trust people have in individuals like themselves. Swindlers often target the elderly, ethnic groups, or religious groups. These swindlers may also exploit the trust of group members by first conning a prominent or well-respected member of the group.

Internet Fraud: The internet provides a wealth of information about investments. Some information comes from reputable firms. Unfortunately, it is also very easy for someone to set up a slick website that looks remarkably like a legitimate investment site. Con artists also use spam e-mail to send a message to thousands of potential investors inviting them to take advantage of “no risk opportunities.” Technology allows spammers to personalize their message to make it seem as though they have already developed a relationship with you. Internet scams usually take the form of one of the aforementioned scams.

Web Connection

McWhortle Enterprises (www.mcwhortle.com). Instruct students to research McWhortle Enterprises. As students review the pages, they should discover that McWhortle is a *fictional* company. The website is designed to entice investors to buy into McWhortle. There are several “gotcha” pages where investors are warned of the potential consequences of their actions. Ask students to identify features or claims of the website that are warning signs of possible fraud.

Test Your Investment IQ at the Federal Trade Commission website (www.ftc.gov/bcp/edu/pubs/consumer/invest/inv04.shtm). This site poses ten questions about investing. Students use their knowledge of investment scams to choose whether the opportunity is solid or risky.

Federal and State Regulators:

U.S. Securities and Exchange Commission (www.sec.gov). The SEC protects investors and regulates securities markets such as the New York Stock Exchange and the NASDAQ.

State Regulators:

The North American Securities Administrators Association (NASAA) website (www.nasaa.org) lists individuals who oversee securities in each state. These regulators are often found in the state’s Secretary of State’s office. States usually license brokers and agents who do business in their state. Many state regulators also provide investor education to citizens. For example, these posters were funded by the Indiana Secretary of State’s office (www.sos.in.us).

The Power of Compound Interest

Poster Overview: This poster reveals how savings can grow over the years due to the power of compound interest. Students will be amazed at how important it is to begin saving regularly and early in their lives. The math is very compelling and will encourage students to start thinking about ways to save more and spend less.

Key Teaching Points:

1. Be sure you explain these important assumptions that lie behind the example:

- Contributions are put into an IRA (Individual Retirement Account), which means that capital gains and interest/dividends are not taxed as they accumulate. (Note: Since Roth IRA's are funded with money that has already been taxed, distributions are not taxed when they are withdrawn, typically after retirement when income is lower. Traditional IRAs are funded with money that has not yet been taxed, so distributions are taxed when they are withdrawn.)
 - Contributions earn 8%. (While this rate is much higher than average returns on more conservative investments such as bonds (5%), savings accounts, certificates of deposit, or U.S. Treasury Bills (3.8%), 8% is reasonable to use. In fact, the approximate long-term return on common stocks since 1926, a time period which includes the Great Depression, is close to 11%.)
 - Calculations are not adjusted for inflation. Students should realize that at age 65, the real purchasing power of \$440,245 will be significantly less due to the effects of inflation. For example, if we assume an average inflation rate of 3% over the time frame on the poster, the real, inflation-adjusted interest rate Investor A earns would really be 5%. (8% minus 3%) The inflation-adjusted amount (i.e. purchasing power amount) at age 65 would therefore be \$139,373 not \$440,245! However, students should also realize that as inflation rises, their incomes also will rise; thus, contribution amounts could also increase beyond \$2,400 per year.
2. Explain to students how the biggest absolute gain in portfolio value occurs during the later years. For example, the Investor A portfolio increases from \$299,623 to \$440,245 from years 60 through 65 — a short span of time. This is why it is so important to begin saving early in your life. Later on, the power of compound interest really begins to work for you! Of course, it isn't always easy to save when you are young. Income is usually not high and there are many "youthful" expenses, such as education, buying a first home, starting a family, etc.
3. Explain the importance of saving regularly. To their credit, Investors A and B both saved \$2,400 each year (\$50 per week). Saving this amount each month is not always possible; however, everyone should get into the habit of saving something each month, even if it is a small amount. As one gets older and income increases, the amount saved each month can grow.
4. Discuss the important implications of using different types of investments in your IRA. For example, there is a very large difference in the historical return on common stocks (11%) versus bonds (5%) and short-term savings instruments, such as 90-day treasury bills (3.8%). If Investor A invests in bonds at 5%, his final accumulation at age 65 will be \$139,373. If he invests in "cash" (30-day treasury bills at 3%), his final accumulation at age 65 will be only \$63,710. This is a far cry from the \$440,245 one could earn from an 8% estimated return on common stocks, which actually have an average historical return since 1926 of about 11%. (If you earned 11%, your amount at age 65 would be \$1,352,775!)

This discussion will lead naturally into an analysis of the Financial Planning Pyramid poster, and the trade-off between risk and return.

5. Explain the Rule of 72, a simple way to determine how long it will take your investment to double.

The Rule of 72: This rule says that if you divide the annual interest rate you expect to earn on an investment into 72 you will



know how many years it will take to double your investment! For example, suppose you put \$1,000 in a savings account that pays a 4% interest rate. In 18 years ($72 / 4$) your investment will be worth \$2,000. If you were really successful with your investment and could get a 12% annual return, it would take only six years to double your money.

Web Connection

There are many financial calculators on the web that your students can use. The ones found on the KidsEcon Posters site (www.kidseconposters.com) are particularly good. Click on "Interest Posters" and scroll down the page to the links to the calculators. The Compound Interest Calculator shows students how they can build a "nest egg" through regular savings. The Debt Reduction Calculator shows how interest can actually work against you if you have too much high-interest debt. These calculators are the basis for the graphic images on the Interest Posters.

Steps to Save and Build Wealth

Poster Overview: This poster gives students six concrete steps for saving and building wealth. The steps are simple to understand, but often difficult for people to follow. Helping your students apply these steps will help them build a more secure financial future.

Key Teaching Points

1. Discuss each of the six steps with your students.

Live Within Your Means: This step is foundational. An individual who consistently spends more than he saves will never build wealth. This step is also difficult for many people because it requires discipline! However, there are things that everyone can do each month to save more. The Finding Money to Save example below from the Indy Saves program shows students how cutting back in small ways can add up each month.



Finding Money to Save

<u>Tip/Advice</u>	<u>Monthly Savings</u>
Save \$.50 a day in loose change.	\$ 15
Cut soda consumption by 1 liter per week.	\$ 6
At work, substitute one coffee for one cappuccino.	\$ 40
Bring lunch to work (save about \$5 per day).	\$100
Eat out two fewer times each month.	\$ 30
Purchase two fewer lottery tickets a week (\$1.00).	\$ 8
Cut cigarette consumption by 2 packs a week.	\$ 24
Buy grocery store brands.	\$ 10
Eliminate premium cable channels.	\$ 20
Use fewer phone features.	\$ 10
Borrow, rather than buy, one book per month.	\$ 15
Comparison shop for gas (save est. \$0.25 per gallon).	\$ 4
Maintain checking account minimum to avoid fees.	\$ 7
Pay credit card bill on time to avoid late fee.	\$ 25
Pay off \$1,000 of credit card debt, reducing interest.	\$ 15
Total	\$329

- Discuss this example with your students and ask them if they agree with these ways to save money each month. Is it worth it to them? (By the way, if a 22-year-old person invested the \$324 each month for 40 years at 8% interest, he or she would have \$1,138,627 by age 62!)
- In small groups, ask students to identify other monthly expenditures they make that could be eliminated. Compute how much they would save each month. How much would they save in a year? Share group information with the rest of the class.

Save on a Regular Basis: It is important that students not only live within their means, but that they also begin to save *regularly*. Stress that the amount is not as important as being consistent. Over time, even small contributions will add up. For example, if only \$50 were invested each month at 5% for 40 years, a person will accumulate \$76,619! (\$24,000 in principal and \$52,619 in interest.)

Using an interest rate calculator, (www.bankrate.com) have students figure out what would accumulate if they invested certain monthly amounts over various periods of time and various interest rates. To access calculators from the Bankrate.com main page, click on Calculators in the top tool bar. Scroll down the page and under Most Popular click on Compound Interest Calculator. This calculator can also be accessed by going to www.kidseconposters.com and clicking on Interest Posters.

Examples:

Monthly Amount Saved	Investment Return (%)	Years	Amount Accumulated
\$25	3%	40	\$23,209
\$25	6%	40	\$50,036
\$100	8%	25	\$95,737
\$200	10%	30	\$455,865

Reduce High Cost Debt: One of the best things many people can do to improve their financial situation is to reduce high-cost debt, especially credit card debt. For example, if a student had a \$3,000 credit card balance at 19.8% interest, and paid the required minimum of 2% of the balance or \$20, whichever is greater, it would take over 32 years to pay off the loan! And the person would pay more than \$9,000 in interest charges!

Of course, credit cards can be very helpful if used with care. Discuss the benefits of using a credit card responsibly:

- Safer than carrying large amounts of cash
- Useful in emergencies
- Convenient for travel, purchasing over the Internet, etc.
- A “free loan” if the balance is paid off monthly
- Benefits often attached to purchases (e.g. frequent flyer miles)

Take Advantage of Special Savings Plans: Traditional Individual Retirement Accounts (IRAs) and 401(k) plans offer special advantages. Both allow an individual to shelter savings and any investment gains from these savings from federal income taxation until the funds are withdrawn, usually after retirement. Furthermore, many companies that offer 401(k) plans also match employee contributions. For example, a company might match 50 cents for every employee contribution of \$1.00, making this a better vehicle for retirement than the IRA option, which has no matching employer contribution. (Note: For the newer Roth IRAs, one makes after-tax contributions. The principal and any accrued earnings are therefore withdrawn tax free, usually upon retirement.)

Build a Balanced Investment Portfolio: In general, it is best to reduce risk by building a “diversified” portfolio containing a variety of investments. Thus, if one particular investment loses most or all of its value, the investor does not lose everything. For more details on this aspect of saving, see the Teacher Guide information for the Financial Pyramid poster.

Buy a Home and Pay Off the Mortgage Before You Retire: Paying off a home mortgage *before* an individual retires reduces financial pressures that can occur after retirement when income is usually less. A home is also an asset that can be borrowed on in case of emergencies or, if necessary, that can be changed into cash.

2. Have students discuss this information with their parents. Students can learn what steps their parents have taken to save and build wealth.

Web Connection

Interest Posters — These two colorful posters show students how interest can work *for* them or *against* them!
Go to www.kidseconposters.com

America Saves (www.americasaves.org) — This website offers tips and strategies for saving and building wealth.

Escape From Knab (www.escapefromknab.com) — This simulation requires students to manage their financial resources and make smart decisions if they wish to escape from the planet Knab. Students can apply the steps from the posters as they make their decisions.

The Mint (www.themint.org) — The Mint provides students, parents, and teachers with tips and materials to help students and their families better manage their money. At the bottom of every page is a money saving tip. Interactive areas such as calculators and challenges enable students to find out what they know and learn how financial decisions today will impact their future saving and spending decisions.